City of Bellevue
Development Services Department
P.O. Box 90012, Bellevue, WA 98009-9012
(425) 452-6800 Fax (425) 452-5225

Shoreline Management Act of 1971
Permit for Shoreline Management Substantial Development
Conditional Use and/or Variance

Application No. **11-131124-WG** Date Received 12/28/11

[X] Approved / Date 10/30/14
[ ] Denied / Date

Type of Action:

[X] Substantial Development Permit
[ ] Conditional Use Permit
[ ] Variance Permit

Pursuant to Chapter 90.58 RCW, a permit is hereby granted to: **PSE**

To undertake the following development: To construct a new 115kV overhead transmission line to connect the Lake Hills Substation with the Phantom Lake Substation.

Upon the following property: Alignment to connect Lake Hills Substation (16315 SE 8th Street) with Phantom Lake Substation (15555 SE 16th Street)

adjacent to Kelsey Creek and/or its associated wetlands. The project will be located adjacent to Shorelines of Statewide Significance (RCW 90.58.030). The project will be located within a Shoreline Overlay District designation. The following master program provisions are applicable to this development:

- Land Use Code(LUC) Section 20.25E.040 Substantial Development Permit Required
- Land Use Code(LUC) Section 20.25E.080(B)General Regulations Applicable to all Land Use Districts & Activities
- Land Use Code (LUC) Section 20.30R Shoreline Substantial Development Permit

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

Applicable Codes	Contact Person
Land Use Code- BCC Title 20	Sally Nichols, 425-452-2727
Noise Control- BCC 9.18	Sally Nichols, 425-452-2727
Environmental Procedures Code – BCC 22.02	Sally Nichols, 425-452-2727

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

A. GENERAL

1. *Noise & Construction Hours*
Noise related to construction is allowed from 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday. Construction noise is prohibited on all Sundays and WA state holidays. Exceptions to the construction noise hours limitation contained in the Noise Control Code MAY ONLY be granted pursuant to 9.18.020.C. when necessary to accommodate construction which cannot be undertaken during exempt hours. Prolonged exposure to noise created by extended hour construction activity is likely to have a significant impact on construction. In order to minimize detriment on residential uses in the immediate vicinity of the project, the Contractor shall not rely on City issuance of a blanket exemption from the Noise Control Code during the construction period. Allowances for short term work outside of normal construction hours shall be limited and will be reviewed on a case by case basis to verify necessity and ensure appropriate noise mitigation is

utilized to protect surrounding uses and properties. Written requests for exemption from the Noise Control Code must be submitted two weeks prior to the scheduled onset of extended hour construction activity. Such requests may be required to include a noise analysis prepared by a noise consultant, including recommendations for achieving the noise limitations of the Noise Ordinance for new residential construction.

The use of best available noise abatement technology consistent with feasibility is required during construction to mitigate construction noise impacts to surrounding uses.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: BCC 9.18.020.C & 9.18.040

2. Facility Activation/Completion of Work

The facility shall not be activated until all work included in the project scope (excluding system test prior to complete activation) and shown on the plans and specifications, as conditioned, is completed.

Mitigation and restoration landscaping shall be seasonally installed for optimal plant success (spring or fall). If planting must occur after facility activation date, the applicant shall enter into a surety device for the remaining mitigation and restoration installation work. All restoration and mitigation work must be completed within six months of activation.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.40.425

3. Pole Design

a) Poles shall be wooden with wooden davit arms.
b) Where the alignment is required to turn a corner, the applicant will be allowed to construct a glu-lam pole that doesn't require guying. If steel poles are desired, they must first be reviewed and approved by Land Use. Any steel pole will be required to be painted either dark green or dark brown, depending on the adjacent vegetation and neighborhood context.
c) PSE will be allowed to construct no more than two (2) steel poles in the vicinity of Fire Station 3 and the conductors between these two poles may be facing away from the right-way on the southern side of the poles. The poles shall be painted dark green to better recede against the vegetated background to the south.
d) All power poles installed under terms of this proposal must meet the City's sight distance criteria.

REVIEWER: Sally Nichols, Land Use
Ray Godinez, Transportation
AUTHORITY: LUC 20.20.255 and 20.30B.140, Bellevue City Code 14.60.240; Transportation Department Design Manual
(TE-1, TE-2, TE-3 and sections 21 and 22)

A. <u>PRIOR TO ISSUANCE OF ANY ENGINEERING/CLEARING AND GRADING PERMIT</u>

1. Right-of-Way Use Permit

The applicant is required to apply for a Right-of-Way Use Permit before the issuance of any clearing and grading, building, foundation, or demolition permit. In some cases, more than one Right-of-Way Use Permit may be required, such as one for hauling and one for construction work within the right-of-way. A Right-of-Way Use Permit regulates activity within the city right-of-way, including but not limited to the following:

a) Designated truck hauling routes.
b) Truck loading and unloading activities.
c) Hours of construction and hauling.
d) Continuity of pedestrian facilities.

e) Temporary traffic control and pedestrian detour routing for construction activities.
f) Street sweeping and maintenance during excavation and construction.
g) Location of construction fences.
h) Parking for construction workers.
i) Construction vehicles, equipment, and materials in the right-of-way.
j) All other construction activities as they affect the public street system.

In addition, the applicant shall submit for review and approval a plan for providing pedestrian access during construction of this project. Access shall be provided at all times during the construction process, except when specific construction activities such as shoring, foundation work, and construction of frontage improvements prevents access. General materials storage and contractor convenience are not reasons for preventing access.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.30

2. Off-Street Parking
The applicant must secure sufficient off-street parking for construction workers, equipment, and materials storage before the issuance of a Clearing and Grading Permit.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.30

3. Engineering Plans
A site plan produced by a qualified engineer must be approved by the City prior to clear and grading permit approval. The applicant will be required to restore all city infrastructure impacted by this project (sidewalks, curb and gutter, etc.). Restoration of ADA ramps must be in conformance with the most updated requirements of the Americans with Disabilities Act, the Transportation Development Code, and the provisions of the Transportation Department Design Manual. The engineering plans must correctly show all transportation-related engineering details, including but not limited to, the design of the guard rails and sight distance. Appropriate standard drawings from the Transportation Department Design Manual must be included in the engineering plans.

REVIEWER: Ray Godinez, Transportation
AUTHORITY: Bellevue City Code 14.60; Transportation Department Design Manual .

4. Pavement Restoration
The applicant will be required to restore all damaged pavement within city right-of-way caused by construction activities related to this project. Limits and extent of pavement restoration shall be at the discretion of the Transportation Inspector. Trench restoration must meet the requirements of Section 21 of the Design Manual and standard drawings ROW-1 through ROW-5. Exact copies of the appropriate trench restoration drawing(s) must be included in the final engineering plans.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.60.250 and Design Manual Design Standard # 23

5. Safety
The applicant will be required to provide appropriate clearances from existing overhead signal equipment.

REVIEWER: Ray Godinez, Transportation
AUTHORITY: Bellevue Transportation Code and Transportation Design Manual

6. Utilities
To avoid conflicts with existing utilities, the applicant must do the following:
a) PSE must call for utilities locates prior to any construction (800-424-555 or 811).

b) PSE must pothole prior to any work that the requires digging in the right-of-way.

REVIEWER: Art Chi, Utilities
AUTHORITY: BCC Title 24

7. Disturbance and Restoration

General: In addition to all landscaping areas delineated on the Conceptual Mitigation Plan, the applicant shall fully *restore* with appropriate and approved shrubs and groundcover, to the satisfaction of the City of Bellevue, any areas disturbed as a result of construction activities, including mandatory restoration of the areas around each new pole.

Restoration in Wetland Buffer: ANY understory damaged within the wetland critical area buffer as a result of construction of the poles or installing the wire will need to be replaced with appropriate trees and/or shrubs that will restore the edge condition while discouraging access and use.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25.E.080.U

8. Final Landscape and Irrigation Plans – Mitigation AND Restoration

a) Final landscape and irrigation plans are required for all required mitigation (including work done in critical areas and critical area buffers) and for restoration of all other construction and tree removal activities along the entire alignment. These plans shall be consistent with the Conceptual Mitigation Plan submitted as part of this application. The final landscape and irrigation plans will be reviewed and approved under the Clearing and Grading Permit.

b) Final plans for the Substation site upgrades, including fencing and landscaping around each substation, shall also be reviewed and approved under the Clearing and Grading Permit, and shall comply with all standards applicable to Electrical Utility Facilities contained in LUC 20.20.255.

c) Final landscape and irrigation plans must also be approved by the Parks Department, who will have ultimately take over right-of-way maintenance responsibilities once the five-year maintenance period is over. Parks Department Contacts are:
Tom Kuykendall: tkuykendall@bellevuewa.gov, (425) 452-7924
Melissa Kerson: mkerson@bellevuewa.gov, (425) 452-4100

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.255

9. Final Plans for Substation Upgrades

a) Lake Hills Substation: Final plans for the Substation upgrade, including landscape plans, review of tree removal/retention, and site changes for equipment installation shall take place under the required Clearing and Grading Permit for the installation of the entire transmission line. The design shall be reviewed against all the requirements in LUC 20.20.255.

Tree removal of healthy trees will be allowed only along the northwest corner of the fenced equipment area, where the new line will enter the substation. The remaining existing trees around the Substation are to remain to meet the requirement of LUC 20.20.255.F.

b) Phantom Lake Substation: Preliminary review of the design concept for the Substation upgrade shall occur under a Land Use Exemption to this Conditional Use approval and shall be part of the review of the entire SE 16th portion of the alignment. Once the design has been approved, review of the final landscape plans shall take place under a separate Clearing and Grading Permit. The design shall be reviewed against all the requirements in LUC 20.20.255.

c) All substation upgrades must meet the requirements of LUC 20.20.255.F, including the provision that any fence replacement material shall be site obscuring.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.255

10. Tree Removal and Mitigation Landscaping within Critical Areas (Wetlands/Shorelines/Steep Slopes)

A Clearing and Grading Permit will be required for any tree removal, trimming and mitigation landscaping within any Critical Areas.

The following requirements shall be followed when removing trees and/or installing mitigation landscaping in any wetland, wetland buffer and/or shoreline overlay district:

a) Tree Removal:
- All work shall be done by hand
- All trees over 12 inches in diameter shall be made into wildlife snags. Details for the snags shall be included in the Final Landscape Plans.
- Stumps shall be left in place to reduce soil disturbance.

b) Landscaping:
- Work shall be implemented using the Parks Department "Environmental Best Management Practices.
- Work within a wetland and/or shoreline shall be done by hand.

c) Miscellaneous:
- Machinery needed to place the woody debris and for some hauling shall be done in the dry season and use of mats or fabric-reinforced driving surfaces shall be used where necessary.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.055.C.2

11. Pesticides, Herbicides and Fertilizers:
Prior to any use of pesticides, herbicides, and/or fertilizers associated with the proposal, the applicant must receive approval from Land Use under the required Clearing and Grading Permit.

Applicant shall submit written information identifying the pesticide, herbicide and/or insecticide is to be used AND written confirmation that the product used has been reviewed and approved by a consulting arborist. Work shall be done in accordance with the City of Bellevue's "Environmental Best Management Practices."

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.080

12. Maintenance and Monitoring Plan for Restoration and Mitigation Work
The applicant shall hire a qualified professional to design and implement maintenance and monitoring plan for the mitigation required for work in critical areas and/or critical area buffers. The contractor shall submit documentation each year for five (5) years to the Land Use Division under the Critical Areas Land Use Permit #11-131125-LO to demonstrate compliance with the conditions of this report.

a) There will be 100% survival of all planted species in the enhancement area at the end of the first year.
b) There shall be a minimum of 80 percent survival rate throughout the monitoring period – years 2-5.

c) Monitoring stations shall be set up and identified.
d) Invasive species will not represent more than 15 percent areal cover.
e) If the applicant can demonstrate an 80 percent survival rate and proper plant establishment, there shall be an option to reduce the monitoring period to three (3) years.

All necessary documentation outlined in the Maintenance and Monitoring Plan shall be sent each year to the following:

City of Bellevue
Development Services Department/Land Use Division
c/o Sally Nichols, Planner
P.O. Box 90012
Bellevue, WA 98009-9012

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.220

13. Landscape Maintenance Assurance Device for Areas of Restoration and Mitigation

To ensure plant establishment, the applicant shall provide a separate landscape assurance device that shall cover 20% of the fair market value of labor and materials for the initial landscape installation of all areas of restoration and mitigation required for this Conditional Use approval. This assurance device will cover the landscape maintenance of the project for a period of five (5) years from the date of final inspection.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.520.K.1 & 2 and 20.40.490

14. Fee in Lieu

a) Trees identified for removal are valued at $856,740. This amount shall be expended as compensation for the removal of 295 City-owned trees (public assets). This money shall be used by PSE exclusively to pay for materials (plants, soil, irrigation, etc.) needed for the installation of the approved restoration and mitigation landscaping. Verification of all expenditures shall be provided to the City.

b) Any money remaining from $856,740 after completion of the project may be used by the City of Bellevue Parks Department for additional landscape enhancements along the transmission line route.

c) If any public trees are required to be removed with the SE 16th Street portion of the alignment, an evaluation of the trees using the Trunk Formula Method shall be performed and the City shall be compensated for the loss of this resource.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA – WAC 197-11-350, BCC 22.02.035

15. Alignment on SE 16th Street

PSE will not be allowed to run a separate new transmission line down the south side of SE 16th Street. Nor will PSE be allowed to remove trees from this side of the street for this new line. Possible ways to accommodate the second line include but are not limited to co-location of the new line with the existing transmission on the north side of the street or to undergrounding the line in a manner that does not required removal of trees along the south side of the street.
The exact methodology for providing the second line and the design of this section of the alignment will be reviewed as a Land Use Exemption to this Conditional Use approval.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA – WAC 197-11-350, BCC 22.02.035, LUC 20.30.B.175

16. Development Agreement for SE 16th Street Alignment Vesting

In order to extend the vested status of the alignment of SE 16th Street until the City undertakes its Transportation Improvement Project, PSE will need to enter into a Development Agreement with the City of Bellevue. Any development agreement will need to demonstrate public benefit – which in this case will be the co-location of transmission lines, added reliability to the adjacent neighborhoods, and the coordination between the City and PSE regarding streetscape improvements and pole location, as well as location of required mitigation landscaping.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA - WAC 197-11-350, BCC 22.02.035, Comprehensive Plan Policies UT-43, 51, 53, 71, and 74

17. Changes to Pole Location and/or Alignment

Any changes to the pole location and/or alignment submitted as part of this Conditional Use shall be reviewed as a Land Use Exemption to this Conditional Use approval prior to construction.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.30B.175

This permit is granted pursuant to the Shoreline Management Act of 1971 and nothing in this permit shall excuse the applicant from compliance with any other federal, state or local statutes, ordinances or regulations applicable to this project, but not inconsistent with the Shoreline Management Act (Chapter 90.58 RCW).

This permit may be rescinded pursuant to RCW 90.58.140(8) in the event the permittee fails to comply with the terms and conditions hereof.

Activity pursuant to this permit, or substantial progress toward activity, must be undertaken within two years of the date of final approval. This permit shall expire five years from the date of local approval.

Activity pursuant to this permit will not begin or is not authorized until twenty-one (21) days from the date of filing, as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one (21) days from the date of such filing have terminated; except as provided in RCW 90.58.140(5) (A) (B) (C).

October 30, 2014	Sally Nichols
Date	City of Bellevue, Land Use Division

CC: Attorney General, Department of Ecology, Northwest Region
Dept. of Fish and Wildlife, Attn: Stuart Reinbold, 3190 160th Avenue SE, Bellevue, WA 98008-5452
Dept. of Ecology, Attn: Dave Radabaugh, 3190 160th Avenue SE, Bellevue, WA 98008-5452

DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
11511 MAIN ST., P.O. BOX 90012
BELLEVUE, WA 98009-9012

MITIGATED DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: PSE – Lake Hills to Phantom Lake Transmission Line

LOCATION OF PROPOSAL: City-Wide

DESCRIPTION OF PROPOSAL:

Proposal to construct a new, 115kB transmission line to connect the existing Lake Hills Substation with the Phantom Lake Substation. The route and new poles will be in the rights-of-way along SE 16th Street, 148th Avenue SE and NE and NE 8th Street. Work will also include upgrades to the existing substations and required mitigation for tree removal and construction within a floodplain and wetlands along the route.

FILE NUMBERS: 11-131123-LB, 12-127693-WA, 11-131125-LO, 11-131124-WG,

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Development Services Department. This information is available to the public on request.

☐ There is no comment period for this DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's office by 5:00 p.m. on _____.

☒ This MDNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's Office by 5 p.m. on November 13, 2014 .

☐ This DNS is issued under WAC 197-11-340(2) and is subject to a 14-day comment period from the date below. Comments must be submitted by 5 p.m. on _____. This DNS is also subject to appeal. A written appeal must be filed in the City Clerk's Office by 5 p.m. on _____.

This DNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information indicating, or on, a proposals probable significant adverse environmental impacts (unless a non-exempt license has been issued if the proposal is a private project): or if the DNS was procured by misrepresentation or lack of material disclosure.

Carol D Helland
Environmental Coordinator

10/30/14
Date

OTHERS TO RECEIVE THIS DOCUMENT:
State Department of Ecology,
Attorney General
Muckleshoot Indian Tribe

City of Bellevue
Development Services Department
Land Use Division Staff Report

Proposal Name:	Puget Sound Energy (PSE)
Proposal Address:	16315 SE 8th Street to 15555 SE 16th Street
Proposal Description:	Recommendation of Conditional Use Permit and Shoreline Conditional Use approval to the City of Bellevue Hearing Examiner and Administrative Approval of Shoreline Substantial Development Permit and Critical Areas Land Use Permit to construct a new 115kV overhead transmission line to connect the Lake Hills Substation with the Phantom Lake Substation.
File Numbers:	11-131123-LB – Conditional Use 11-131124-WG – Shoreline Conditional Use 11-131125-LO – Critical Areas Land Use Permit 12-127693-WA – Substantial Shoreline Development
Planner:	Sally Nichols, Senior Planner
Applicant:	PSE Jeff McMeekin
Recommendations Included:	Conditional Use Permit and Shoreline Conditional Use Permit (Process III, Land Use Code 20.30B and C)
Decisions Included:	Critical Areas Land Use Permit and Substantial Shoreline Development Permit (Process II, Land Use Code 20.30P and R)
State Environmental Policy Act Threshold Determination:	**Mitigated Determination of Non-Significance (MDNS)** Carol V Helland Carol V. Helland, Environmental Coordinator Development Services Department
Director's Recommendation:	**Approval with Conditions** Mike Brennan, Director Development Services Department By: Carol V Helland Carol V. Helland, Land Use Director

Application Date:	December 28, 2011
Notice of Application:	May 3, 2012
Public Meetings:	May 31, 2012 and May 21, 2013
Recommendation/Decision Publication Date:	October 30, 2014
Public Hearing:	November 20, 2014

Deadline For Appeal of Process II Administrative Decisions

- SEPA and Critical Areas Land Use Permit: November 13, 2014 (14 days following publication of a notice of decision)
- Shoreline Substantial Development Permit: November 20, 2014 (21 days following publication of a notice of decision)

For information on how to appeal a project proposal, visit the Permit Center at City Hall or call 425-452-6800. Appeal of any Process II Administrative decision must be made by 5 p.m. on the date noted for appeal of the decision. Appeal of the SEPA Threshold Determination and Critical Areas Land Use must be made to the City of Bellevue City Clerks Office. Appeal of the Shoreline Substantial Development Permit must be made to the Washington State Shoreline Hearings Board (contact the project planner for more information on how to file an appeal with the Shoreline Hearings Board).

City of Bellevue
Development Services Department
Land Use Division Staff Report

Proposal Name:

Puget Sound Energy (PSE)
16315 SE 8th Street to 15535 SE 15th Street

Proposal Address:

Recommendation of Conditional Use Permit and Shoreline Conditional Use approval to the City of Bellevue Hearing Examiner and Administrative Approval of Shoreline Substantial Development Permit and Critical Areas Land Use Permit to construct a new 115kV overhead transmission line to connect the Lake Hills Substation with the Phantom Lake Substation.

Proposal Description:

File Numbers:

11-121123-LB – Conditional Use
11-121124-WG – Shoreline Conditional Use
11-121125-LO – Critical Areas Land Use Permit
12-122603-WA – Substantial Shoreline Development

Planner:

Sally Nichols, Senior Planner

Applicant:

PSE
Jeff McMahon

Recommendations Included:

Conditional Use Permit and Shoreline Conditional Use Permit (Process III, Land Use Code 20.30B and C)

Decisions Included:

Critical Areas Land Use Permit and Substantial Shoreline Development Permit (Process II, Land Use Code 20.30P and R)

State Environmental Policy Act Threshold Determination:

Mitigated Determination of Non-Significance (DNMS)

Carol V. Helland, Environmental Coordinator
Development Services Department

Director's Recommendation:

Approved with Conditions

Mike Brennan, Director
Development Services Department

Carol V. Helland, Land Use Director

Application Date:	December 22, 2011
Notice of Application:	May 3, 2012
Public Meetings:	May 24, 2012 and May 31, 2013
Recommendation/Decision Publication Date:	October 30, 2014
Public Hearing:	November 20, 2014

Deadline For Appeal of Process II Administrative Decisions

- SEPA and Critical Areas Land Use Permit: November 13, 2014 (14 days following publication of a notice of decision)
- Shoreline Substantial Development Permit: November 20, 2014 (21 days following publication of a notice of decision)

For information on how to appeal a decision or project, visit the Permit Center at City Hall or call 425-452-6800. Appeal of any Process II Administrative decision must be made by 5 p.m. on the date noted for appeal of the decision. Appeal of the SEPA Threshold Determination and Critical Areas Land Use must be made to the City of Bellevue City Clerk's Office. Appeal of the Shoreline Substantial Development Permit must be made to the Washington State Shoreline Hearings Board (contact the project planner for more information on how to file an appeal with the Shoreline Hearings Board).

TABLE OF CONTENTS

I. Request and Review Process 4
A. Request 4
B. Approvals Required and Review Process 5
II. Proposal Description 6
A. Purpose 6
B. Background 7
C. Proposed Alignment 9
D. Pole Design 11
E. Vegetation Removal 13
F. Substation Upgrades 14
III. Site Description, Zoning/Context and Critical Areas 16
A. Site Description 16
B. Zoning/Context 22
C. Critical Areas 23
IV. Consistency with Land Use Code and Zoning Regulations 29
A. Electrical Facilities – LUC 20.20.255
Design Standards 29
B. Critical Areas Requirements 31
1. General 31
2. Wetlands 32
3. Floodplains 33
4. Streams 34
C. Shoreline Overlay District Requirements 34
1. General 34
2. Clearing and Grading 36
3. Utilities 37
V. State Environmental Policy Act (SEPA) 37
A. Wildlife 38
B. Plants 38
C. Scenic Resources/Visual Impacts 40
D. Noise 41

VI. Technical Review **41**
A. Clearing and Grading 41
B. Utilities 41
C. Transportation 42
D. Fire 43
VII. Public Comment **43**
A. Public Meetings 43
B. Public Noticing Requirements 45
C. Questions and Responses 45
VIII. Changes to the Proposal as a Result of City Review **54**
IX. Applicable Decision Criteria – Findings and Conclusions **55**
A. Electrical Utility Facilities Decision Criteria 55
B. Conditional Use Criteria 57
C. Critical Areas Land Use Permit Decision Criteria 59
D. Shoreline Conditional Use Decision Criteria 60
E. Shoreline Substantial Development Decision Criteria 63
X. Recommendation **64**
XI. Recommended Conditions and Approval **64**

ATTACHMENTS:

A. Project Plans
B. Tree Evaluation, Annotated Project Plans and Spreadsheets
C. Tree Evaluation Assessment
D. SEPA – Environmental Checklist
E. Comprehensive Plan Policy Analysis
F. Photo Simulations I
G. Photo Simulations II
H. Median Alignment Assessment Matrix
I. Proposed Alternative Routes – Affected Parcels and Zoning Maps

I. REQUEST AND REVIEW PROCESS

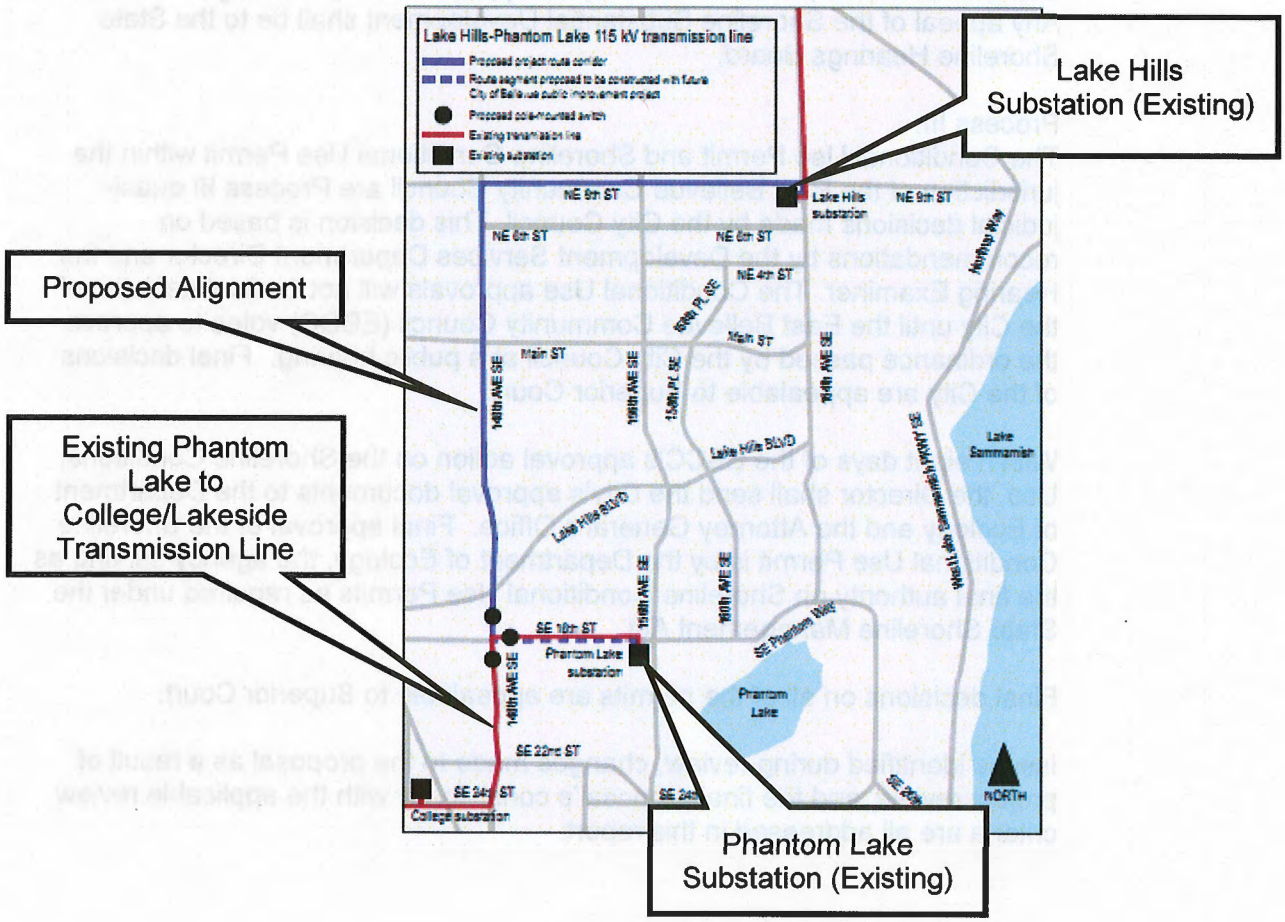
A. Request

Puget Sound Energy (PSE) has applied to the City of Bellevue for a Conditional Use Permit, a Critical Areas Land Use Permit, a Shoreline Substantial Development Permit, a Shoreline Conditional Use Permit, and a SEPA Threshold Determination to construct a new 115 kV overhead transmission line running from the Lake Hills Substation to the Phantom Lake Substation. Approximately 39 poles will be installed on the route from the Lake Hills Substation up to SE 16th Street and an additional 9 poles are proposed to run down SE 16th. The length of the line is as follows:

- Lake Hills Substation at NE 8th Street and 164th Avenue NE to 148th Avenue NE: 0.97 miles
- From NE 8th Street along 148th Avenue NE/SE to SE 16th Street: 1.43 miles
- From 148th Avenue SE along SE 16th Street to Phantom Lake Substation at SE 16th Street and 156th Avenue SE: 0.49 miles

Total: 2.89 miles

Note that although this application is for approval of the entire route, the SE 16th Street portion of the line will be constructed at a later date. Refer to Section II.B for specific information regarding phasing of this segment of the alignment.



B. Approvals Required and Review Process

1. Approvals Required:

The applicant's (PSE) proposed project requires the following approvals:

- Conditional Use Permit (LUC 20.30B)
- Shoreline Conditional Use Permit (LUC 20.30C)
- SEPA Threshold Determination (BCC 22.02/WAC 107-11-704)
- Shoreline Substantial Development Permit (LUC 20.30R)
- Critical Areas Land Use Permit (LUC 20.30P)

2. Review Process:

The recommendations and approvals associated with this application are supported by a review process that included pre-submittal public outreach, a pre-application meeting, public noticing through a radius mailing and inclusion in the Weekly Permit Bulletin, the installation of six notice signs, multiple public meetings, three courtesy hearings before the East Bellevue Community Council, the collection of public comments, and reviewer revision requests. The specific permits and their associated review processes are as follows:

Process II:
The Critical Areas Land Use Permit, Shoreline Substantial Development Permit and SEPA Determination are all Process II, administrative approvals made by the Development Services Department Director. All but the Shoreline Substantial Development Permit may be appealed to the Hearing Examiner. Any appeal of the Shoreline Substantial Development shall be to the State Shoreline Hearings Board.

Process III:
The Conditional Use Permit and Shoreline Conditional Use Permit within the jurisdiction of the East Bellevue Community Council are Process III quasi-judicial decisions made by the City Council. This decision is based on recommendations by the Development Services Department Director and the Hearing Examiner. The Conditional Use approvals will not be final decision of the City until the East Bellevue Community Council (EBCC) votes to approve the ordinance passed by the City Council at a public hearing. Final decisions of the City are appealable to Superior Court.

Within eight days of the EBCC's approval action on the Shoreline Conditional Use, the Director shall send the City's approval documents to the Department of Ecology and the Attorney General's Office. Final approval of the Shoreline Conditional Use Permit is by the Department of Ecology, the agency serving as the final authority on Shoreline Conditional Use Permits as required under the State Shoreline Management Act.

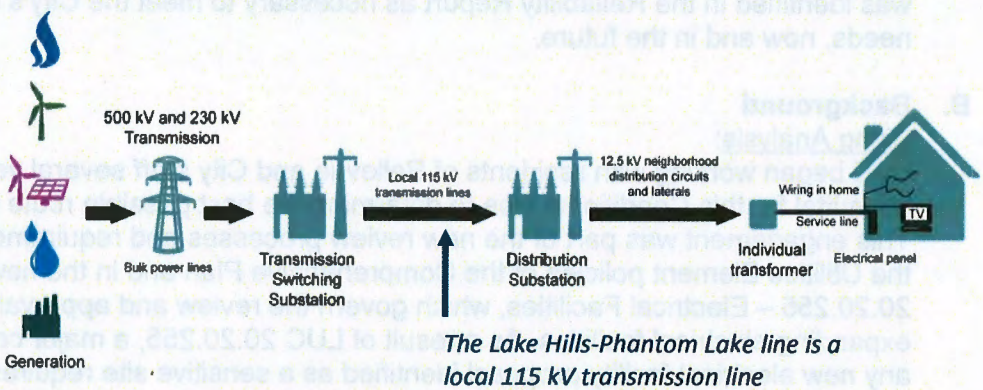
Final decisions on all of the permits are appealable to Superior Court.

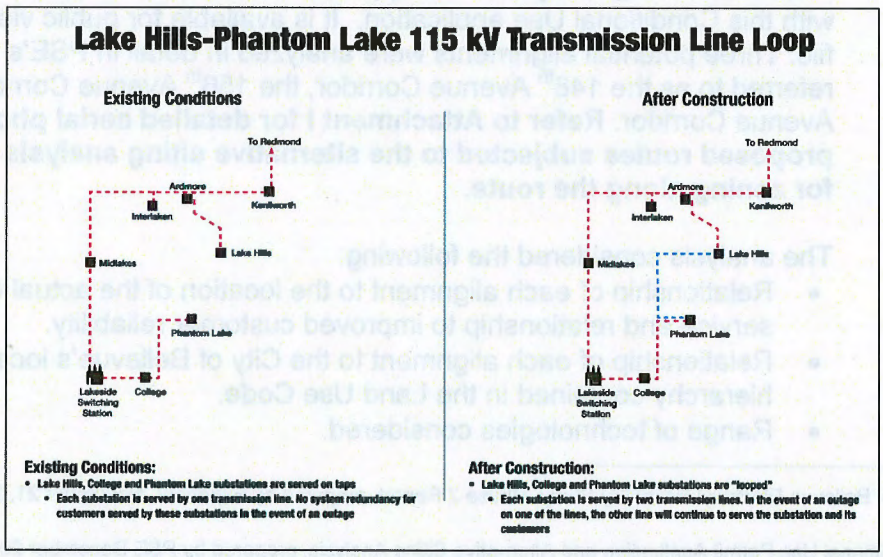
Issues identified during review, changes made to the proposal as a result of project review, and the final proposal's consistency with the applicable review criteria are all addressed in this report.

II. PROPOSAL DESCRIPTION

A. Purpose

The purpose of the proposed 115kV transmission line is to improve reliability and allow for better use of existing capacity at the community and local level by linking together currently unconnected portions of the existing electrical grid system. The new transmission line between the two existing substations (Lake Hills and Phantom Lake) will create a "loop", which means that each substation will be fed by two transmission lines. Currently each substation is served by only one line. With two lines, if one of the transmission lines goes out (for example, if one of the transmission lines is hit by a tree or lightning), the additional (second) line will be able to feed the associated substation and serve the electrical needs of PSE's customers until repairs can be made. During events (such as windstorms) that cause wide-spread power outages, a looped system allows power to be delivered from more than a single source. This system redundancy allows power to be redirected automatically from an alternative source. This system redundancy limits the number of customers who lose power and must wait for facilities to be repaired in the field. The substations are also currently under-utilized. As a result of the new line, PSE will be able to use each of the substations to its designed capacity to meet expanding needs of the surrounding neighborhoods without requiring additional substation expansion.





This proposal to link the Phantom Lake and Lake Hills substations has been a part of PSE's Electrical Facilities Plan (also known as the System Plan) since 1993. In 2006, the System Plan was updated and the proposal for this connection was retained. Pursuant to the Comprehensive Plan Policy UT-32, the City defers to the serving utility regarding the implementation sequence of these facilities. As early as 2008, PSE determined that this project was necessary and that it was a critical time to move forward with implementation.

When the City updated the Comprehensive Plan in 2009, the proposal was identified in the Utilities Element as a proposed new facility and it was shown as a proposed facility requiring Sensitive Siting in the Utilities Element Figure UT5a.

In addition to minimizing the impacts associated with new electric utility facilities, the City of Bellevue also wanted to ensure that expectations for a highly reliable electric service will be in place to meet the City's economic, public safety and public health objectives. In 2011, the City retained Exponent, an engineering and scientific consulting firm, to perform an electric system reliability assessment, which resulted in the Electrical Reliability Study, Phase 2 Report[1]. One of the objectives of this report was to assess PSE's long range electric system plan to ensure that appropriate facilities are or will be in place to serve the land uses envisioned by the City's Comprehensive Plan. The Lake Hills to Phantom Lake transmission line segment was identified in the Reliability Report as necessary to meet the City's electrical needs, now and in the future.

B. Background

Siting Analysis:

PSE began working with residents of Bellevue and City staff several years prior to submittal for this Conditional Use to determine the best possible route for this line. This engagement was part of the new review processes and requirements found in the Utilities Element policies of the Comprehensive Plan and in the new LUC Section 20.20.255 – Electrical Facilities, which govern the review and approval of new and expanding electrical facilities. As a result of LUC 20.20.255, a major component of any new electrical facility proposal identified as a sensitive site requires an Alternative Siting Analysis. The applicant submitted their Alternative Siting Analysis[2] with this Conditional Use application. It is available for public viewing in the project file. Three potential alignments were analyzed in detail in PSE's report. They are referred to as the 148th Avenue Corridor, the 156th Avenue Corridor, and the 164th Avenue Corridor. **Refer to Attachment I for detailed aerial photographs of the proposed routes subjected to the alternative siting analysis and Section III.B for zoning along the route.**

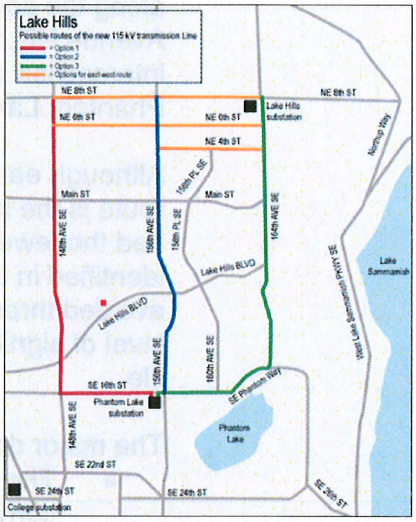
The analysis considered the following:

- Relationship of each alignment to the location of the actual demand for electrical service and relationship to improved customer reliability.
- Relationship of each alignment to the City of Bellevue's location selection hierarchy contained in the Land Use Code.
- Range of technologies considered.

[1] City of Bellevue Electrical Reliability Study, Phase 2 Report, prepared by Exponent, November 21, 2011

[2] Conditional Use Permit Application and Alternative Siting Analysis, prepared by PSE December 29, 2011

- Description of all methods of community outreach or involvement conducted prior to selecting a preferred site. PSE hosted four public meetings prior to formal Conditional Use permit submittal where they presented the three alignment options. **Refer to Section VII of this report for more information regarding the complete public participation process.**



Alternative Siting Analysis prior to Permit Submittal: Prior to PSE's permit submittal, three potential alignments were subjected to an Alternative Siting Analysis as required by LUC 20.20.255.D. Generally they involved running the transmission line down 164th Avenue, 156th Avenue or 148th Avenue. City staff attended, but was not directly involved in, the PSE public outreach meetings. Staff also analyzed the routes and the preliminary analysis done by PSE. In addition, four meetings were held with City of Bellevue Department Directors (Development Services, Parks, Transportation, Planning and Community Development, Utilities and Economic Development) to evaluate PSE's comparison of potential route impacts and to provide feedback to PSE on the potential routes. This preliminary review considered the following when looking at each route:

- Infrastructure impacts.
- Park impacts, including loss of vegetation and visual access.
- Number of residential homes directly affected by the potential of having a transmission line on a neighborhood street and/or in residential front yards.
- Number of commercial properties versus residential properties affected.
- Orientation of properties along the route (does the route run along a majority of front, side or rear yards).
- Financial impacts to residents required to provide the private service connection upgrade if the route went down a street where undergrounding of the distribution line would be required.
- Location of the line, as much as possible, in non-residential land use districts as directed in the hierarchy of preferred locations in LUC 20.20.255.
- Opportunities for mitigation.

Due to the combination of the visual impacts to the Lake Hills Greenbelt along 156th Avenue SE and the physical and financial impacts to over 70 residents along the route related to the placement of the transmission line in their front yards, the 156th Avenue NE/SE route was removed from consideration. Additionally, the 148th Avenue NE/SE and 164th Avenue NE/SE alignments had the best opportunities for mitigation. Therefore, the potential candidates for the preferred alignments were further narrowed down to the 148th Avenue and 164th Avenue routes. It was ultimately concluded that the 148th Avenue route had the fewest impacts on residential neighborhoods because it would run along a major arterial that transverses both residential and commercial properties and would directly impact the fewest number of residential properties. As a result, the 148th Avenue alignment was most consistent with the intended outcome of the hierarchy of preferred locations.

C. Proposed Alignment

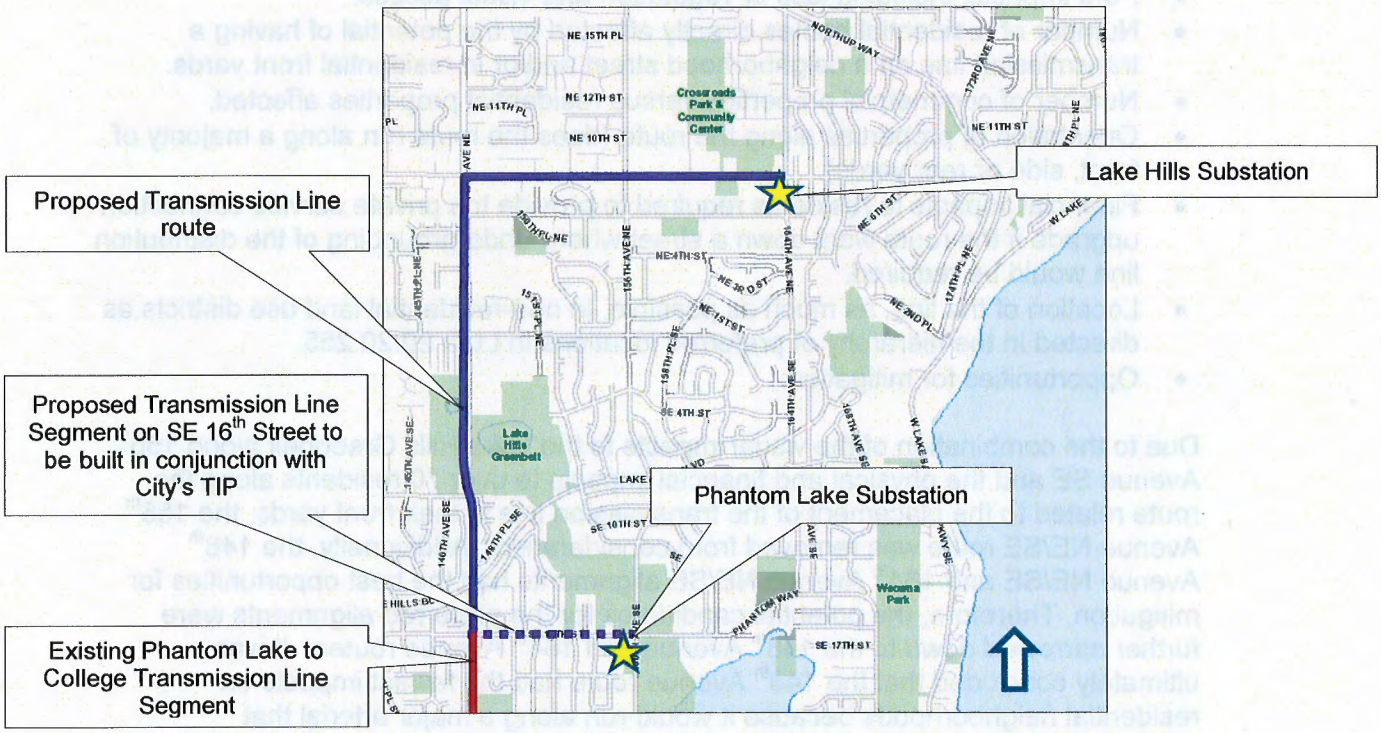
As a result of the required Alternative Siting Analysis and taking into consideration feedback provided by the City of Bellevue Directors, the alignment along 148th Avenue NE was selected by PSE. This is the alignment under consideration for this Conditional Use review and analyzed in this staff report. The alignment will run west from the Lake Hills Substation on the corner of NE 8th Street and 164th Avenue NE along the south side of NE 8th Street. At the intersection of NE 8th Street and 148th Avenue NE, the line will turn and head south along 148th Avenue NE and SE. At the intersection with SE 16th Street, the line will again turn and head east, ending at the Phantom Lake Substation at the corner of SE 16th Street and 156th Avenue SE.

Although each route analyzed by PSE had a range of impacts, and the proposed route is the longest, PSE determined that the route along 148th Avenue NE and SE had the fewest negative impacts to Bellevue residents after considering many factors identified in the required Alternative Siting Analysis. The impacts that could not be avoided through route selection were able to be minimized or mitigated to below a level of significance. The Siting Analysis is available for public viewing in the project file.

The major deciding factors include but are not limited to the following:

- The route primarily follows existing major and minor vehicular arterial corridors, where utilities are expected; and

Proposed Alignment



- The route is an extension of the existing Lakeside to Phantom Lake 115kV transmission line corridor, which currently runs south along the east side of

148th Avenue SE from SE 16th Street to SE 24th Street *and* along the south side of SE 16th Street from 148th Avenue SE to the Phantom Lake Substation on 156th Avenue SE. These lines currently connect the Phantom Lake Substation with the College Substation at 14470 SE 24th Street; and

- The route avoids single-family neighborhoods to the greatest extent possible, and when the corridor is located adjacent to residential uses, the corridor generally abuts side or rear yards and avoids front yards; and
- The route crosses the Lake Hills Greenbelt in the most developed and intensely used section of the Greenbelt where cars are going at relatively high speeds and the visual impact on the Greenbelt is less than the impact of wires crossing east/west along SE 16th Street from 156th Avenue SE to 164th Avenue SE; and
- The route minimizes critical area disturbance; and
- The route provides the most opportunities for pole placement and mitigation, especially along 148th Avenue; and
- The route would avoid requiring each individual homeowners to pay thousands of dollars to connect the service from the street to their homes due to the undergrounding of the existing distribution lines on 164the Avenue, as required per Comprehensive Plan Policy UT-39. This fee could not be covered by either PSE or the City of Bellevue.

Refer to Attachment A for submitted plans of the proposed alignment and to Section III of this report for aerial photos of the alignment route.

<u>SE 16th Street Alignment</u>:
Although Conditional Use approval to run a segment of the new line down SE 16th Street is requested through this Conditional Use application and approval, PSE does not intend to build this piece of the line until an unspecified date in the future. The City of Bellevue has identified a Transportation Improvement Project (TIP) that is planned to take place on SE 16th Street, between 148th and 156th Avenues SE. This work is expected to include the addition of curbs and gutters, sidewalks, bike lanes and new landscaping. No specific construction date and/or funding have yet been identified. However, the City has indicated that the SE 16th Street project might take place within the next 5-10 years. PSE is now proposing to defer final design and construction of the half-mile line segment of Transmission Line along SE 16th Street between 148th Avenue SE and the Phantom Lake substation, in order to coordinate the design of the Transmission Line work with the City and to undertake construction concurrently with the planned road and streetscape improvements. This approach will result in a more unified streetscape and will diminish construction-related disruptions to adjacent neighbors. Until the second line to the Phantom Lake station is installed, PSE proposes to install two pole-mounted switches at the northeast corner of 148th Avenue SE and SE 16th Street. The switches will allow PSE to change the flow of power to the Phantom Lake substation from the north or the south. This interim plan allows PSE to improve reliability for all customers in the area, although the full reliability benefits to the Phantom Lake Substation will not be realized until the second line on the SE 16th Street segment is constructed.

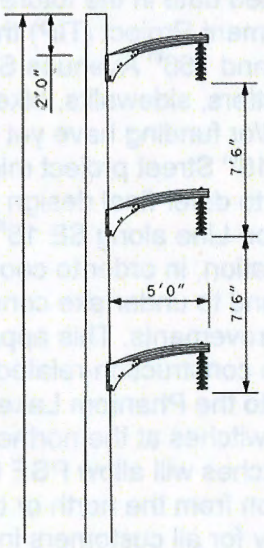
The SE 16th Street portion of the overall alignment is unique in that there is an existing transmission line running down the north side of street which connects the Phantom Lake Substation to the Bellevue College Substation at 14470 SE 24th

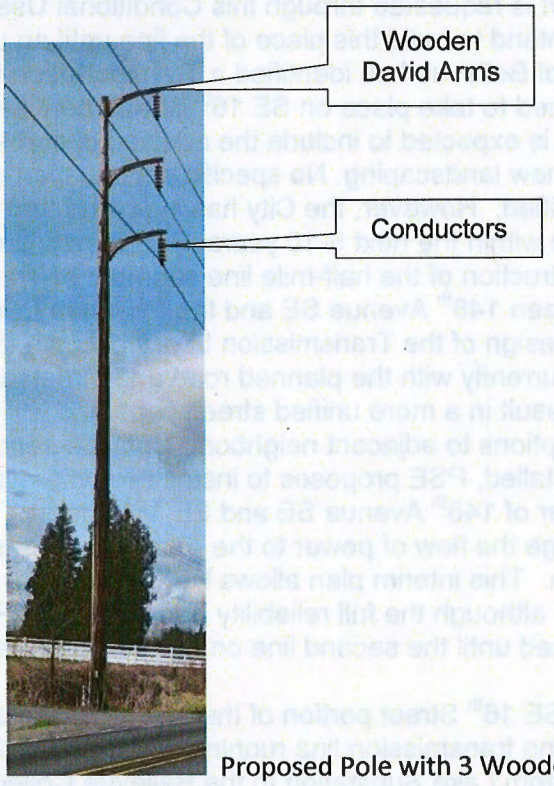
Street. The transmission poles also carry distribution lines. The residents along this section of the alignment were very concerned about the additional impacts of tree removal and visual clutter associated with having transmission lines on both sides of a residential street.

It has been determined through City review that the impacts resulting from running two separate transmission lines through this residential neighborhood could not be mitigated through the application of City codes or through landscape mitigation proposed on the remainder of the alignment. Therefore, through this mitigated DNS process and the substantive SEPA authority in BCC 22.02.140, PSE will not be allowed to run a second line along the south side of the street. Possible ways to accommodate the second line would be to co-locate the new line with the existing transmission and distribution lines on the north side of the street or to underground the line along the north side of the street. The exact methodology for providing the second line will be reviewed first as a Land Use Exemption to this Conditional Use approval and then under the construction permits for this segment of the alignment. **Refer to SEPA review in Section V and Condition of Approval regarding the alignment on SE 16th Street in Section XI of this report.**

D. Pole Design

The three wires required for the 115kV transmission line will be suspended from conductors hanging from three arms on the street side of single poles. The majority of the poles will be solid wood with a standard 32-inch diameter, which is used by PSE throughout Bellevue. These poles will fade over time to a lighter color that recedes against the sky. Typical pole heights will be 70 to 80 feet above the ground.



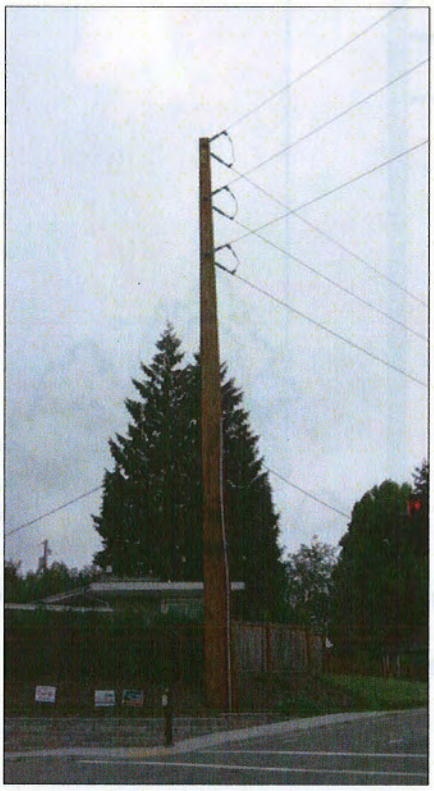


Proposed Pole with 3 Wooden Davit Arms

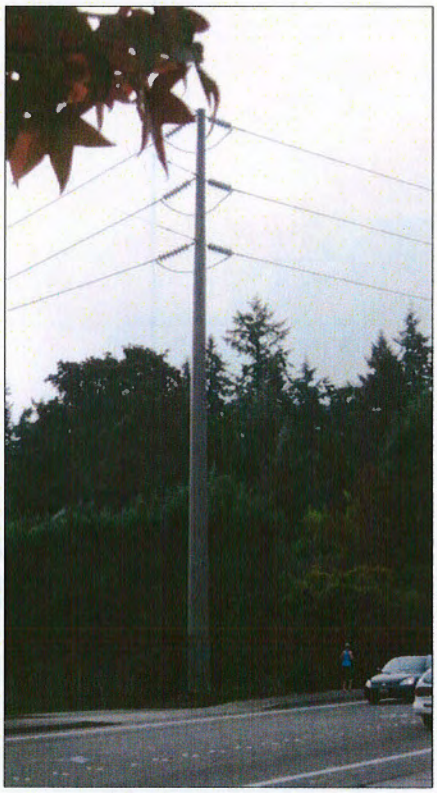
The wooden poles will be directly embedded in the ground without need for a concrete footing. The poles are buried at a depth of 10-percent of the pole length plus 2 feet. The area of disturbance around the poles during construction is minimal at approximately 5 feet by 5 feet and no guying is required.

As a result of City review, PSE has also proposed to hang the wires on conductors hanging off wooden davit arms (see illustration and photograph below). These arms are more decorative and residential in appearance than the standard transmission arm and will give the poles an enhanced and less industrial design presence. They also have the added benefit of extending the wires approximately six feet further out towards the street and away from existing trees and private properties. This will result in the ability to trim some trees adjacent to private property and in the right-of-way in lieu of removing them.

In specific locations where the transmission line must turn corners, PSE will be directed to use wooden glu-lam poles, which are typically placed in a 10-foot wide hollow steel casing that is 6 feet deep and backfilled with crusted rock. They will have a disturbance area of approximately 10 feet by 10 feet. Alternatively, steel poles might be allowed if PSE can demonstrate that there is no feasible alternative. In either case, more substantial poles will generally eliminate the need for guying. **Refer to Condition of Approval regarding pole design in Section XI of this report.**



Glu-Lam Pole on Bellevue Way (no guying/ lower lines are distribution lines)

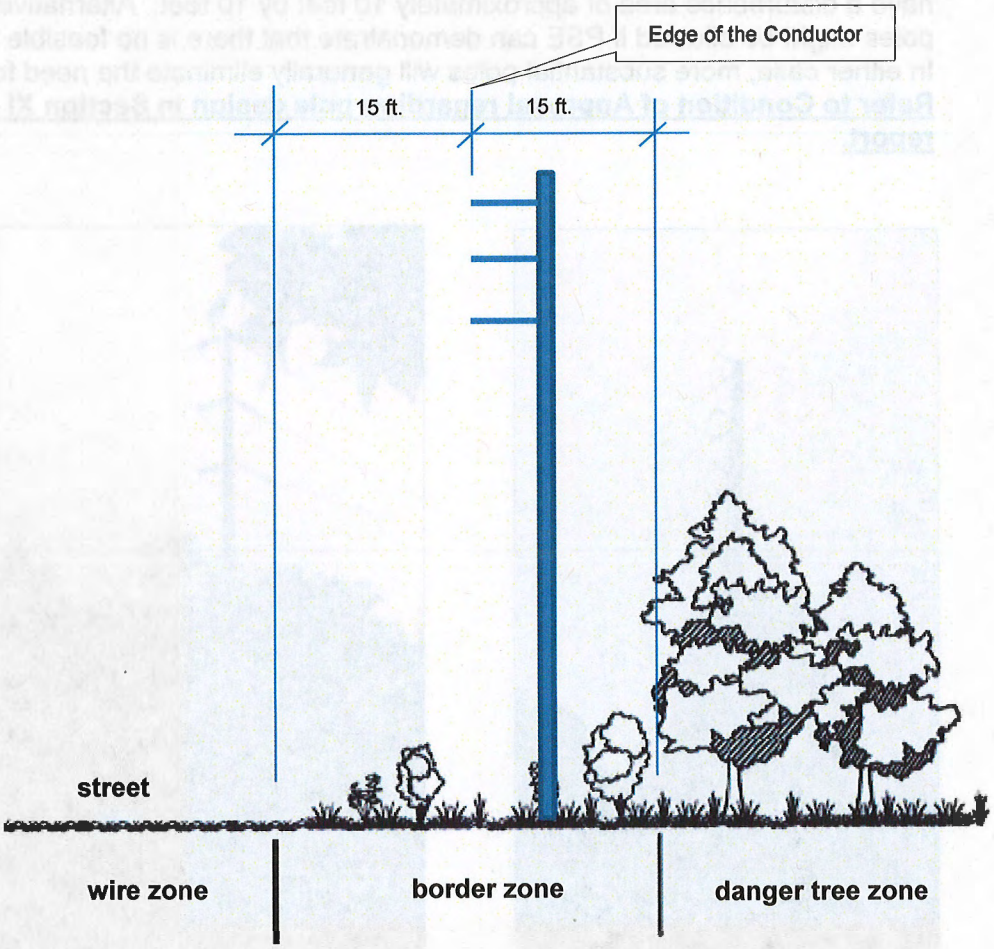


Steel Pole on Bellevue Way (no guying)

Lastly, steel poles will be placed directly across from Fire Station 3 at 16100 NE 8th Street as a result of Fire Department review. This will be done to eliminate, as much as possible, the likelihood that the poles and wires could fall on the Fire Station property and thereby prevent emergency vehicles from exiting the Station. The conductors and wires will also be placed on the inside (private property side) of the poles in this location to further ensure against lines falling into NE 8th Street in front of the Station, which might also prevent ingress/egress of Fire Station vehicles. These poles will be required to be painted dark green to recede into the vegetated background to the south. **Refer to Condition of Approval regarding pole design in Section XI of this report.**

E. Vegetation Removal

Vegetation management activities, including tree trimming and tree removal, are being proposed to meet the North American Electric Reliability Corporation (NERC) vegetation management standards for electric transmission lines. These standards have recently been adopted by PSE (referred to in this report as PSE's vegetation standards).



The actual width of the border zone is site specific. In the case of the proposed transmission line, and per the NERC standards, PSE proposes to remove all trees

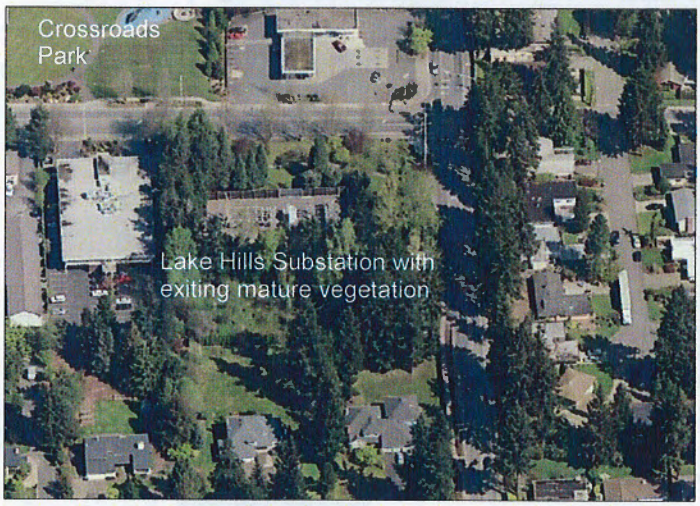
taller than 25 feet within a border zone that is measured approximately 15 feet from the conductor (line) – see diagram above. The alignment from the Lake Hills substation to the corner of 148th Avenue SE and SE 16th Street will require the removal of 295 trees on publicly-owned property (public right-of-way, Parks property, Resource Management property, and Utilities property). Additionally, PSE proposes to remove 16 additional city-owned trees on SE 16th Street when this segment is completed. The impact from the loss of trees includes habitat removal, loss of the ecological function of mature trees (especially conifers), and impacts to a major visual amenity along public roadways and open spaces. **Mitigation will be required for the removal of these trees and is discussed under SEPA Review in Section V of this report.**

Note that additional tree removal will be required on private property adjacent to the public right-of-way. Removal of those trees will be handled via private easements between PSE and the individual property owners and removal of these trees will not be part of this Conditional Use Permit approval. However, removal of trees on private property may require clearing and grading permits, depending on the land use districts within which the property is located and the uses on the site.

F. Substation Upgrades

Upgrades to both existing substations will include installation of new equipment, new foundations for new steel termination poles, fence replacements, tree removal, and landscape and site work to increase safety and visibility around the facilities. The existing area used by PSE on each site will be expanded minimally by a few feet and new required equipment will be placed within the footprints of the existing substations. All substation modifications are required to meet the design standards of LUC 20.20.255.F. The Phantom Lake Substation will not be upgraded until the transmission lines are placed on the SE 16th Street section of the Alignment. Refer to Section II.C above regarding the SE 16th Street alignment. **Refer to Condition of Approval regarding the final plans for substation upgrades in Section XI of this report.**

Lake Hills Substation: The Lake Hills Substation has become dangerous due to the overgrown vegetation and understory. Trespassing by homeless individuals has become an issue, as has theft of copper wire. This work will be necessary whether or not the new Transmission Line is constructed. These upgrades to the Substation will be reviewed and approved in advance of this Conditional Use approval as a Land Use Exemption (LJ Permit, referred to as a LUX) to the existing underlying Conditional Use for the Substation. Work will not include any poles or

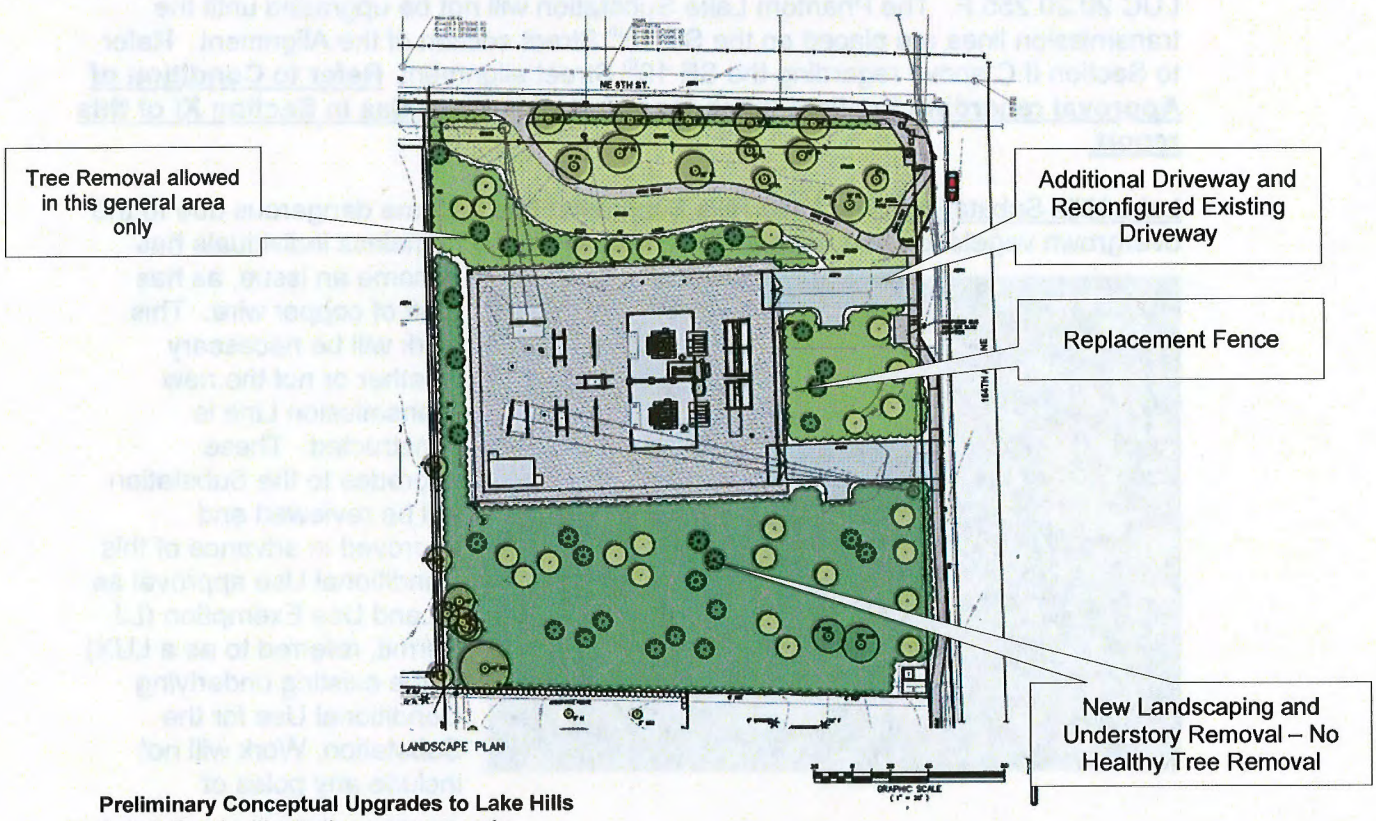


equipment necessary for the new transmission line. The plan below is very conceptual and is shown only to generally illustrate the work to be done at the Substation.

Work that will be allowed under this LUX is limited to the following:

- Cleaning out of overgrown understory and noxious weeds such as ivy, and replanting with appropriate groundcover and shrubs
- Replacement of the existing wood fence with a new wood fence or fencing with an alternate material that is site-obscuring per the LUC requirements.
- Redesign of existing driveways and minor relocation of the existing bus stop. Any driveway configuration will be reviewed to ensure that it is as unobtrusive as possible, which may necessitate additional landscaping and angling the driveway(s) off 164th Avenue NE.
- Removal of unhealthy trees as verified by a Certified Arborist via Hazardous Tree Forms. All healthy trees shall remain in place. Any tree removal of healthy trees on the substation sites will be reviewed under the Clearing and Grading Permit associated with *this* Conditional Use Permit.

Any other removal anticipated for the new transmission line shall be part of this Conditional Use Permit and will be allowed only along the northwest corner of the fenced equipment area, where the new line enters the substation. Existing trees around the Substation are to remain to meet the requirements of LUC 20.20.255.F for vegetated screening. **Refer to Condition of Approval regarding final plans for substation upgrades in Section XI of this report.**



Preliminary Conceptual Upgrades to Lake Hills Substation for illustrative purposes only

Upgrades to both substations must meet the design standards in LUC 20.20.255.F and 20.20.520.F.2. In addition to site-obscuring fencing, landscaping will be required to further screen the facilities from the surrounding neighborhoods.

The final design for the Phantom Lake Substation will be reviewed as a Land Use Exemption to this Conditional Use approval when the SE 16th portion of the alignment is designed. **Refer to Condition of Approval regarding the final plans for substations, alignment on SE 16th Street, and development agreement for SE 16th Street alignment vesting in Section XI of this report.**

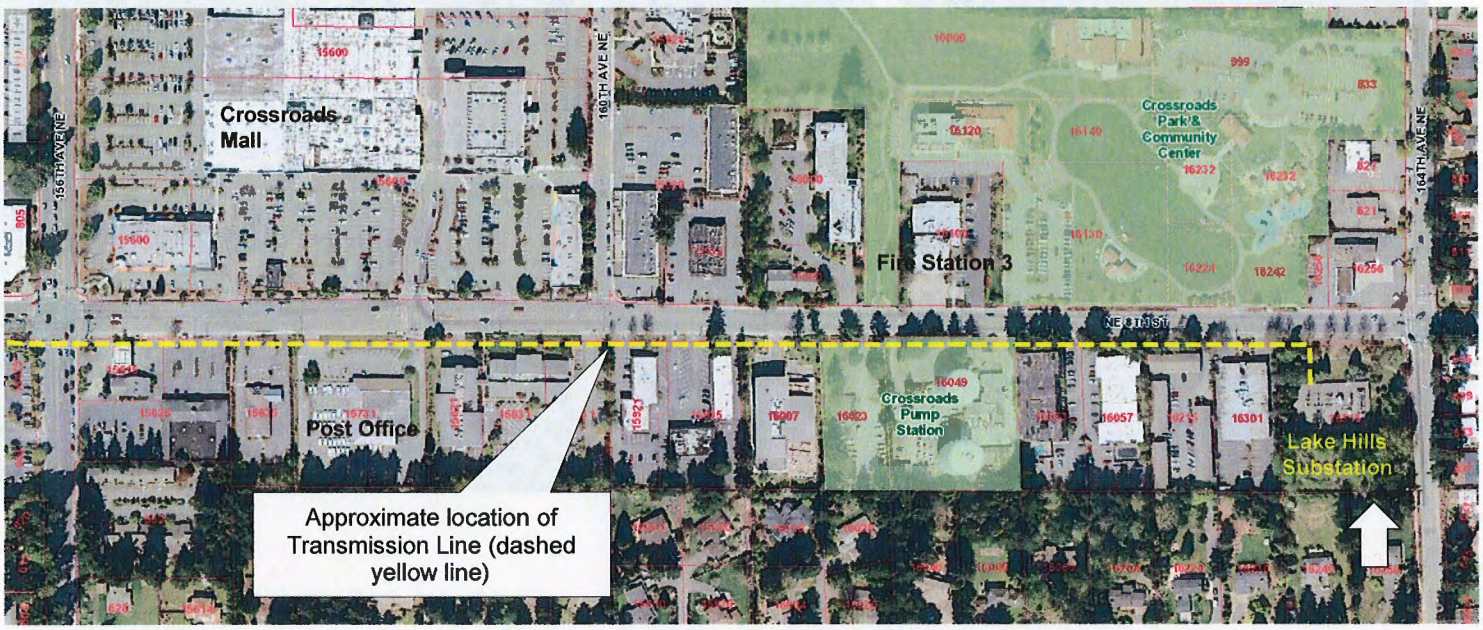
III. SITE DESCRIPTION, ZONING/CONTEXT and CRITICAL AREAS

A. Site Description

For the purposes of this report, the route has been broken up into segments, each of which has different characteristics. The following is a brief discussion of each segment. The transmission line alignment is shown as a dashed yellow line.

1. NE 8th Street - Lake Hills Substation to 156th Avenue NE:

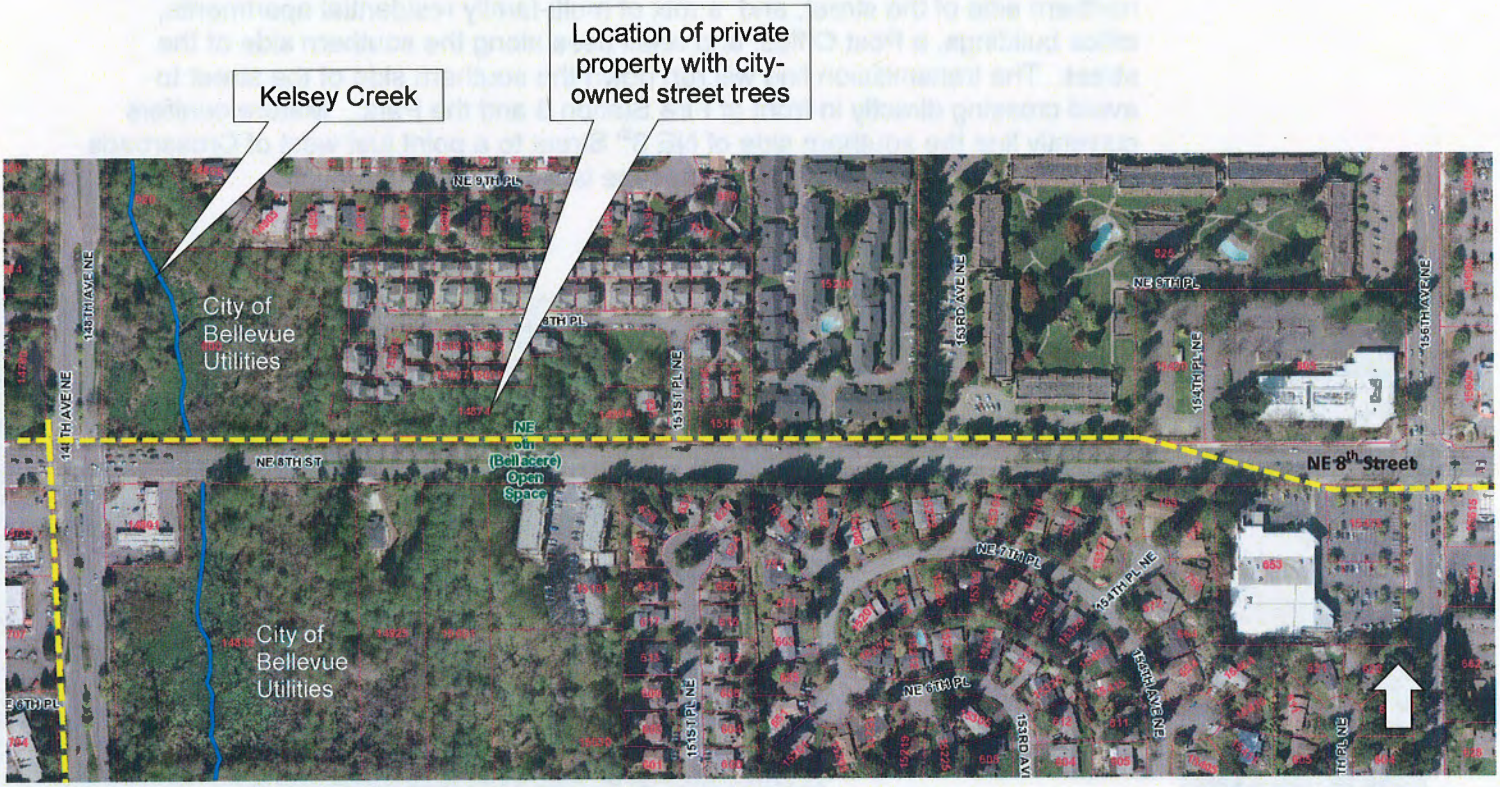
This section of NE 8th Street, an east-west running arterial street, is characterized by Crossroads Park, Fire Station 3, Crossroads Mall and strip retail along the northern side of the street, and a mix of multi-family residential apartments, office buildings, a Post Office, and retail uses along the southern side of the street. The transmission line will run down the southern side of the street to avoid crossing directly in front of Fire Station 3 and the Park. Mature conifers currently line the southern side of NE 8th Street to a point just west of Crossroads Park. From this point on, the streetscape lacks mature vegetation.



2. NE 8th Street - 156th Avenue NE to 148th Avenue NE:

The transmission line will cross NE 8th Street just west of the intersection of NE 8th Street and 156th Avenue NE. It will then run down the north side of the NE 8th Street, past one commercial development and three large multi-family developments. Many of the trees to be removed in this area to accommodate the transmission line are actually on private property, as the right-of-way is very narrow in this location and the removal of these trees is not part of this Conditional Use approval. In other locations, pear trees were planted as street trees by the City in the public easements on private property due to road widening activities. These easement constitute the public right-of-way. These trees are owned and maintained by the City of Bellevue Parks Department and are included in the list of 295 publically-owned trees that PSE is proposing for removal with this proposal.

Near the intersection of NE 8th Street and 148th Avenue NE, the line will run by a large wetland that contains a segment of Kelsey Creek. This wetland is managed by the City of Bellevue Utilities Department. Trees to be removed in this location will not only be in the right-of-way but will include some trees on this City Utilities property.



3. 148th Avenue NE - NE 8th Street to Main Street:

In this location, the line will make a 90-degree turn from NE 8th Street and travel along the western side of 148th Avenue NE. It will then cross 148th Avenue NE diagonally at around NE 5th Street and continue to travel along the eastern side of the street. The eastern side of 148th Avenue NE is characterized primarily by City-managed wetlands and four single family homes. Near Main Street there is a multi-family apartment complex and commercial building and activities. Near the intersection of 148th Avenue NE and Main Street, the line will again cross the street diagonally to the northwest corner of the intersection. The line crosses the roadway in these two locations to avoid tree removal, to run along commercial versus residential and/or open space properties, and to avoid four single family homes where the right-of-way is too narrow to place the line.

4. 148th Avenue SE – Main Street to SE 16th Street:

Continuing from the northwest corner of the 148th Avenue NE and Main Street intersection, the alignment will run along the western side of 148th Avenue SE. Once it crosses Main Street, it will run by a small, one-story retail center and then along the eastern edge of the Lake Hills Greenbelt. This side of the Greenbelt contains a large wetland and is also within shoreline jurisdiction. It is heavily wooded and there is only limited pedestrian access via a boardwalk that connects this side of the Kelsey Creek Greenbelt with Larsen Lake across 148th Avenue SE to the east. Once past the Kelsey Creek Greenbelt, the alignment will continue along the western side of 148th Avenue SE past the rear yards of existing single-family neighborhoods.

Kelsey Creek

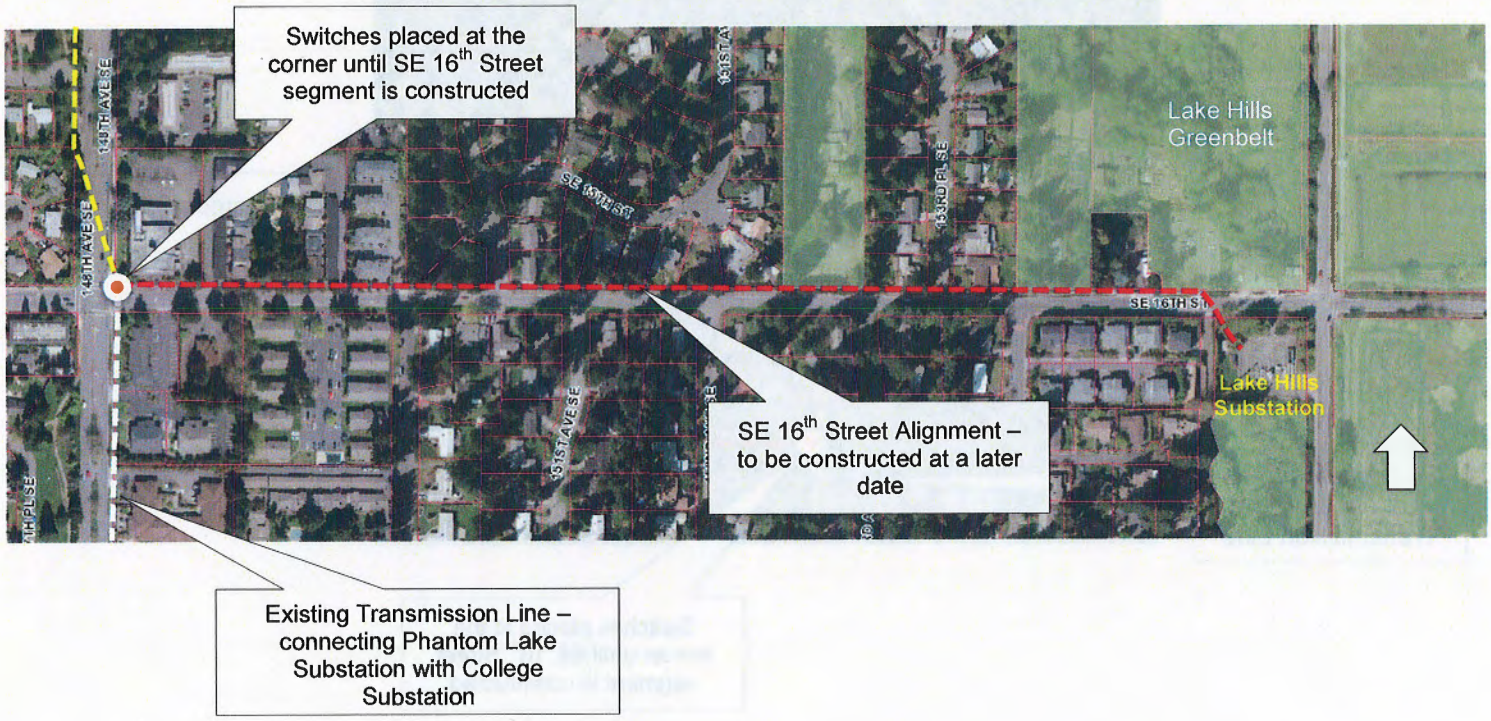
5. 148th Avenue SE – SE 8th Street to SE 16th Street:

In this segment, the line will run within the public right-of-way along the western side of 148th Avenue SE. A concrete sound walls lies along the west side of this right-of-way, along rear or side yards of single family homes. In two locations to the north and south of the Lake Hills Boulevard intersection, the right-of-way widens to provide a pleasant, park-like setting where the sidewalk is pulled away from the roadway and the public sidewalk meanders through the open spaces. Approximately 26 mature trees that help to create these open spaces and buffer them from the 148th Avenue corridor will be removed in this location. However, these wider right-of-way allow PSE to pull the poles and transmission line further away from any nearby homes.

6. SE 16th Street –148th Avenue SE to 156th Avenue SE (Phantom Lake Substation):

Except at the northeast and southeast corners of the intersection with 148th Avenue SE, the entire SE 16th Street corridor is lined with residential uses. On the south side of the street, near 148th Avenue NE, there are multi-family complexes that have buildings fronting on to the street. The rest of the street is flanked with either the side or rear yards of single family homes and portions of the Lake Hills Greenbelt. Existing distribution and transmission lines currently run along the northern side of the street. PSE has proposed to place a second, new transmission line down the *south* side of the street.

Design and work on the SE 16th segment of the transmission line will take place in conjunction with the City's transportation project for SE 16th Street, which will likely take place 5-10 years in the future. Refer to Section II.C for more specific information regarding the SE 16th alignment. It has been determined through City Review that the impacts resulting from running two separate transmission lines through this residential neighborhood could not be mitigated through the application of City codes or through landscape mitigation that is proposed for the remainder of the alignment. Therefore, PSE will not be allowed to run a second overhead line along the south side of the street. Possible ways to accommodate the second line would be to co-locate the new line with the existing transmission and distribution lines on the north side of the street or to underground the line in conjunction with the City's anticipated upgrade of the street. Review and approval of the exact design and methodology for providing the second line on SE 16th Street will first take place as a Land Use Exemption to this Conditional Use Permit and then under the necessary right–of-way and construction permits for this segment of the alignment. **Refer to SEPA review in Section V and Condition of Approval regarding the alignment on SE 16th Street in Section XI of this report.**

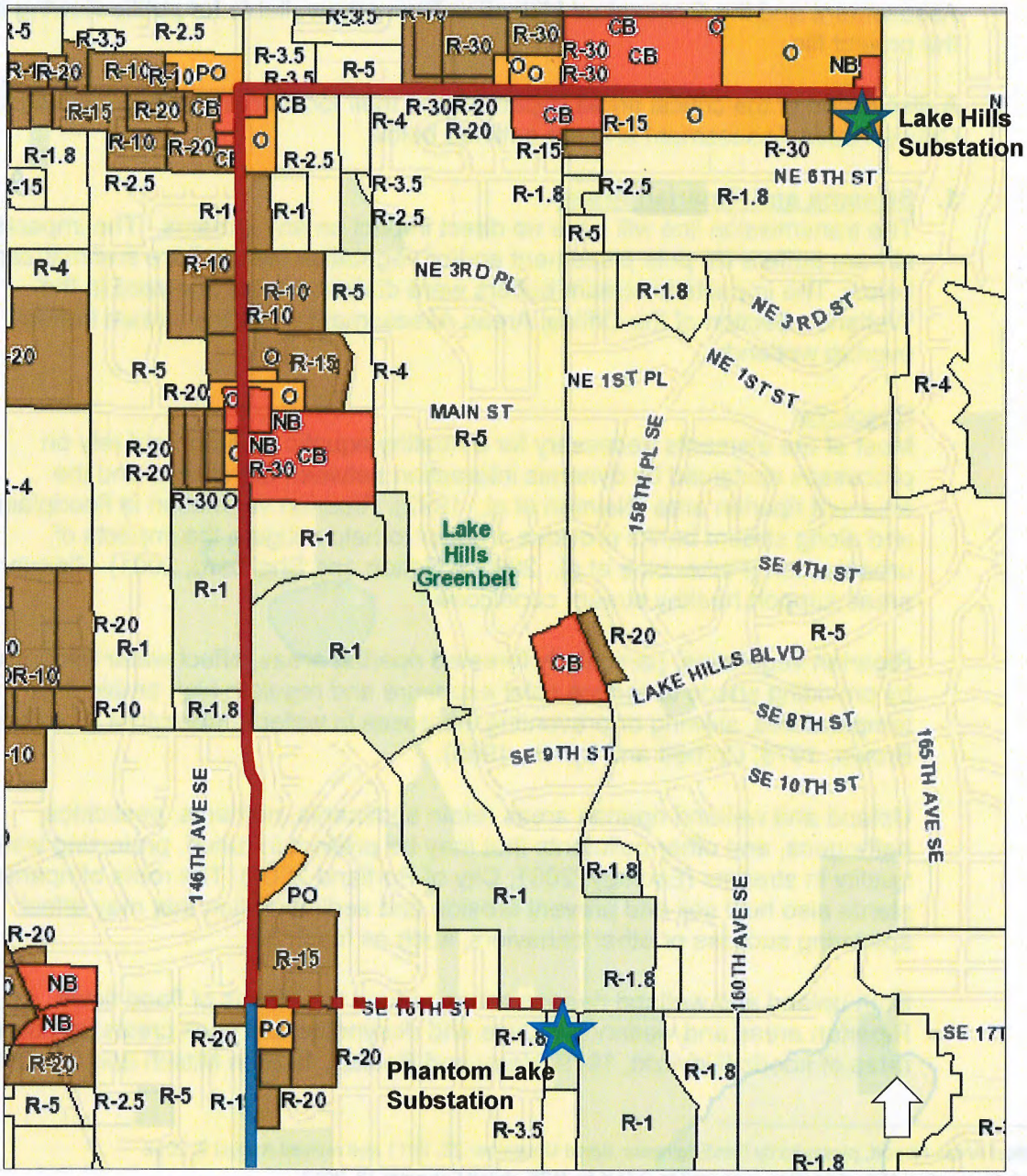


B. Zoning/Context

The transmission line runs through multiple land use districts along the proposed alignment. These districts include:

- Single Family Land Use Districts: R-1, R-1.8, R-2.4, R-3.5, R-4, and R-5
- Multi-Family Land Use Districts: R-10, R-15, R-20 and R-30
- Non-Residential Land Use Districts: PO (Professional Office), O (Office), CB (Commercial Business), NB (Neighborhood Business)

Zoning Map



C. Critical Areas

The proposed transmission line runs through sections of right-of-way that are within Critical Areas and/or Critical Areas buffers as defined by LUC 20.25H. A new or expanded utility facility is an allowed use within a critical area per LUC 20.25H.055.B. This section of the staff report provides a description of the critical areas through which the proposed project will pass.

The applicant has submitted a comprehensive critical area assessment, entitled Critical Area Report[3]. This report will be referred to as *the Critical Areas Assessment* and it has identified the critical areas impacted by the proposal, anticipated impacts, and mitigation strategies. Additionally, PSE has submitted a Draft Conceptual Mitigation Plan[4] that will be referenced throughout this report. Both the Critical Area Assessment and the Conceptual Mitigation Plan are available for public viewing in the project file.

A discussion of the critical areas impacted and their location(s) were identified in the Critical Areas Assessment and are outlined below.

1. Streams and Riparian Areas

The transmission line will have no direct impact on any streams. The impacts to stream buffers via pole placement and/or vegetation removal are summarized below. The impacts to stream buffers were discussed and analyzed in the Wetlands Section of the Critical Areas Assessment since the stream buffers overlap wetlands.

Resource:
Most of the elements necessary for a healthy aquatic environment rely on processes sustained by dynamic interaction between the stream and the adjacent riparian area (Naiman et al., 1992). Riparian vegetation in floodplains and along stream banks provides a buffer to help mitigate the impacts of urbanization (Finkenbine et al., 2000 in Bolton and Shellberg, 2001). Riparian areas support healthy stream conditions.

Riparian vegetation, particularly forested riparian areas, affect water temperature by providing shade to reduce solar exposure and regulate high ambient air temperatures, slowing or preventing increases in water temperature (Brazier and Brown, 1973; Corbett and Lynch, 1985).

Upland and wetland riparian areas retain sediments, nutrients, pesticides, pathogens, and other pollutants that may be present in runoff, protecting water quality in streams (Ecology, 2001; City of Portland 2001). The roots of riparian plants also hold soil and prevent erosion and sedimentation that may affect spawning success or other behaviors, such as feeding.

Both upland and wetland riparian areas reduce the effects of flood flows. Riparian areas and wetlands reduce and desynchronize peak crests and flow rates of floods (Novitzki, 1979; Verry and Boelter, 1979 in Mitsch and Gosselink,

[3] Critical Areas Report, prepared by GeoEngineers, dated December 28, 2011 and revised August 2, 2012
[4] Draft Conceptual Mitigation Plan, prepared to OTAK for PSE, dated February 13, 2013

1993). Upland and wetland areas can infiltrate floodflows, which in turn, are released to the stream as baseflow

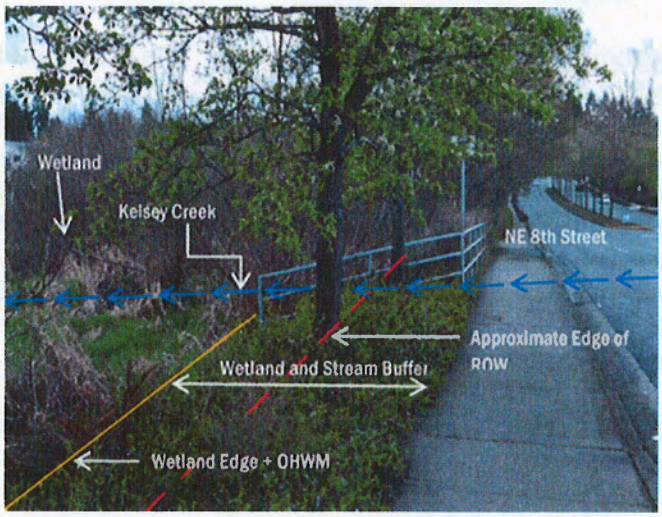
Stream riparian areas, or buffers, can be a significant factor in determining the quality of wildlife habitat. For example, buffers comprised of native vegetation with multi- canopy structure, snags, and down logs provide habitat for the greatest range of wildlife species (McMillan, 2000). Vegetated riparian areas also provide a source of large woody debris that helps create and maintain diverse in-stream habitat, as well as create woody debris jams that store sediments and moderate flood velocities.

Sparsely vegetated or vegetated buffers with non-native species may not perform the needed functions of stream buffers. In cases where the buffer is not well vegetated, it is necessary to either increase the buffer width or require that the standard buffer width be restored or re-vegetated. Until the newly planted buffer is established the near term goals for buffer functions may not be attained.

Riparian areas often have shallow groundwater tables, as well as areas where groundwater and surface waters interact. Groundwater flows out of riparian wetlands, seeps, and springs to support stream baseflows. Surface water that flows into riparian areas during floods or as direct precipitation infiltrates into groundwater in riparian areas and is stored for later discharge to the stream (Ecology, 2001; City of Portland, 2001).

<u>Project Description and Impact to Resource</u>:

a. *Kelsey Creek*: The proposed transmission line crosses above Kelsey Creek, a Type F, fish-bearing stream, on the north side of NE 8th Street, approximately 140 feet east of 148th Avenue NE, where the stream is contained in a large depressional wetland. Kelsey Creek continues to flow north from this wetland, eventually reaching Lake Washington via the Mercer Slough. In this location, the critical area and/or the associated buffer does not extend beyond the developed portion of NE 8th Street per LUC 20.25H.



Therefore, the regulated buffer of Kelsey Creek, which is also identified as Wetland A in the Critical Areas Assessment, is approximately 10-feet wide per LUC 20.25H. 2 poles will be placed in this buffer and approximately 57 city-owned trees, including 34 street trees, will be removed from City of Bellevue right-of-way and Utilities-owned property in the associated wetland as well as in the stream and wetland buffer along the edge of the roadway.

b. *Kelsey Creek Tributary*: The proposed transmission line route crosses the Kelsey Creek Tributary, a Type F stream (per definition in LUC 20.25H.075.B), along the west side of 148th Avenue SE, approximately 750 feet south of Main Street. The stream channel west of the right-of-way is located entirely within Wetland C and is regulated under the wetland section of the Land Use Code (LUC 20.25H.085). Refer to the discussion in the Wetlands Section C.2 below.

c. *Larsen Lake Tributary*: A closed stream segment of Larsen Lake flows under 148th Avenue SE, west of Larsen Lake. However, because this is a closed segment, *it is not regulated by the Land Use Code*.

Because the streams and riparian areas overlap with the designated wetlands, compliance, including required mitigation, with stream and riparian areas critical area requirements is the same mitigation required for tree removal and trimming in the Wetlands, and is discussed in the Section C.2 - Wetlands below and in Section IV.B of this report.

2. Wetlands

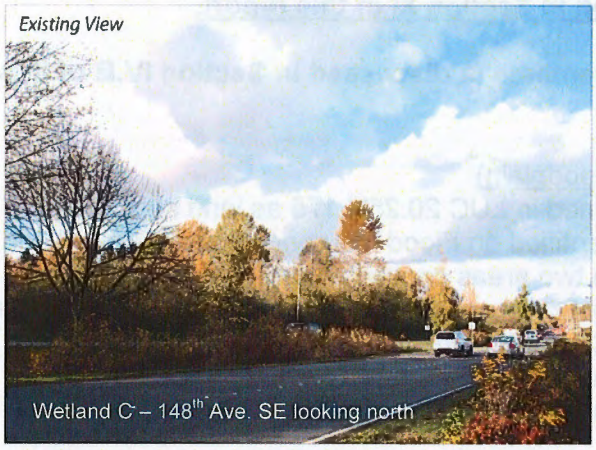
Resource: Wetlands provide important functions and values for both the human and biological environment – these functions include flood control, water quality improvement, and nutrient production. Wetlands are defined by the City of Bellevue Land Use Code 20.25H.095 as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions.

Project Description and Impact to Resource: The proposed transmission line will be adjacent to the wetlands identified in the Critical Areas Assessment on pages 6-13. No poles will be placed directly within the wetlands. However, approximately 13 poles are proposed to be placed within the wetland buffers in the street right-of-way, resulting in approximately 40 square feet of permanent loss of wetland buffer area over the entire length of the proposed alignment. Approximately 157 trees will be removed and approximately 50 more will be trimmed within either a wetland or wetland buffer, to meet PSE's vegetation standards. This will result in a permanent vegetation conversion and foreclosure of establishment of a future canopy.

The affected wetlands are identified as the following in the Critical Areas Assessment:

a. *Wetland A*: This wetland area lies immediately north of NE 8th Street and east of 148th Avenue NE. This wetland area is part of the large wetland complex of approximately 20 acres associated with Kelsey Creek east of 148th Avenue NE and referred to in 1.a above. This wetland has been rated as a Category I wetland and underlying parcel is owned and managed by the Utilities Department. The wetland buffer is approximately 10 feet wide, running east-west along the north side of NE 8th Street. Within the *wetland buffer*, PSE plans to locate 2 poles, remove approximately 100 trees, and trim approximately 29 trees to meet PSE's vegetation standards. Within the *wetland*, PSE proposes to trim approximately 20 trees.

b. *Wetland B*: This wetland area lies on the north side of NE 8th Street, immediately west of 148th Avenue NE. It is approximately 0.2 acres in size and has been rated as a Category II wetland. In this location, PSE proposes to place two poles at the street corner and remove 1 tree in the buffer.



c. *Wetland C*: This wetland area lies along the west side of 148th Avenue SE, across from Larsen Lake. This wetland is approximately 20 acres in size and has been rated as a Category I wetland. The wetland has been delineated by an existing wood fence and the wetland buffer consists of the narrow vegetated area – mostly grass – between the sidewalk and the wetland edge. The transmission line will run north-south along the west side of 148th Avenue SE in this location. 6 poles will be placed in the wetland buffer. PSE is proposing to remove 27 trees and trim 3 trees within the *wetland* and to remove 29 trees and trim 4 trees within the *wetland buffer*. Five of the 27 trees to be removed are large cottonwoods.

The line is proposed along the west side of 148th Avenue SE to minimize visual impacts to drivers and views into the more open and heavily used portions of the Lake Hills Greenbelt, including Larsen Lake and the associated blueberry farm.

d. *Wetland D*: This wetland is a linear depression along the eastern edge of the Phantom Lake substation, at the corner of SE 16th Street and 156th Avenue SE. It is thought to be a small remnant of the large historic Kelsey Creek headwater wetland. However, this linear wetland is located adjacent to the roadways and has been engineered to collect urban runoff. This wetland is

approximately 0.01 acres in size and has been rated as a Category III wetland. There will be no poles placed in this wetland. However, trees within the wetland buffer may need to be trimmed to meet PSE's vegetation standards and to accommodate the new lines running to the station. Any tree removal in this area will be included in the future review of the entire SE 16th Street alignment.

Mitigation: Mitigation in the form of new plantings will be required to compensate for the loss of trees and tree canopy within the wetlands and wetland buffers. The Conceptual Mitigation Plan has been prepared as part of this proposal and it has identified locations where the new plantings, which include trees with heights that will not conflict with the transmission lines, will be located. These areas will need to be irrigated to ensure plant establishment and will require a five-year maintenance and monitoring period. A final landscape and irrigation plan will be required and reviewed under the Clearing and Grading Permit. **Refer to Conditions of Approval regarding the final landscape and irrigation plans and maintenance and monitoring in Section XI of this report.**

Compliance with wetland requirements is discussed in Section IV.B of this report.

3. Areas of Special Flood Hazard (Floodplain)
A special flood hazard area is defined in LUC 20.25H.175 as land subject to the 100-year flood, including areas identified on Flood Insurance Rate Maps (FIRM) as within the base floodplain. The two areas containing areas of special flood hazard are associated with Kelsey Creek and Larsen Lake, and roughly coincide with the areas of Wetland A and C (see 2.a and 2.c. above). Tree removal impacts are discussed in the Wetland Section C.2 above. **Compliance with floodplain requirements is discussed in Section IV.B of this report.**

4. Shoreline Overlay
Resource: Shorelines provide a wide variety of functions related to aquatic and riparian habitat, flood control and water quality, economic resources, and recreation, among others. In lakes, these processes take place within an integrated system (ecosystem) of coupled aquatic and riparian habitats (Schindler and Scheuerell 2002).

Project Description and Impact to Resource: The underlying lands and the area 200 feet landward of the ordinary high water mark, plus associated floodways, floodplains and wetlands associated with Phantom Lake are defined as shorelines in the LUC 20.25E.010.D. Wetland C, within the Lake Hills Greenbelt, falls within this Phantom Lake Shoreline Overlay. The adjacent, developed 148th Avenue SE right-of-way is located outside of the shoreline jurisdiction. Poles will be placed within this developed portion of the roadway. Therefore, no poles will be placed within the shoreline. However, PSE proposes to remove 56 trees, including 5 large cottonwoods, within the shoreline jurisdiction in Wetland C, resulting in a permanent vegetation conversion and foreclosing of the establishment of future canopy. Additionally, these trees could provide habitat for nesting and perching birds.

Mitigation: In this location, the applicant proposes to remove the existing lawn and groundcover in the right-of-way and replace it with improved soil, a staggered mix of native low-growing and tall shrub plantings (up to 10 feet in height), groundcover plants, and irrigation. Proposed landscaping will be focused directly beneath the transmission lines. Stumps from all trees to be removed will be left in place and any tree larger than 12 inches in diameter shall be turned into a wildlife snag, where the bottom 15 to 20 feet of the trunk will remain. **Refer to the Conceptual Mitigation Plan in the project file and Conditions of Approval regarding the tree removal and mitigation landscaping in wetlands/shoreline, final landscape and irrigation plans and maintenance and monitoring in Section XI of this report.**

Compliance with Shoreline Overlay requirements is discussed in Section IV.C of this report.

5. Geologic Hazard Areas
One steep slope was identified in the Critical Areas Assessment submitted for this proposal. It lies on the west side of 148th Avenue NE, approximately 600 feet south of NE 8th Street. The top of the slope is approximately 20 to 25 feet above the elevation of the 148th Avenue NE roadway and lies directly below a concrete sound wall installed by the City. Trees are located on the upper portion of the slope and an eight to ten-foot tall rockery lies at the toe of the slope abutting the public sidewalk. The entire area is covered with English Ivy – a noxious plant.

The City, through site reconnaissance, has determined that this area does not meet the steep slopes definition regarding square footage per LUC 20.25H.120.

However, mitigation landscaping will still be required in this area to compensate for the removal of four large Douglas fir trees on the slope and trimming of seven additional trees to meet PSE's vegetation standards. Per the Conditional Use Permit approval criteria, this landscaping must be compatible with and respond to the existing or intended character, appearance and quality of development of the immediate vicinity. The level of treatment in this area is identified in the submitted Conceptual Mitigation Plan, dated February 13, 2013.

Refer to the Conditional Use Decision Criteria in Section IX, the Conceptual Mitigation Plan in the project file and Conditions of Approval regarding the final landscape and irrigation plans and maintenance and monitoring in Section XI of this report.

6. Species of Local Importance
Description: Habitat associated with two species of local importance, the merlin (Falco columbarius) and the pileated woodpecker (Dryocopus pileatus) has been identified; predominantly along the proposed alignment along SE 16th Street. Impacts to these species may be felt due to the removal of 28 large Douglas Firs and western red cedars up to 115 feet tall. In addition, approximately 25 trees will be trimmed.

Mitigation: Through SEPA review, it has been determined that the impacts to both the species of local importance and the tree canopy resource from running a

second line down the south side of SE 16th Street cannot be mitigated through application of existing regulations and/or the proposed re-landscaping similar to that proposed in the Conceptual Mitigation Plan. Therefore, in order to mitigate against impacts from the removal of vegetation on both sides of a residential street due to two transmission lines, PSE will be not be allowed to place a new overhead line down the south side of the street. Suggestions for locating the new line include but are not limited to co-locating on the north side of the street with the existing transmission line or undergrounding in a manner that will not require the removal of trees along the south side of the street. **Refer to Condition of Approval regarding the SE 16th Street alignment in Section XI of this report.**

IV. CONSISTENCY WITH LAND USE CODE AND ZONING REQUIREMENTS

A. Electrical Facilities – LUC 20.20.255

1. Design Standards – LUC 20.20.255.F
   a. Site Landscaping:
      1) Substations:

Screening of the electrical equipment will be achieved with landscaping and fencing. PSE has submitted *conceptual* plans for the landscape renovation at both the Lake Hills and Phantom Lake substations that require further review to ensure compliance with the requirements of LUC 20.20.255.F. The landscaping at the substations will be in addition to any landscaping required as mitigation for tree removal along the alignment.

Lake Hills Substation: PSE may clean-up dangerous conditions at the Lake Hills Substation prior to constructing the new transmission line as a Land Use Exemption to the existing Conditional Use approval for the Substation. However, all proposed work must meet the requirements of LUC 20.20.255.F. This work will also require a separate Clearing and Grading Permit. Work that will be allowed under this LUX is restricted to the following:

- Cleaning out of overgrown understory and noxious weeds such as ivy, and replanting with appropriate groundcover and shrubs
- Replacement of the existing wood fence with a new wood fence or fencing with an alternate material that is site-obscuring per the LUC 20.20.255.F requirements.
- Removal of dead or unhealthy trees only, as verified by a certified arborist via a Hazardous Tree Form(s). Healthy trees must remain in place.
- Redesign of existing driveway and relocation of bus stop. Any driveway configuration will be reviewed to ensure that it is as unobtrusive as possible, including the requirements for additional landscaping.

Review of detailed site development plans and landscape plans required specifically for the new transmission line will take place under the Clearing and Grading Permit(s) for the new line. Tree removal shall

be limited to the northwest corner of the fenced equipment area, where the new line enters the Substation.

Phantom Lake: Review of the entire design for the Phantom Lake Substation will occur along with the review of the SE 16th segment of the transmission line under a Land Use Exemption to this Conditional Use. Subsequently, review of final detailed site development and landscape plans will take place under the Clearing and Grading Permit(s).

Refer to Section II.F and Condition of Approval regarding final plans for the substations in Section XI of this report.

2) Restoration around the poles:
As conditioned, PSE will be required to provide restoration for any areas disturbed by the construction of the transmission line. This restoration will be provided by PSE and will be separate from the work required under the mitigation plan. **Refer to Condition of Approval regarding site restoration in Section XI of this report.**

3) Replanting as mitigation for tree removal:
New landscaping that will be a combination of trees, shrubs and groundcover will be required as mitigation for the removal of 295 trees along the proposed alignment. **Refer to the Conceptual Mitigation Plan in the project file and Section V.B of this report regarding the SEPA review, discussion of tree removal, and required mitigation.**

b. Fencing at Substations:
Substations are required to have sight-obscuring fencing not less than eight feet in height. The specific fence design and material shall be included with the final landscape plans for each substation. **Refer to Condition of Approval regarding site fencing in the final landscape plans in Section XI of this report.**

c. Required Setbacks:
The fencing for both substations will respect the underlying setbacks and will be in the same locations as the existing fencing. Setbacks shall be shown on the final landscape plans as follows:

Lake Hills Substation: Office - O land use district
Front: 30 feet
Side: 25 feet
Rear: 20 feet

Phantom Lake Substation: Single Family Residential - R-1.8 land use district
Front: 30 feet
Rear: 25 feet
Side: 5 feet

d. Height Limitations:
The maximum structure height varies by land use district along the transmission line route. The tallest maximum height allowed along the proposed route is within the CB land use district, where building may be up to 45 feet tall. Therefore, PSE must request additional height to provide 70 to 80-foot tall poles. The applicant may exceed the height of the underlying land use district provided that:

1) The requested increase for the poles is the minimum necessary for the effective functioning of the electrical utility facility;
Finding: Each transmission line consists of three conductors (wires). The National Electrical Safety Code (NESC) provides minimum clearance requirements for conductors from the ground based on temperature and loading to allow for sag. These safety standards also require a minimum separation of 10 feet between the conductors; thereby adding additional height to the pole based on the number of conductors required. Per PSE's standards, a minimum of 70 to 80 feet in height is required to meet safety and design standards and ensure effective functioning of the transmission line.

2) Impacts associated with the electrical utility facility have been mitigated to the greatest extent technically feasible.
Finding: Refer to discussion in Section V regarding the required mitigation for the removal of mature trees in the City rights-of-way.

B. Critical Areas Requirements – LUC 20.25H

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area or critical area buffer. The performance standards below apply to this proposal:

LUC 20.25H.055.C.2 – General Performance Standards
LUC 20.25H.100 – Wetlands Performance Standards
LUC 20.25H.180.C & D.3 – Floodplains Performance Standards
LUC 20.25H.080.A & B – Streams

1. Consistency with LUC 20.25H.055.C.2 – General Performance Standards

a. New or expanded facilities and systems are allowed within the critical area or critical area buffer only where no technically feasible alternative with less impact on the critical area or critical area buffer exists.

The Alternative Siting Analysis considered three potential routes and the impacts of each on critical areas. All three routes impacted critical areas because tree removal would be required. In addition, the 164th Avenue and 156th Avenue alignments were considered to have the greatest visual impacts on the Kelsey Creek Greenbelt. It was determined that the impacts from removing trees within the wetlands, and stream and wetland buffers along the proposed alignment could be mitigated through plantings of new trees, shrubs and groundcovers along the entire route.

In addition, the line has been adjusted from one side of the street to the other within the existing street right-of-way to avoid critical areas as much as

possible. In many cases, such as along the west end of NE 8th Street and along the Kelsey Creek Greenbelt on 148th Avenue SE, there were critical areas on both sides of the street. In this case, factors such as visual impact and avoidance of residential yards were considered.

In the case of NE 8th Street, the line was run down the north side of the street due partially to the poor condition of the existing trees and the opportunity for mitigation that would replace them with more appropriate species for that particular location. Along 148th Avenue SE, the lines were run along the western side of the street because the visual impact was far less against dense understory than it would have been along the more open eastern side of the street which provides a viewshed from 148th Avenue SE to Larsen Lake and the blueberry fields.

b. If the applicant demonstrates that no technically feasible alternative with less impact on the critical area or critical area buffer exists, then the applicant shall comply with the following:
Finding: Through the Alternative Siting Analysis process, and as documented in the Critical Areas Assessment, any alignment that connects the Lake Hills and Phantom Lake substations will need to run through critical areas and/or critical area buffers associated with Phantom Lake and the Lake Hills Greenbelt.

PSE provided photo simulations of the line crossing the Greenbelt in an east-west direction on SE 16th Street for the proposed 164th Street alignment and photo simulations of the line running north-south along the Greenbelt on 148th Avenue SE. The 148th Avenue SE alignment was less impactful because of the speed of traffic, the heavily planted median, and the fact that driver's attention is focused more on the open blueberry fields and Larsen Lake to the east in the Lake Hills Greenbelt than to the heavily vegetated western side of the road.

Although the line will also run above the wetland buffer in Wetland A, the condition of the trees along the street have been somewhat compromised by competition from wetland trees. New plantings of appropriately-scaled tree species and wetland shrubs and groundcover will create a more pleasant and healthier streetscape and wetland buffer. Although only groundcover and trees were identified as mitigation for Wetland A, PSE will also be required to plant shrubs in this wetland buffer to further restrict access and replace habitat currently provided by the shrubbier trees such as willows. **Refer to Condition of Approval regarding the final landscape plan in Section XI of this report.**

2. Consistency with LUC 20.25H.100 – Wetlands Performance Standards

a. Lights shall be directed away from the wetland.
Finding: No lighting is proposed with this project.

b. **Activity that generates noise such as parking lots, generators, and residential uses, shall be located away from the wetland, or any noise shall be minimized through use of design and insulation techniques.**
Finding: There will be no noise generated by this project other than that during construction. Construction noise is regulated per the City Noise Code – BCC 9.18. **Refer to Condition of Approval regarding Noise in Section XI of the report.**

c. **Toxic runoff from new impervious area shall be routed away from the wetlands.**
Finding: There will be no toxic runoff associated with this project. Any runoff that would occur during construction will be regulated under a clearing and grading permit and must adhere to the clearing and grading section of the City Code – BCC 23.76.

d. **Treated water may be allowed to enter the wetland critical area buffer.**
Finding: There will be no treated water as a result of this project.

e. **The outer edge of the wetland critical area buffer shall be planted with dense vegetation to limit pet or human use.**
Finding: In most cases, the wetlands are already inaccessible to pet or human use due to their location, elevations, and dense understory vegetation. The proposal to remove trees does not include the removal of understory. ANY understory damaged within the wetland critical area buffer as a result of construction will need to be replaced with appropriate trees and/or shrubs that will restore the edge condition while discouraging access and use.
Refer to Condition of Approval regarding disturbance and restoration in Section XI of this report.

f. **Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended.**
Finding: Pesticides, insecticides and/or fertilizers may be required to eliminate noxious species. Use will be in accordance with the City's "Environmental Best Management Practices." **Refer to Condition of Approval regarding pesticides, insecticides and fertilizers in Section XI of this report.**

3. **Consistency with LUC 20.25H.180.C & D.3 – Areas of Special Flood Hazard (Floodplains) Performance Standards**
Finding: The proposed project will not affect established flood elevations within the area of special flood hazard (generally described as Wetlands A and C). The only proposed work will be the removal approximately 156 existing trees – many of which are water-tolerating trees such as Willows and Red Alders. Because stumps will be left in place and all work will be done by hand, the removal will not result in permanent disturbance of the ground around the trees. The floodplain will maintain its hydraulic connectivity to the source of flooding and no structures

and/or site modification are proposed within the floodplain. **Refer to Condition of Approval regarding trees in wetlands and wetland buffers in Section XI of this report.**

4. **Consistency with LUC 20.25H.080.A – Streams Performance Standards**
Finding: There will be no development within any streams and the only work within stream buffers will be selective tree removal. Mitigation plantings will provide vegetated buffers and if pesticides, insecticides and/or fertilizers are required within 150 feet of the edge of a stream buffer, their use must first be approved by Land Use under the required Clearing and Grading Permit and they shall be used in accordance with the City of Bellevue's "Environmental Best Management Practices." **Refer to Condition of Approval regarding pesticides, herbicides and fertilizers in Section XI of this report.**

C. **Shoreline Overlay District**
The only work proposed within the shoreline overlay district (including associated wetland and wetland buffer) will be tree removal and trimming. The transmission poles and conduit will be located in the City right-of-way, and will be outside of the shoreline, wetland and wetland buffer.

The proposed transmission line will necessitate these vegetation management activities within the shoreline jurisdiction along the west side of 148th Avenue SE, south of Main Street. The trees to be removed are primarily willows, alders and cottonwoods. New landscaping, including trees and shrubs, will be required in this area as mitigation for the tree removal activity. **Refer to Condition of Approval regarding tree removal and mitigation within critical areas in Section XI of this report.**

The City of Bellevue Shoreline Overlay District section of the Land Use Code (LUC 20.25E) establishes standards and procedures that apply to all development activity within this area (including any Clearing and Grading associated with the placement of the poles and vegetation removal). Proposals are subject to compliance with the applicable performance standards in LUC 2.25E.080.B and G below, and the work requires a Shoreline Conditional Use approval and a Shoreline Substantial Development Permit.

LUC 20.25E.080.B	Shorelines – General Regulations
LUC 20.25E.080.G	Shorelines – Clearing and Grading Regulations
LUC 20.25E.080.U	Shorelines – Utilities Regulations

1. **Consistency with LUC 20.25E.080.B – General Regulations**

a. **Where applicable, all federal and state water quality and effluent standards shall be met.**
Finding: No effluent discharge is expected.

b. **If a property extends into the Shoreline Overlay District, the Shoreline Master Program Policies and these use regulations shall apply only to that portion of the property lying within the Shoreline Overlay District.**

Finding: The actual transmission line and the associated poles will not be located within the Shoreline Overlay District. Work within the Shoreline, which includes Wetland C, will be limited to the removal of 27 trees, including five large cottonwood trees, and trimming of three additional trees.

c. **All development within the Shoreline Overlay District shall be accompanied by a plan indicating methods of preserving shoreline vegetation and for control of erosion during and following construction in accordance with LUC 20.25H, City of Bellevue Clearing and Grading regulations, Chapter 23.76 BCC, and the Comprehensive Plan.**
Finding: Per Bellevue City Code 23.76, the applicant will be required to apply for a Clearing and Grading Permit for all work associated with the construction of and mitigation for the proposed transmission line. Under this permit, the applicant will be required to employ all necessary erosion control techniques as directed by the Clearing and Grading inspector during the pre-construction meeting.

Plans to minimize erosion from any construction activity will be addressed under the Clearing and Grading Permit and may include requirements to work in the dry season and the use of mats or fabric-reinforced driving surfaces where use of vehicles is required. Removal of trees within the shoreline must be done by hand only. **Refer to Condition of Approval regarding tree removal and mitigation landscaping in wetlands/shorelines and the clearing and grading permit in Section XI of this report.**

d. **Special care shall be exercised to preserve vegetation in wetlands, shoreline, and stream corridor bank areas in order to prevent soil erosion. Removal of vegetation from or disturbance of shoreline critical areas and shoreline critical area buffers, and from other critical area and critical area buffers shall be prohibited, except in conformance with Part 20.25H LUC and the specific performance standards of this section.**
Finding: Vegetation removal in the Shoreline jurisdiction (wetland) will be restricted to the removal of 27 trees only, and any tree larger than 12 inches in diameter will be cut to create wildlife snags. The stumps of all other trees to be removed within the wetland shall be left in place to minimize soil disturbance. Erosion control methods will be required and reviewed under any Clearing and Grading Permit. An additional 29 trees, which will be required to meet the same removal standards, will be removed from the wetland buffer. **Refer to Condition of Approval regarding tree removal and mitigation landscaping in wetlands and the clearing and grading permit in Section XI of this report.**

e. **Maximum height limitation for any proposed structure within the Shoreline Overlay District shall be 35 feet, except in land use districts with more restrictive height limitations. The method of measuring the maximum height is described in WAC 173-14-030(6). Variances to this height limitation may be granted pursuant to Part 20.30H LUC.**
Finding: No structures, including poles, will be built within the Shoreline Overlay District.

f. **The Bellevue Shoreline Master Program, in conjunction with existing Bellevue land use ordinances and Comprehensive Plan policies, shall guide all land use decisions in the Shoreline Overlay District.**
Finding: As proposed, the new transmission meets the requirements of the Shoreline Master Program.

g. **Any development within the Shoreline Overlay District shall comply with all applicable Bellevue ordinances, including but not limited to the Bellevue Land Use Code, Sign Code, and clearing and grading regulations.**
Finding: The only work to take place within the Shoreline is the removal of 27 trees and the trimming of three additional trees. Refer to Section IV of this report for compliance with the Land Use Code. All work will require a Clearing and Grading Permit and shall be constructed per the requirements of BCC 23-76 – Clearing and Grading Code.

h. **The dead storage of watercraft seaward of the ordinary high water mark of the shoreline is prohibited.**
Finding: There will be no dead storage associated with this project.

i. **Where applicable, state and federal standards for the use of herbicides, pesticides and/or fertilizers shall be met, unless superseded by City of Bellevue ordinances. Use of such substances in the shoreline critical area and shoreline critical area buffer shall comply with the City's "Environmental Best Management Practices."**
Finding: Herbicides, pesticides, and/or fertilizers may be required to remove noxious weeds and install the landscape required as mitigation for this project within the shoreline. Use of these products will be required to comply with the City's "Environmental Best Management Practices." **Refer to Condition of Approval regarding use of herbicides, pesticides, and/or fertilizers in Section XI of this report.**

j. **Adequate storm drainage and sewer facilities must be operational prior to construction of new development within the Shoreline Overlay District. Storm drainage facilities shall be separated from sewage disposal systems.**
Finding: The proposal does not propose any new storm drainage facilities, nor will it interfere with existing storm drainage systems within the Shoreline because there will be no ground disturbance or change. **Refer to the Utilities Department Technical Review discussion in Section VI of this report.**

2. **Consistency with LUC 20.25E.080.G – Clearing and Grading**

Construction of the transmission line will require a Clearing and Grading Permit. The permit will be reviewed for compliance with Chapter 23.76 BCC – the clearing and grading section of the Bellevue City Code.

Clearing and grading within the Shoreline Overlay District will occur only along the west side of 148th Avenue SE through the Lake Hills Greenbelt. Work will be

limited to the removal of approximately 27 trees and the trimming of three additional trees. Due to the presence of dense vegetation surrounding the trees to be removed, mitigation replanting is proposed to occur outside of the shoreline boundary within in road right-of-way. All tree removal within the shoreline will be done by hand and no stumps will be removed. Removal plans will be reviewed under the Clearing and Grading Permit.

3. **Consistency with LUC 20.25E.080.U – Utilities**

   a. **Compatible utilities shall be consolidated within a single right-of-way. After construction, all areas shall be restored to their pre-project configuration, replanted with suitable vegetation, and provided maintenance until newly planted vegetation is established.**
   Finding: The proposed transmission corridor will be consolidated within an existing right-of-way. The corridor is located along the edge of 148th Avenue SE, an existing arterial street right-of-way that crosses the wetland/shoreline. Tree removal and trimming of trees within the shoreline will require a Clearing and Grading Permit and will be mitigated as proposed in the Conceptual Mitigation Plan. **Refer to Condition of Approval regarding tree removal and mitigation landscaping in Section XI of this report and Conceptual Mitigation Plan in the project file.**

   b. **Utilities proposed or located in the shoreline critical area and shoreline critical area buffer shall comply with the requirements of LUC 20.25H.055.**
   Finding: The transmission line is an allowed use within the shoreline critical area and shoreline critical area buffer and will comply with the requirements of LUC 20.25H.055. **Refer to Section IV.C of this report for compliance with specific performance standards for the shoreline overlay district.**

V. STATE ENVIONMENTAL POLICY ACT (SEPA)

The proposal to construct a new PSE transmission line to connect the Lake Hills and Phantom Lake substations could cause potentially significant adverse environmental impacts to wetlands, plants and animals, and scenic resources. Application of City codes and requirements alone, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, Building Code and other construction codes, cannot adequately mitigate the expected environmental impacts from the removal of 295 city-owned trees associated with this proposal – many of which are within critical areas or critical area buffers. Therefore, the issuance of a Mitigated Determination of Non-Significance (MDNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements (WAC 197-11-350), with the incorporation by reference of the 2013-2024 Transportation Facilities Plan Final Environmental Impact Statement (TFP EIS), adopted August, 2013 and available in the Records Office at City Hall, 450 110th Avenue NE. This document analyzes the transportation and air quality impacts of the City's Traffic Task Force recommendations to meet the Comprehensive Plan, Transportation Element, and Mobility Management goals. Transportation-related impacts associated with the PSE Transmission Line proposal are consistent with the potential

projected impacts analyzed in the 2013-2024 TFP EIS. **Also refer to the annotated Environmental Checklist in Attachment D.**

NATURAL ENVIRONMENT

A. Wildlife

Resource: The Critical Areas Assessment has stated that the habitats of merlins and pileated woodpeckers (two species of local importance) may be directly affected by the removal of mature trees. These habitats occur throughout the proposed alignment, but occur predominantly along SE 16th Street. Dense stands of Douglas fir (Pseudotsuga menziesii) and western red cedar (Thuja plicata) line this street. Some of these trees are up to 115 feet tall. These stands of trees are also very close to wetlands in the Lake Hills Greenbelt and Phantom Lake. Per this application, approximately 28 large conifers will be removed along the south side of SE 16th Street.

Mitigation: The removal of trees along the south side of SE 16th Street and very close to the Lake Hills Greenbelt and Phantom Lake was determined to be detrimental to the bird habitat. The habitat has already been compromised by the removal and trimming of trees for the existing transmission line running along the north side of the street. Therefore, through the MDNS review process and as mitigation for impacts of tree removal along NE 16th Street, PSE will be required to co-locate the proposed transmission line with the existing line on the north side of the SE 16th Street. **Refer to Condition of Approval regarding the alignment on the SE 16th Street segment of the transmission line in Section XI of this report.**

B. Plants/Trees

Resource: Benefits of mature urban trees that have been identified by numerous researchers. A selection of the ecosystem services provided by trees is the following:

- Reduction of stormwater runoff, flooding and erosion
- Improved water quality
- Wildlife and fish habitat
- Improved air quality, including lower ozone levels, removal of carbon dioxide, release of oxygen, and removal of particulate material in the air.
- Mitigation of climate change via carbon sequestration
- Lower urban air temperatures and reduction of the heat island effect
- Economic development realized by added value to adjacent homes, businesses and tax base
- Safer walking/pedestrian environments with visual and physical barriers between pedestrians and traffic
- Improved human health and well-being
- Rain, sun, heat and skin protection
- Soften and screen street features (utility poles, utility cabinets, etc.)
- Reduced and more appropriate urban traffic speeds, longer pavement life, and reduction in perceived travel time

"Trees are a unique element of Bellevue's urban environment because of the multiple environmental, social and economic benefits they provide the community on

a daily basis. They are especially unique because of the fact that many of these benefits actually increase over time as the trees grow and mature. A tree canopy analysis completed in 2008 indicates that Bellevue's tree canopy cover is approximately 36%."[5] Numerous Comprehensive Plan Policies specifically address the need for tree retention throughout the City and along urban boulevards such as 148th Avenue. These include, but are not limited to, the following: Policy UT-45, Policy UD-16, Policy UD-18, Policy UD-42, Policy UD-61, Policy UD-63, Policy EN-67, and Policy S-CR-49. **Refer to Attachment E for a list of Comprehensive Plan policies and an analysis of how the project has addressed applicable policies.**

Therefore, when there is a proposal for removal of a significant number of street trees, as proposed in this application, there is a high level of scrutiny regarding the number of trees to be removed, the necessity for the removal, and the compensation/mitigation for the removal to, over time, bring back these environmental, economic and social benefits that have been lost to the community.

Description: The primary environmental impact from the proposed transmission line will be the removal of approximately 295 mature trees along the entirety of the alignment within the public rights-of-way and on public land outside of the rights-of-way managed and owned by the City (Resource Management property, Utilities Property, and Parks property). Approximately 189, or 64 percent, of the 295 trees to be removed, are located either in critical areas or critical area buffers.

Mitigation: The Land Use Code does not adequately address the impacts from the loss of 295 trees along the alignment corridor. Per Comprehensive Plan Policies, including but not limited to UT-75, and the substantive SEPA authority to mitigate adverse impacts when they cannot be adequately mitigated by development regulations, PSE will be required to provide adequate new vegetation to mitigate for the impacts associated with the removal of trees along the alignment. The Conceptual Mitigation Plan has been submitted with this application.

In addition, PSE will be required to compensate the City for ecological and visual impacts from the loss of 295 trees. This money may then be used by PSE exclusively for materials (plants, soil irrigation, etc.) as prescribed in the Final Landscape and Irrigation Plans that will constitute the final mitigation plan. The trees to be removed were valued at $878,640. This figure has been based on an evaluation by an independent 3rd party tree evaluator using the Trunk Formula Method. However, installation of replacement trees is built into the Truck Formula Method. It was determined through City review that this installation number ($22,200) should be subtracted from the overall tree value total since PSE will be providing installation. Therefore, the final value of the trees and amount that PSE will be required to pay the City is **$856,740**. Final design work needed for refinement of the Conceptual Mitigation Plan will be done by a PSE-hired design consultant and installation of all restoration and mitigation landscaping and irrigation will be undertaken by a PSE-hired contractor.

Unfortunately, many of the environmental benefits from trees, although vital for a livable community, are not yet easily assigned a dollar value. However, the Trunk

[5] City of Bellevue 2010 Urban Forest Policy

Formula Method of evaluation has been used by the City of Bellevue and it has been found to be the method that comes closest to a credible evaluation of the overall net effects of cumulative tree removal. **Refer to Attachment B for the tree evaluation, annotated project plans and evaluation spreadsheets and to Attachment C for the tree evaluation assessment and to Conditions of Approval regarding disturbance and restoration, final landscape and irrigation plans, tree removal and mitigation landscaping within critical areas, and fee in lieu in Section XI of this report.**

C. Scenic Resources/Visual Impacts

Description: Visual impacts from new transmission lines include the addition of new vertical and horizontal visual elements (poles and wires) and the removal of existing visual resources (trees). The removal of the mature trees within the established landscaped corridors, particularly the corridor down 148th Avenue where there are currently no electrical facilities and a dense planting of trees, will be the biggest visual impact to the residents of Bellevue and people traveling down the NE 8th Street and 148th Avenue corridors. Refer to discussion regarding plants in Section V.B. above.

Photo simulations provided by PSE and found in Attachments F and G highlight some of the areas that will be most affected by the removal of mature trees. NOTE: These photo simulations do not show any of the proposed mitigation and restoration work proposed in the Conceptual Mitigation Plan. The loss of 295 city-owned trees can only be mitigated by re-vegetation with trees, shrubs, and groundcover that is compatible to the existing vegetation within the street corridors and will also be compatible with the overhead transmission lines per PSE's vegetation standards.

In addition, PSE has proposed to run the new, second transmission line down the south side of SE 16th Street. There are already transmission and distribution lines running down the north side of the street that have resulted in prior tree removal and trimming. The new line would require the removal of 16 tall mature trees, primarily Douglas Firs, down the south side of this residential street. This would not only result in the loss of an ecological resource and habitat for species of local importance, but would have negative impacts via the additional visual clutter from multiple electrical wires, equipment, and poles, as seen from adjacent residential properties and the street corridor.

Mitigation: Mitigation for these impacts will include the additional landscaping identified in the Conceptual Mitigation Plan and the following additional measures:

- The transmission lines will be constructed at the minimum feasible height to limit the visibility of the structures.
- The majority of the poles will be wooden to soften the visual intrusion of these vertical features.
- The arms on the poles will be wooden davit arms, which have a heightened level of design than traditional conductors, have a more residential look and feel, and are used elsewhere in Bellevue and Medina in residential settings.
- The direction of the arms will all be on the roadway side of the pole to reduce the border zone within the right-of-way.
- No new overhead lines will be allowed to run along the southern side of SE 16th Street.

Refer to Condition of Approval regarding the alignment on SE 16th Street and the development agreement for the SE 16th Street alignment vesting in Section XI of this report.

BUILT ENVIRONMENT

D. Noise

Actual construction of the line will have associated noise impacts. The majority of the proposed transmission line will run along arterial streets (148th Avenue NE and NE 8th Street) and along one local street (SE 16th Street). In some locations, the line transverses residential land use districts, where residents are most sensitive to disturbance from noise during evening, late night and weekend hours when they are likely to be at home. Construction will consist of the installation of approximately 38 poles. PSE plans to install the poles at a rate of one pole per day and spend an additional 10 days pulling wire onto the poles. Therefore, construction, including installation of landscaping and irrigation, is expected to last approximately 4-6 months, spread across the length of the transmission line project. Construction noise will be limited by the City's Noise Ordinance (Chapter 9.18 BCC), which regulates noise related to construction activities and noise level impacts to adjacent properties. **Refer to Condition of Approval regarding noise and construction hours in Section IX of this report.**

VI. SUMMARY OF TECHNICAL REVIEWS

A. Clearing and Grading

A Clearing and Grading Permit is required for this project per BCC 23.76.035. The permit application must be in accordance with the Clearing and Grading Code, as outlined in the submittal requirements and the Clearing and Grading Development Standards, which is available on the City of Bellevue website at: http://www.bellevuewa.gov/clearing-grading-standards.htm

Considering that various soils and erosion conditions will be encountered along the route of the transmission line, each area should be addressed specifically regarding erosion and sedimentation control. Areas, where the work would be in critical area or buffer should be identified on the drawings and in the Construction Stormwater Pollution Prevention Plan, and provided with exceptional erosion and sedimentation protection. No untreated construction stormwater will be allowed to discharge in the city storm drain system and/or within the critical areas. Turbidity monitoring will be required at all discharge points.

Rockeries or modular block walls that exceed 48" in height must be designed by a licensed geotechnical engineer. The design and calculations must be submitted to the Clearing & Grading reviewer for review under the Clearing & Grading Permit application. Concrete walls exceeding 48" in height require separate review under a building permit application.

B. Utilities

The Utilities Department has reviewed the plans submitted for this Conditional Use proposal and recommends approval. Due to potential conflicts in the right-of-way

between pole locations and existing utilities, the applicant will be required to call for locates and must pothole prior to any construction. **Refer to Condition of Approval regarding utilities in Section XI of this report.**

The final engineering plans must show all utilities-related improvements and must be consistent with the Water, Sewer, and Storm Drainage Code (BCC 24.02, 24.04, and 24.06 respectively) and the Utilities Department Engineering Standards prior to approval of construction drawings.

C. Transportation

The Transportation Department has reviewed the plans submitted for this project and recommends approval. The final engineering plans must show all transportation-related improvements and must be consistent with the Transportation Development Code (BCC 14.60) and the Transportation Department Design Manual prior to approval of construction drawings.

Traffic Impacts and Mitigation

Traffic impacts from this project will be temporary and occurring only during the construction phase of this project. These impacts will be the result of needed travel lane and sidewalk closures to allow for safe installation of power lines within city right-of-way. Appropriate mitigation will be specified in the required right-of-way permit for this project (traffic control, detours, etc.). No permanent traffic impacts will be created by this project.

Holiday Construction & Traffic Restrictions

From November 15th to January 5th, construction activities such as hauling and lane closures will be allowed only between the hours of 10:00 p.m. and 6:00 a.m. due to holiday traffic. The dates and times of these restrictions are subject to change. The applicant shall contact the Transportation Department Right-of-Way Section to confirm the specifics of this restriction prior to applying for a Right-of-Way Use Permit, which is issued directly by the Transportation Department.

Use of the Right-of-Way

Applicants often request use of the right-of-way and of pedestrian easements for materials storage, construction trailers, hauling routes, fencing, barricades, loading and unloading, and other temporary uses as well as for construction of utilities and street improvements. A Right-of-Way Use Permit for such activities must be acquired prior to issuance of any construction permit including demolition permit.

Pavement Restoration

The applicant will be required to restore all damaged pavement within city right-of-way caused by construction activities related to this project. Limits and extent of pavement restoration shall be at the discretion of the Transportation Inspector.

Sight Distance

All power poles installed by this project must meet the City's sight distance criteria per the Transportation Design Manual (TE-1, TE-2, TE-2 and sections 21 and 22).

D. Fire

Initially, PSE proposed to run the transmission line along the north side of NE 8th Street from the Lake Hills Substation on 164th Avenue NE to 156th Avenue NE.

However, this alignment would have placed transmission lines over the only entry to City of Bellevue Fire Station 3. Fire was concerned that in the event of emergency, downed power lines would prohibit access by emergency vehicles to and from the station. As a result of City review, the alignment was relocated to the south side of NE 8th Street to avoid the fire station. Two steel poles (in lieu of wood poles) will be allowed in this location with conductors on the south side. **Refer to Condition of Approval regarding pole design in Section XI of this report.**

VII. PUBLIC COMMENT

PSE's community outreach efforts regarding the construction of a new transmission line to connect the Lake Hills and Phantom Lake substations began well before the Conditional Use Permit application was submitted. Engagement with the public has continued throughout the entire Conditional Use Permit review process. All of the meetings are listed below, including the meetings held by PSE prior to Conditional Use Permit application submittal and all comments received by the City and/or summarized by PSE can be found in the project file. The meetings held prior to permit application are also documented in PSE's Alternative Siting Analysis.

A. Public Meetings (at least one public meeting required per LUC 20.35.300)

1. PSE Public Meetings PRIOR to Submittal of Conditional Use Application:

- **Public meeting 1: Nov. 13, 2007, Lake Hills Club House**
  Purpose: Project announcement
  Promoted by: Mailed invitation postcard to 5,915 addresses in the project area
  Number of attendees: 28

- **PSE Public meeting 2: April 2, 2008, Lake Hills Club House**
  Purpose: Share route alternatives/selection criteria
  Promoted by: Mailed invitation postcard to 5,690 addresses in the project area
  Number of attendees: 24

- **PSE Public meeting 3: June 15, 2010, Lake Hills Neighborhood Association Meeting**
  Purpose: Meet with the LHNA regarding undergrounding distribution lines
  Promoted by: Mailed invitation letter to 173 addresses within 500 feet of the route along 164th Ave SE, SE Phantom Way and SE 16th Street
  Number of attendees: 5 that live along the route, many others present at the meeting provided input as well

- **PSE Public meeting 4: April 28, 2011, Sammamish High School**
  Purpose: Announce the proposed route
  Promoted by: Mailed invitation postcard to 2,121 addresses within 500 feet of the route segments
  Number of attendees: 14

2. **<u>City of Bellevue Meetings held AFTER Conditional Use Permit Application Submittal (at least one meeting required per LUC 20.30B):</u>**

- **Official Public meeting 1: May 31, 2012, Bellevue City Hall**
  Purpose: City of Bellevue meeting – permitting requirement
  Promoted by: City of Bellevue Weekly Permit Bulletin, May 3, 2012 – Sent to all Parties of Record and anyone living within 500 feet of the proposed transmission line (862 addresses); and Noticing in Seattle Times
  Number of Attendees: 20-30

- **Official Public meeting 2: May 21, 2013, Bellevue City Hall**
  Purpose: City of Bellevue meeting – overview of conceptual mitigation plans
  Promoted by: City of Bellevue Weekly Permit Bulletin – Sent to all Parties of Record and anyone living within 500 feet of the proposed transmission line;
  Noticing in Seattle Times; and
  Separate email from Land Use (or mailing if no email address) to all Parties of Record
  Number of Attendees: 12

3. **<u>East Bellevue Community Council (EBCC) Meetings:</u>**

- **EBCC Courtesy Hearing 1: Tuesday, June 5, 2012**
  Purpose: Introduce project and hear public comment
  Promoted by: Noticing in the Seattle Times

- **EBCC Courtesy Hearing 2: Tuesday, September 4, 2012**
  Purpose: Answer EBCC member questions regarding proposal
  Promoted by: Noticing in Seattle Times; and
  Separate email from Land Use (or letter if no email address) sent to all Parties of Record

- **EBCC Courtesy Hearing 3: Tuesday, June 4, 2013**
  Purpose: Overview of conceptual mitigation plans
  Promoted by: Noticing in Seattle Times; and
  Separate email from Land Use (or letter if no email address) sent to all Parties of Record

B. Public Noticing Requirements per LUC 20.35.100:

Public Notice of Project:

Notice of Application: May 3, 2012

Promoted by:

- Weekly Permit Bulletin to everyone within 500 feet of proposed line; and
- 6 double-sided public information signs along the route and at each substation; and
- Separate letter mailed to every property that "touched" the proposed line (within 150 feet).

C. Questions and Responses:

The City has received written comment from 105 citizens. A summary of the comments related to this Land Use approval(s) is below. In many cases, similar comments that have been made by more than one person. In those cases, comments have been paraphrased and consolidated into one question (issue) and the questions will have only one response:

1. Questions Related to Project Need:

a. Issue: What has been the history of black outs in our community due to the current substation configuration. I know there was one major problem in December 2006, but in the last 25 years have there been any others? Will the new power line with the increased redundancy reduce other black outs that we have because of local problems, like transformers exploding?

In the Conditional Use Permit application on page 2 there is a statement that without this new power line 'reliable electric power to the project area cannot be assured". Could you elaborate on what this comment means? Could you define the project area more clearly and how this impacts the East Bellevue Community Council area?

Response: The proposed Lake Hills-Phantom Lake transmission line will improve electric service reliability for PSE's Bellevue-area customers by adding redundancy into the transmission system (see below graphic for project benefit area).

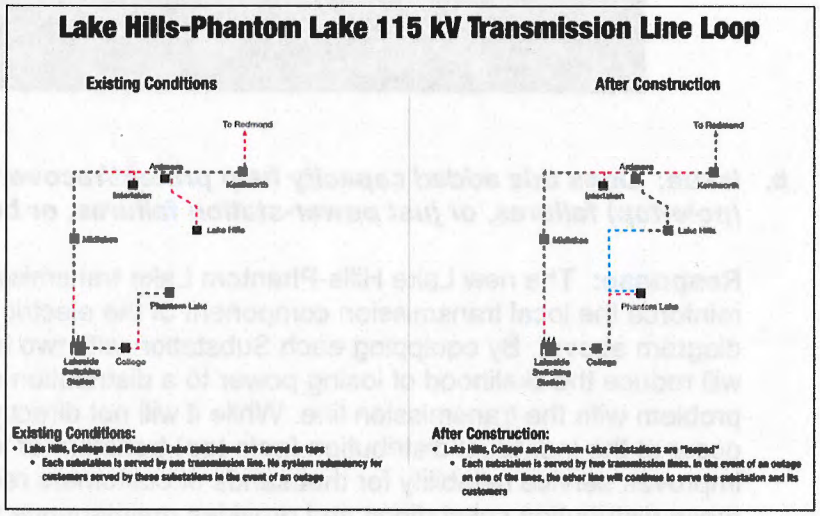
The City of Bellevue is concerned about having a reliable and adequate power supply to meet the medium term (5-10 years) and long-term (10-20 years and beyond) growth requirements. The Electrical Reliability Study[6], prepared for the City of Bellevue and dated November 21, 2011, has recommended that "the substations which at present are fed from a single 115 kV line...are reinforced from a second 115kV line to be able to ride through" an outage event." This proposal was specifically identified as one of the recommended projects in this Study and it is also identified in Figure UT-

[6] City of Bellevue Electrical Reliability Study, Phase 2 Report, prepared by Exponent, November 21, 2011

5a – New and Expanded Electrical Facilities in the Utilities Element of the City of Bellevue Comprehensive Plan.

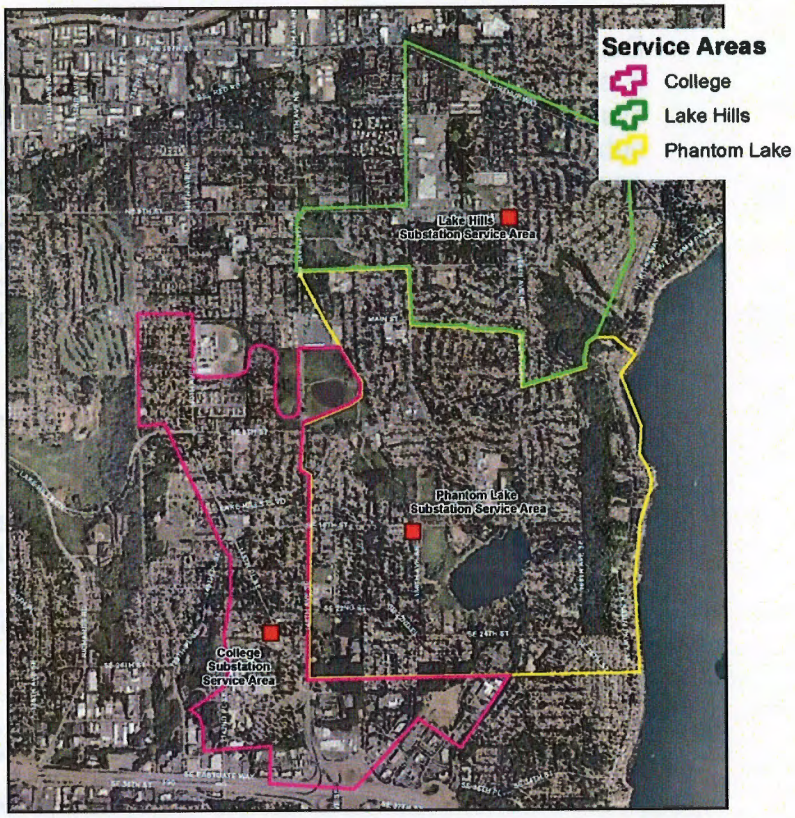
During the past 10 years, customers in the area have seen 5 power outages. It is these outages and a basic principal of service reliability provided by system redundancy that is at the heart of this project. Currently, three local substations – Lake Hills, Phantom Lake and College – are fed only by single one-directional transmission lines, which are called radial lines. Two of the substations, College and Phantom Lake, are fed by the same radial transmission line. If a radial transmission line is disabled by a fallen tree, a car/pole accident, equipment failure or any other problem, the substation(s) on that line and all the customers served from there lose power (see graphic below) until the disabled transmission line can be repaired. PSE has very little flexibility to maintain elements of the transmission system which has a radial configuration because maintenance requires taking radial elements out of service.

As you can see in the graphic below, both College and Phantom Lake substations are served on the same radial transmission line. The Lake Hills Substation is also served by a radial transmission line only. Because of the reliability limitations of radially fed substations, PSE proposed this project



to construct a transmission line connection between the Lake Hills substation and the Phantom Lake substation. With the new line in place, approximately 12,400 customers will have much better protection from transmission line outages in the area. All three substations will be fed by two lines and from two directions. If one of the lines loses power or needs to be taken out of service for maintenance, the second line will be able to keep the substation in operation, and a power outage will be avoided.

Service Areas



b. ***Issue: Does this added capacity help protect/recover from transformer (pole-top) failures, or just power-station failures, or both?***

Response: The new Lake Hills-Phantom Lake transmission line will reinforce the local transmission component of the electric system (see diagram above). By equipping each Substation with two transmission lines, it will reduce the likelihood of losing power to a distribution substation due to a problem with the transmission line. While it will not directly affect outages that occur at the individual distribution (pole top) transformer level, this project improves service reliability for thousands of customers receiving service from these distribution substations and provides maintenance flexibility such that PSE may provide maintenance without having to shut down a line which currently would result in loss of power in the surrounding neighborhoods. This also increases the speed of recovery from a power failure event.

c. ***Issue: There have been a number of blackouts lately in Bellevue and Redmond. I experienced one of several hours while attending a class at Bellevue College in Redmond. Would this project have prevented these recent blackouts?***

Response: This project directly benefits the neighborhoods in east Bellevue (refer to Service Areas graphic on the previous page). This system does not provide power to customers in downtown Redmond.

2. Questions Related to Routing:

a. Issue: Has there been any consideration about placing the power lines down the middle (median) of 148th Avenue? This would reduce the number of trees that would need to be destroyed, reduce the amount of trimming of trees in the future, reduce or essentially eliminate the electrical pollution for homes and businesses along the way (due to the square of the distance to the edge of the road), move the line further away from homes, and cause less visual pollution to the homes on the route.

On the proposed power line route heading North on 148th Avenue, just north of main street—the proposed power line crosses over the street to become closer to a number of residences. Can the power line be run right down the middle of 148th, to keep the line further from residences? Has this option been considered? What was the issue if any, that might prevent this as a viable option? If this alternative hasn't been considered, why not?

Response: Early in the project review, PSE considered running the transmission line down the NE 8th Street corridor from 156th Avenue NE to 148th Avenue NE. Due to traffic considerations concerning turn lanes and the need to install additional pieces of median and additional visual impacts, PSE decided to retain the side-running option.

Both PSE and the City then considered running the transmission line down the medians on 148th Avenue NE and SE. The public comments above came from residents who had homes that backed onto 148th Avenue SE in the stretch of road from SE 8th Street to SE 16th Street. While this option would have allowed PSE to modestly reduce the number of trees that would need to be trimmed or removed, and would move the line farther away from some homes and businesses, it also presented some constructability, safety, reliability, median maintenance, and access challenges and in some cases was deemed to be more visually intrusive. All of the City's reviewing departments analyzed this proposal and concluded that the impacts outweighed any prospective benefits. A summary of the City's review can be found in the Analysis and Matrix in Attachment H.

b. Issue: On page 29 of the Conditional Use Permit Application and Alternative Siting Analysis, there is a comment stating that if underground lines were used to connect to residences, then the owners would have to pick up the additional cost of $9 to $16 million. What will be the increase in rates as a result of the new power line under the current proposal? Will they be spread over the entire PSE coverage

area or just in the Eastside of Bellevue? How will the increase in rates be determined?

Response: Constructing a transmission line underground generally costs five to eight times as much as constructing the power line overhead. If a community is interested in putting a proposed power line underground, state law (also referred to as the tariff) requires the community to fund the difference between the cost of the underground and overhead line. The details of how the local community would pay for this would need to be developed with the local jurisdiction. Due to the high cost of underground transmission lines, no other local jurisdictions have asked PSE to develop a rate and payment agreement. Determining the rate increase for Bellevue-area customers to help pay for an underground line would be based on a number of variables and the specific provisions of the agreement with the City. Without that detailed information, the rate impact cannot be calculated. By comparison, the cost to build the new power line overhead is borne uniformly by all of PSE's one million customers.

c. ***Issue: Plans indicate that new lines will be on the South side of SE 16th, heading west from 156th Ave SE, right next to a development of homes, while on the other side of the street there are no homes. This plan seems inconsiderate to homeowners—can the improvements not be made to the existing power route on the (north) side of SE 16th, to avoid further annoyance to these homeowners?***

Response: To construct the new line on the same side of the street as the existing line, PSE would "double-circuit" the two lines - meaning PSE would co-locate both lines on the same set of poles. PSE tries to avoid double-circuiting lines whenever possible. However, the City feels that, after reviewing the proposal on SE 16th Street, the impacts from running two transmission lines on both sides of the street cannot be adequately mitigated through the application of existing codes and requirements. Running two transmission lines down a street does not occur anywhere else in Bellevue and it represents an undue hardship on the affected residents living on this street. Therefore, it will be a mitigating condition of the SEPA threshold determination that PSE will not be allowed to run a second overhead transmission line along the southern side of the street. Instead, PSE must consider alternatives such as double-circuiting the transmission line with the existing line on the north side of the street or undergrounding the line. **Refer to additional discussion in Section II.C and to Condition of Approval regarding the alignment on SE 16th Street and the development agreement for SE 16th Street alignment vesting in Section XI of this report.**

d. ***Issue: What is the overall cost to the city? How many homes may potentially benefit? What would this work out to, cost per home? How about cost per home that's been estimated to be affected by power loss over past 5 years?***

Response: Neither the City of Bellevue, nor Bellevue-area customers who benefit from the project, will be directly charged for this project. PSE will pay for the project, and will over time recover the costs of the project through rates, which are spread across all 1 million PSE electric customers through their entire service territory. PSE estimates that the project will cost approximately $6.45 million to complete, and approximately 12,400 homes and businesses will see a reliability benefit once this project is in service.

Each proposed route was analyzed for a number of deciding factors, including the location hierarchy in LUC 20.20.255.D.2. Because the area served by this electrical facility is primarily residential, the line was required to transverse residential land use districts. It was then necessary to look at the actual land uses within the districts along each alignment. The proposed alignment is located in more commercial land use districts than the other two routes. Additionally, although it traverses residential land use districts, a large number of properties directly impacted by the project are owned by the City and are public open space. The proposed alignment also has significantly fewer homes that would have the transmission line directly in their front yards. Additionally, in a large majority of cases, the line runs along the rear or side yards of the residential properties instead of along the primarily residential streets along front yards. **Refer to Attachment I for maps illustrating the alignments superimposed with zoning and affected parcel and buildings.**

3. Questions Related to Construction

a. Issue: When will construction begin and how long will it take?

Response: PSE hopes to begin construction in early 2015. Construction is expected to take approximately four to six months, which includes the mitigation work. Road closures for construction will be reviewed and coordinated with Right-of-Way/Transportation Department as part of a required Right-of-Way Permit.

4. Questions Related to Undergrounding

a. Issue: Why can't the transmission line be undergrounded?

On page 29 of the Conditional Use Permit Application and Alternative Siting Analysis, there is a comment stating that if underground lines were used to connect to residences, then the owners would have to pick up the additional cost of $9 to $16 million. What will be the increase in rates as a result of the new power line under the current proposal? Will they be spread over the entire PSE coverage area or just in the Eastside of Bellevue? How will the increase in rates be determined?

Response: PSE prepared a white paper prior to Conditional Use Permit application submittal titled "Considerations for PSE Underground

Transmission Lines[7]. This paper is available for public viewing in the project file. The information contained in this letter was then summarized in the Alternative Siting Analysis prepared and submitted for this application. Therefore, based on considerations such as cost to construct (see below), design and coordination with adjacent underground utilities, disruption to the environment during construction, difficulty to quickly repair, and diminished system flexibility, PSE does not typically underground transmission lines except for limited instances in which, due to various constraints, undergrounding would be the most economical and practical alternative to meet system objectives. PSE concluded that without financial participation by the City of Bellevue, undergrounding would not be a viable option for this proposal.

The primary disadvantage of construction of an underground transmission line is the cost. Constructing a line underground generally costs ten times as much as constructing the power line overhead. If a community is interested in putting a proposed power line underground, state law (also referred to as the tariff) requires the community (in this case, the City of Bellevue) to fund the difference between the cost of the underground and overhead line. The details of how the local community would pay for this would need to be developed with the local jurisdiction. Due to the high cost of underground transmission lines, no other local jurisdictions have asked PSE to develop a rate and payment agreement. Determining the rate increase for Bellevue-area customers to help pay for an underground line would be based on a number of variables and the specific provisions of the agreement with the City. Without that detailed information, the rate impact cannot be calculated. By comparison, the cost to build the new power line overhead is borne uniformly by all of PSE's one million customers.

b. Issue: If PSE is required to underground overhead distribution lines with a new transmission line project, will the 115kV lines be undergrounded also?

Response: No. Per UT-39, the provision of new transmission line where there is already a distribution line system will require the undergrounding of the *distribution* line. This is because the installation of a transmission line is considered an 'intensification' that triggers undergrounding of existing distribution lines. However, PSE will not be required to underground the transmission line. Additionally, individual homeowners would be required to pay for the service connection from the underground line to their homes (a private expense that ranges in cost from $2,000 to $5,000).

5. General

a. Issue: How will I be affected by the electric and magnetic fields (EMF's) coming from the new transmission line?

[7] Considerations for PSE Underground Transmission Lines, prepared by Carol O. Jaeger, PE, PSE Engineer, dated August 6, 2008.

Response: Neither the Federal Government, nor the State of Washington, have established limits on public exposure to power frequency EMF. To date, there have been numerous studies conducted regarding exposure to EMF's and current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. The magnetic fields from the proposed transmission line are relatively low and decrease significantly as the distance from the ground plane to the overhead line increases. Refer to the EMF Electric and Magnetic Fields handout prepared by PSE and page 30 in the Alternative Siting Analysis – both in the project file.

In the white paper prepared by PSE referenced in question 4.a above, PSE has documented that the use of underground lines may result in higher magnetic fields, depending on the physical separation of cables, the depth of burial, the type of cable and the type of electrical grounding and that typically the EMF level of an underground line at the surface of the earth exceeds that of an overhead line. This is partially because magnetic fields are not blocked by the soil and that the strength of the magnetic field drops off rapidly as you move away from the source. Underground lines are close to the surface while overhead wires are further away on tall poles.

Additionally, as part of the City of Bellevue's update of the Electric Utilities Element of the Comprehensive Plan, the City hired a consultant to summarize the status of health research on EMF's associated with electrical transmission and distributions systems, as required by Comprehensive Plan Policy UT-70.[8] The consultant concluded the following:

- The current body of research does not suggest that there are any long-term, adverse health effects associated with exposure to electromagnetic fields at the levels that the general public encounters on an everyday basis.
- The research still suggests a weak association between childhood leukemia and estimates of long-term exposure to high, average magnetic fields (i.e. $\geq$3-4 mG); however the research is not strong enough to conclude that this association is causal in nature.
- The research continues to support precautionary measures that are based on current risk assessment, namely: 1) additional research to seek to resolve uncertainty, b) establishing open communication programs, and c) employing low-cost methods for magnetic field exposure reductions.
- Prudent avoidance – a variant of the precautionary principle – can be realized in the form of "simple, easily achievable, low to modest cost measures to reduce individual or public EMF exposure, even in the absence of certainty that the measures would reduce rise."

Although no review panel can ever entirely rule out the possibility that EMF exposure may have some adverse health effect, given the amount and quality of research that has been done so far, the report concludes that the research

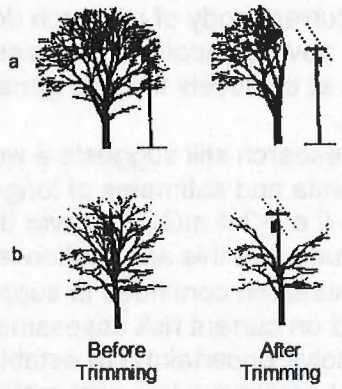
[8] Draft – Status of Health Research on Electric and Magnetic Fields (EMF) and Implications for Public Policy, prepared for the City of Bellevue by Exponent, dated October 8, 2007

does not support the conclusion that there are any long-term adverse health effects.

Lastly, by following the siting direction in Policy UT-71, PSE has selected a route that has the fewest direct impacts on residential properties by running a large segment of the line by properties developed in non-residential use (e.g. open spaces and commercial land uses), thereby lessening the amount of exposure to the general population. **Refer to discussion of applicable Comprehensive Plan Policies in Attachment E.**

b. ***Issue: Why do so many trees have to be removed?***
Response: All utilities must meet the minimum NERC vegetation standards. PSE has adopted these new, more robust vegetation management standards that require a larger 'wire zone' (area directly underneath the transmission line and a few feet on either side of the line) and 'border zone' to improve reliability by reducing tree-related transmission system outages. With the new standards, PSE must remove all trees taller than 25 feet within 15 feet of the conductors (wires).

In the past, under old standards, PSE would prune tall growing trees, generally only on the side nearest the wires, which often resulted in uneven pruning, topping, and/ or ultimately the destruction of the tree. It is preferable to replant with trees that are compatible with transmission lines and that will thrive without pruning in this location than to have mis-shapen and poorly trimmed trees.



Examples of poor pruning for electrical facilities

c. ***Issue: Could taller poles reduce the need for vegetation removal?***
Response: In some cases, taller poles may be considered for this proposal. This might have more bearing on the size of the replacement vegetation (trees) that could be planted underneath rather than reducing the need for removal of existing vegetation. PSE is using the current NERC standards for vegetation removal, which measure the area for tree removal to be 15 feet on

either side of the conductors (wires), regardless of the height of the pole. **Refer to discussion and diagram in Section II.E of this report.**

d. ***Issue: There are many policies within the Comprehensive Plan that do not support this proposal.***
Response: Approval of this permit application requires striking a balance between preservation of City amenities (trees and the visual quality of urban boulevards) and the need to provide reliable electrical power now and into the future. **Refer to discussion of applicable Comprehensive Plan policies in Attachment E.**

e. ***Issue: Will noise from the transmission line be audible?***
Response (from PSE): Modern 115kV transmission lines should not make audible noise. If you hear noise from a 115kV line, it would likely be caused by a piece of faulty equipment which can be replaced to eliminate noise.

f. ***Issue: Does PSE compensate residents for impacts to property values from the transmission lines? Will property owners be able to use the easement area on their property?***
Response: If a line crosses private property, PSE compensates the affected property owner according to fair market value of the right acquired on their property. The Washington Utilities & Transportation Commission (WUTC) regulation does not allow PSE to compensate nearby property owners for perceived loss of property value due to installation of a new line. In addition, any easements and/or tree cutting required by PSE is a private matter between PSE and the property owner and as such, is not regulated by the City.

During construction of the transmission line, it is possible that PSE will need to temporarily close access to easement areas. Once construction is complete, residents will be able to continue using easement areas for all uses not excluded by the easement language.

VIII. CHANGES TO THE PROPOSAL AS A RESULT OF CITY REVIEW

- Line shifted in at least three locations to avoid tree removal.
- Line shifted to the south side of NE 8th Street to avoid Fire Station 3 and Crossroads Park. Steel poles will also be allowed in this location to further reduce the likelihood that emergency vehicles will be prevented from entering/existing the Station due to downed power lines.
- PSE will need to provide sight-obscuring fencing and sight-obscuring landscaping at the substations. The proposed chain link will not be allowed.
- Construction of the SE 16th portion of the line will be deferred until the City constructs the identified TIP for this street.
- PSE will not be allowed to place overhead lines along the entire southern side of SE 16th Street running from 148th Avenue SE to 156th Avenue SE.
- PSE will be required to pay the City $856,740 as compensation for the loss of 295 trees along the transmission line route.
- PSE submitted a comprehensive Conceptual Mitigation Plan.

IX. APPLICABLE DECISION CRITERIA - FINDINGS AND CONCLUSIONS

Compliance with following decision criteria of individual Land Use Code Sections is discussed below.

Electrical Utility Facilities – LUC 20.20.255.E
Conditional Use Permit – LUC 20.30B.140
Critical Areas Land Use Permit – LUC 20.30P.140
Shoreline Substantial Development Permit – LUC 20.30R.155.B
Shoreline Conditional Use Permit – LUC 20.30C.155

A. ELECTRICAL UTILITY FACILITIES DECISION CRITERIA – LUC 20.20.255.E

1. **The proposal is consistent with Puget Sound Energy's System Plan.**
   Finding: This proposal is consistent with PSE's System Plan. The purpose of the proposal is to improve reliability and allow for better use of the existing capacity at the community and local levels by providing redundancy between two existing substations.

   The last printed update to the Puget Sound Power & Light Company Draft Growth Management Act (GMA) Electrical Facilities Plan was provided to the City in August 1995. The most recent updated PSE information concerning proposed system improvements, including the Lake Hill to Phantom Lake 115kV Transmission Line project was provided to Bellevue in support of the City's 2008 Comprehensive Plan Update.

   The proposed new transmission line and the upgrades to the Lake Hills and Phantom Lake Substations, which currently are located at dead-ends, are anticipated and identified in the City of Bellevue Comprehensive Plan in Figure UT-5a – New or Expanded Electrical Facilities. The project is identified as being necessary to provide increased service reliability and added maintenance flexibility. Additionally, the need for this new transmission line was affirmed in the City of Bellevue 2011 Electrical Reliability Study.

2. **The design, use, and operation of the electrical utility facility comply with applicable guidelines, rules, regulations or statutes adopted by state law, or any agency or jurisdiction with authority.**
   Finding: All PSE facilities that are part of the Bulk Electric System (BES)[9] and the interconnected western system are planned and designed in accordance with the latest approved version of the North American Electrical Reliability Corporation (NERC) Reliability Standards, and the Western Electricity Coordinating Council (WECC) standards and reliability criteria. These standards set forth the performance expectations that affect how the transmission system is planned, operated and maintained. NERC has been certified as the Electrical Reliability Organization by the Federal Energy Regulatory Commission pursuant to the Federal Power Act. In addition to these standards, PSE must also meet service tariffs filed with the Washington Utilities and Transportation Commission.

[9] Defined as facilities 100 kV and above

PSE designs, constructs and operates its facilities consistent with the National Electric Safety Code as required by Washington state law.

In addition to compliance with state and federal laws, PSE will comply with the City of Bellevue regulations discussed in this report. Specifically, the proposal will address the Code requirements of LUC 20.20.255, which regulates proposals for new or expanding electrical utility facilities. Refer to Section IV of this report for discussion of how the proposal has met the applicable City of Bellevue code requirements.

3. **The applicant shall demonstrate that an operational need exists that requires the location or expansion at the proposed site.**
   Finding: The proposed facility will add reliability and allow the two substations to expand from a service perspective to operate at their planned capacity. The need for this project was anticipated in the Comprehensive Plan Utilities Element policies for non-city-managed utilities and is shown on Figure UT.5a – New or Expanded Electrical Facilities. The need for this proposal was also verified in the City of Bellevue's Electrical Reliability Study, Phase 2 Report, dated November 21, 2011.

4. **The applicant shall demonstrate that the proposed electrical utility facility improves reliability to the customers served and reliability of the system as a whole, as certified by the applicant's licensed engineer.**
   Finding: PSE has demonstrated that by providing two transmission lines to connect the Lake Hills and Phantom Lake substations, there will be improved reliability to the customers served directly – particularly to those residents served by the Lake Hills, Phantom Lake, and College Substations - and to the Eastside's electrical grid as a whole. Refer to signed certification letter by PSE's engineer, Carol O. Jaeger, PE in the project file[10].

5. **For the proposals located on sensitive sites as referenced in Figure UT.5a of the Utility Element of the Comprehensive Plan, the applicant shall demonstrate compliance with the alternative siting analysis requirements of subsection D of this section.**
   Finding: The applicant has provided an Alternative Siting Analysis, prepared by PSE, dated December 29, 2011. This Analysis has met the requirements of LUC 20.20.255.D. The Alternative Siting Analysis is available for public viewing in the project file.

6. **Where feasible, the preferred site alternative identified in subsection D.2.d of this section is located within the land use district requiring additional service and residential land use districts are avoided when the proposed new or expanded electrical utility facility serves a nonresidential land use district.**
   Finding: The proposed line runs through the areas of Bellevue that will receive direct benefit from the increased reliability realized by this project and these areas are predominantly residential. However, by running the line through a major transportation corridor, the proposed route places a larger portion of the

[10] Certification Letter from Carol O. Jaeger, PE, dated October 31, 2013

alignment outside of residential land use districts and also generally avoids placing the line directly in established residential neighborhoods and in the front yards of homes.

7. **The proposal shall provide mitigation sufficient to eliminate or minimize long-term impacts to properties located near an electrical utility facility.**
Finding: As conditioned through the mitigated DNS process, the mitigation proposed will minimize the long-term impacts to nearby properties as a result of tree removal along the proposed alignment. **Refer to mitigation discussions in Sections III and V of this report.**

B. CONDITIONAL USE DECISION CRITERIA – LUC 20.30B.140

1. **The conditional use is consistent with the Comprehensive Plan.**
Finding: In approving the proposed PSE Transmission Line, the City will be required to balance objectives. The first objective is the provision of a reliable electrical service to an underserved geographic area within the City of Bellevue. This electrical service must serve the needs of today and be able to handle the requirements of the future. This objective must be balanced against the City's vision of Bellevue as a 'City in a Park' and the protection of valuable ecological resources, which in the case of this proposal are wetlands and mature trees – particularly along the 148th Avenue boulevard. When these objectives are reviewed against the Comprehensive Plan policies, some policies may be found to be in tension. When Policy tensions arise, mitigation will be required to offset the impacts. Through the substantive SEPA authority in LUC 22.02.140, mitigation for impacts to City resources will be required. This mitigation will consist of replanting in the affected critical areas and buffers AND along the entire corridor, as outlined in PSE's Conceptual Mitigation Plan and Critical Areas Assessment.

Regarding the alignment segment on SE 16th Street, the City has concluded that application of City codes and requirements cannot adequately mitigate for the impact of two transmission lines in a residential neighborhood and the inconsistency of this proposal with the Comprehensive Plan – including but not limited to Policies UT-5, UD-16, UD-18, UD-61, and UD-63. Therefore, through the mitigated SEPA process, the second (new) overhead transmission line will not be allowed to be located on the southern side of the street.

Refer to discussion of applicable Comprehensive Plan Policies in Attachment E.

2. **The design is compatible with and responds to the existing or intended character, appearance, quality of development and physical characteristics of the subject property and immediate vicinity.**
Finding: Through the installation of the approved Conceptual Mitigation Plan in the form of landscaping with trees, shrubs, groundcovers and associated irrigation along the alignment, over time the impacts from tree removal and installation of poles and wires associated the new transmission line will be mitigated and the resulting landscape in the right-of-way will be compatible with

the surrounding properties and immediate vicinity. A maintenance assurance device, as well as a five-year maintenance and monitoring plan will help to ensure plant establishment. The proposed wooden poles will match the existing poles already on 148th Avenue SE, running south from SE 16th Street and the wooden davit arms will make the poles looks less industrial and more in keeping with the surrounding residential neighborhoods and landscape.

The substations will be upgraded according to the requirements of LUC 20.20.255.F, including site-obscuring fencing and landscaping to screen the substation equipment from the surrounding residential properties.

Refer to Condition of Approval regarding the landscape maintenance assurance devices and maintenance and monitoring plan in Section XI of this report.

3. **The conditional use will be served by adequate public facilities including streets, fire protection, and utilities.**
   Finding: The proposal will be served by all required public facilities, including streets, fire protection, water, storm water control, and sanitary sewer as demonstrated in the Technical Review in Section VI of this report.
4. **The conditional use will not be materially detrimental to uses or property in the immediate vicinity of the subject property.**

Finding:
General: While admittedly a large impact, the loss of 295 city-owned trees will be offset with mitigation and restoration landscaping as submitted in the Conceptual Mitigation Plan under this Conditional Use and SEPA application.

As compensation for the loss of the trees (City assets), PSE will be required to pay into a third-party fund the amount of $856,740.00. This money will be used by PSE to pay for mitigation and restoration plant material (plants, irrigation, soil, etc.). Design and installation of the mitigation and restoration work will be borne by PSE. Any money remaining after installation will then be used by the Parks Department to further help integrate this proposal into the 148th Avenue and NE 8th Street corridors, as outlined in the 148th Avenue Urban Boulevard Concept Plan[11]. The 148th Avenue Concept Plan is available for public viewing in the project file. Thus, as mitigated and over time, the proposal will not be materially detrimental to the uses or property in the immediate vicinity of the subject property.

Substations: PSE has proposed to upgrade the existing substations to accommodate the new transmission line. Substations will be upgraded in compliance with LUC 20.20.255.F, including the provision of sight-obscuring fences and the use of existing and proposed vegetation to further screen the facility from the surrounding residential neighborhoods.

[11] 148th Avenue Urban Boulevard Concept Plan, prepared by OTAK, Draft dated August, 2012

A conceptual design for the Phantom Lake Substation will be reviewed when this segment of the line, running from 148th Avenue SE along SE 16th Street, is designed and constructed (see below).

SE 16th Street Alignment: It has been determined through SEPA review that the proposed SE 16th alignment will be detrimental to the surrounding residential neighborhood. PSE cannot adequately mitigate for the impacts associated with running transmission lines down both sides of SE 16th Street, including the loss of mature trees and habitat on both sides of the street. Therefore, through the mitigated SEPA process, PSE will not be allowed to run a second, new overhead transmission line down the southern side of the street. Nor will PSE be allowed to remove trees along the southern side of the street to accommodate any methodology used to provide the proposed second transmission line from the Phantom Lake Substation up SE 16th Street to the corner of SE 16th Street and 148th Avenue SE.

5. **The conditional use complies with the applicable requirements of the Land Use Code.**
   Finding: As conditioned, this Conditional Use Permit proposal has met the applicable performance standards and requirements of the Land Use Code. **Refer to discussion in Section IV – Consistency with Land Use Code and Zoning Regulations.**

C. CRITICAL AREAS LAND USE PERMIT DECISION CRITERIA - LUC 20.30P.140

The Director may approve, or approve with modifications an application for a Critical Areas Land Use Permit if:

1. **The proposal obtains all other permits required by the Land Use Code;**
   Finding: The applicant has applied for a Critical Areas Land Use Permit, Shoreline Substantial Development Permit, Conditional Use Permit, Shoreline Conditional Use permit and SEPA threshold determination. In addition, construction permits will be required, including but not limited to right-of-way and clearing and grading permits.

2. **The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer;**
   Finding: The project will be implemented using the Parks Department's "Environmental Best Management Practices" and will consider the conditions found along the proposed alignment. Any work in a wetland will be performed by hand. However, machinery will be needed to place the woody debris and for some hauling. Impacts from machinery will be minimized by requiring work to be done in the dry season and the use of mats or fabric-reinforced driving surfaces where necessary. **Refer to Condition of Approval regarding tree removal and mitigation landscaping within critical areas in Section XI of this report.**

3. **The proposal incorporates the performance standards of LUC 20.25H to maximum extent applicable, and;**
   Finding: As discussed in Section IV of this report, this proposal for a new or expanded essential public facility is an allowed activity per LUC 20.25H.055 that meets the performance standards and additional provisions for the following:

Critical Areas – Streams	LUC 20.25H.055.C.2, 20.25H.080.A & 20.25H.080.B
Critical Areas – Wetlands	LUC 20.25H.055.C.2 & 20.25H.100
Critical Areas – Floodplains	LUC 20.25H.055.C.2, 20.25H.180.C & 20.25H.180.D.3
Shorelines	LUC 20.25H.055.C.2

4. **The proposal will be served by adequate public facilities including street, fire protection, and utilities; and;**
   Finding: The proposed transmission line will not impact any existing public facility service level. Refer to Technical Reviews conducted by the Utilities, Transportation and Parks Departments in Section VI of this report.

5. **The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; and**
   Finding: PSE has submitted a Conceptual Mitigation Plan and a Critical Areas Assessment with these permit applications. Both are consistent with LUC 20.25H.210 and the information contained therein shall be reflected in the final landscape and irrigation plans submitted under the Clearing and Grading permit.

   PSE will pay the City $856,740 for landscape materials (plants, irrigation, soil, etc.) and this money can be used both for mitigation required for work in critical areas and landscape restoration. It will be PSE's responsibility to design and implement the final Mitigation Plan.
   Refer to Conditions of Approval regarding the final landscape and irrigation plans and maintenance and monitoring plan in Section XI of this report.

   Mitigation plans shall also include a maintenance and monitoring component for a period of not less than five years after any replanting effort. A monitoring report shall be submitted annually and dead plant material shall be replaced during this maintenance and monitoring period . **Refer to Conditions of Approval regarding performance standards and maintenance and monitoring plan in Section XI of this report.**

6. **The proposal complies with other applicable requirements of this code.**
   Finding: As discussed in Section IV of this report, the proposal complies with all other applicable requirements of the Land Use Code.

D. SHORELINE CONDITIONAL USE DECISION CRITERIA – LUC 20.30C.155

1. **The proposed use will be consistent with the policies of RCW 90.58.020 and the policies of the Bellevue Shoreline Master Program.**

Finding: Refer to Section IV.B and C above for compliance with the Land Use Code Sections 20.25E and 20.25H.

2. **The proposed use will not interfere with the normal public use of public shorelines.**
   Finding: The proposal will result in the removal and trimming of trees within the Shoreline. However, these trees are located in wet, densely vegetated locations where there currently is no public access. Public use of the shoreline area is limited to pedestrian circulation on an adjacent sidewalk and associated views into the wetland. The removal of the trees will not interfere with the normal public use of the public shoreline through the Lake Hills Greenbelt.

3. **The proposed use of the site and design of the project will be compatible with other permitted uses within the area.**
   Finding: The proposed tree removal (and subsequent replanting as mitigation for this removal) will be conducted within a corridor along the eastern edge of a regulated wetland on 148th Avenue SE. All work will be consistent with the critical area requirements for impacts to wetlands and wetland buffers.

   The corridor is bordered by commercial development to the north, by a remainder of the wetland on the west, by open space to the south, and by the 148th Avenue SE roadway to the east. The proposed activities will be compatible with other permitted uses within the area.

4. **The proposed use will cause no unreasonable adverse effects to the shoreline environment designation in which it is to be located.**
   Finding: High quality habitat is found in the shoreline environment. However, because of urban development surrounding the wetland, including 148th Avenue SE (a major arterial), the vegetated buffers are narrow and the habitat areas and landscape corridors are fragmented. Due to the existing disturbances along the edge of the shoreline (Wetland C), it is anticipated that the highest area of habitat utilization will be in the interior of the wetland and toward the residential neighborhood along the western edge versus along the roadway. Impacts to the eastern edge through tree removal in the wetland along the roadway will not cause significant adverse effects to the shoreline environment. In addition, trees within any wetlands and/or wetland buffers will be required to be removed by hand, stumps shall remain in place, and large trees greater than 12 inches in diameter shall be turned into wildlife snags. The trees to be removed will be replaced with mitigation plantings, which will include lower growing trees and shrubs appropriate for the wetland environment. **Refer to Condition of Approval regarding removal of trees within wetland critical areas in Section XI of this report.**

5. **The public interest suffers no substantial detrimental effect.**
   Finding: The proposed project will not limit the public's ability to access the Lake Hills Greenbelt and will not impact the public's enjoyment of the Shoreline throughout the Greenbelt system. The only activity that is proposed within the shoreline is the removal of trees along the western side of 148th Avenue SE through the Lake Hills Greenbelt. Approximately 60 trees (27 in the wetland and 29 in the wetland buffer) are proposed to be removed in a heavily vegetated and

wet part of the Greenbelt where there is currently no direct public access and none is anticipated in the future.

The public will realize increased reliability of electrical service in the area while PSE also maintains required safety and clearance standards. The increased service reliability together with the replacement plantings required as mitigation for tree removal will ensure the public interest will suffer no substantial detrimental effect.

6. **The proposed use complies with all requirements of WAC 173-14-140.**
   Finding: New and expanded utility systems are allowed within wetland and shoreline critical areas and critical area buffers per LUC 20.25H.055.B as long as applicable performance standards are met. The proposal has met these standards, as discussed in Section IV of this report. In addition, the proposal has been reviewed in accordance with the requirements of Bellevue's Shoreline Master Program, applicable sections of the WAC, the RCW, and other pertinent codes and policies.
7. **The proposed use is harmonious and appropriate in design, character and appearance with the existing or intended character and quality of development in the immediate vicinity of the subject property and with the physical characteristics of the subject property.**
   Finding: PSE has submitted a Conceptual Mitigation Plan and a Critical Area Report. Both address mitigation in the shoreline, steep slopes buffers, wetlands, and wetland buffers. Proposed plantings will include native and wetland species and be in character with the adjacent critical areas. Final landscape and irrigation plans will be required to further delineate mitigation plantings, which shall include vegetation as identified in the Critical Areas Assessment, as well as trees and groundcover. In addition, the applicant will be required to provide maintenance and monitoring for mitigation landscaping for a period of five (5) years to ensure proper plant establishment.

   Refer to Condition of Approval regarding the final landscape and irrigation plans, and the maintenance and monitoring plan in Section XI of this report.
8. **The proposed use will be served by adequate public facilities including streets, fire protections, water, storm water control and sanitary sewer.**
   Finding: This application has been reviewed by the City's Fire, Utilities, and Transportation Departments. The project as designed has been found to be served by adequate public facilities.
9. **The proposed use has merit and value for the community as a whole.**
   Finding: This PSE project is being proposed to add a second transmission line to deliver electrical reliability to segments of the City that are currently underserved with only one transmission line which will connect two substations servicing East Bellevue between Redmond and I-90. The new transmission line will improve the reliability of electrical service for the area served by the Lake Hills and Phantom Lake substation, and will indirectly benefit the adjacent area served by the College Substation, thus benefitting the community as a whole.

Additionally, a second line will add maintenance flexibility to the system such that PSE customers will not be without power if one of the two lines requires maintenance.

The proposed vegetation management activities in the shoreline are required to maintain minimum safety clearances for a 115 kV transmission line that is located in the right-of-way, outside of the shoreline jurisdiction. Falling trees and limbs are the major source of electrical outages. The major trees identified for removal in the shoreline are cottonwoods, which are particularly susceptible to falling limbs.

10. The proposed use is in accord with the Comprehensive Plan.

Finding: A summary of the Comprehensive Plan policies and consistency is found in Section IX.B and in Attachment E of this report. The proposed project has been determined to be essential to meet the present and future needs of the city and approval is based on finding a balance between competing policies within the Comprehensive Plan. The proposal is consistent with the Comprehensive Plan, including the Utilities Element and Figure UT-5a - New and Expanded Utility Facilities and was verified in the City's Electrical Reliability Study, dated November 21, 2011.

11. The proposed use complies with all other applicable criteria and standards of the Bellevue City Code.

Finding: As described in Section IV of this report, the proposal meets all other applicable criteria and standards of the Bellevue City Codes.

E. SHORELINE SUBSTANTIAL DEVELOPMENT DECISION CRITERIA – LUC 20.30R.155

1. The applicant has carried the burden of proof and produced evidence sufficient to support the conclusion that the application merits approval or approval with modifications.

Finding: The applicant has submitted evidence through this Conditional Use Permit application that the project has merit including, but not limited to, the following reasons:

- The project will provide reliability to the existing system by building in redundancy through the addition of a second transmission line.
- The proposal will provide added maintenance flexibility. PSE will be able to maintain/repair a transmission line without affecting the service to its customers because service can be transferred to the second line.
- The need for this proposal has also been verified through the City of Bellevue's Electrical Reliability Study, which specifically identified this project as needed to provide a sufficient, reliable level of service for now and the future.
- This project has also been identified as necessary in Figure UT-5a – New and Proposed Electrical Facilities in the Utilities Element of the City of Bellevue's Comprehensive Plan.

2. **The applicant has demonstrated that the proposal complies with the applicable decision criteria of the Bellevue City Code.**
   Finding: The applicant has provided site plans and environmental documentation in the Critical Areas Assessment, as well as a Conceptual Mitigation Plan, in support of the proposal. As conditioned, the application has been found to be in compliance with the applicable performance standards and decision criteria. **Refer to discussion in Section IX for findings and conclusions regarding how this proposal has met the applicable decision criteria.**

3. **The applicant has demonstrated that the proposal is consistent with the policies and procedures of the Shoreline Management Act and the provisions of the Master Program.**
   Finding: As conditioned, the proposal will meet the requirements and is consistent with the City's Shoreline Master Plan. **Refer to discussion in Section IV.C and Sections IX.D and E of this report.**

X. RECOMMENDATION

After conducting the various administrative reviews associated with this proposal, including applicable land use consistency, SEPA, and City Code and Standard compliance reviews, the Director of Development Services does hereby **RECOMMEND APPROVAL** of the proposal subject to the following Conditions in addition to all design components included in the project proposal.

XI. RECOMMENDED CONDITIONS OF APPROVAL

Staff recommends imposing the following conditions to ensure compliance with the relevant decision criteria and Code requirements. If imposed by the Hearing Examiner, these conditions must be complied with on plans submitted with the construction permits in addition to all design components included in the project proposal.

Applicable Codes, Standards and Ordinances

The applicant shall comply with all applicable Bellevue City Codes, Standards, and Ordinances including but not limited to:

Applicable Codes, Standards & Ordinances	Contact Person
Clearing & Grading Code – BCC 23.76	Savina Uzunow, (425) 452-7860
Construction Codes – BCC Title 23	Building Division, (425) 452-6864
Fire Code – BCC 23.11	Adrian Jones, (425) 452-6032
Land Use Code – BCC Title 20	Sally Nichols, (425) 452-2727
Noise Control – BCC 9.18	Sally Nichols, (425) 452-2727
Right-of-Way	Tim Stever, (425) 452-4294
Transportation	Ray Godinez, (425) 452-7915
Utility Code – BCC Title 24	Art Chi, (425) 452-4119

A. GENERAL

1. Noise & Construction Hours

Noise related to construction is allowed from 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday. Construction noise is prohibited on all Sundays and WA state holidays. Exceptions to the construction noise hours limitation contained in the Noise Control Code MAY ONLY be granted pursuant to 9.18.020.C. when necessary to accommodate construction which cannot be undertaken during exempt hours. Prolonged exposure to noise created by extended hour construction activity is likely to have a significant impact on construction. In order to minimize detriment on residential uses in the immediate vicinity of the project, the Contractor shall not rely on City issuance of a blanket exemption from the Noise Control Code during the construction period. Allowances for short term work outside of normal construction hours shall be limited and will be reviewed on a case by case basis to verify necessity and ensure appropriate noise mitigation is utilized to protect surrounding uses and properties. Written requests for exemption from the Noise Control Code must be submitted two weeks prior to the scheduled onset of extended hour construction activity. Such requests may be required to include a noise analysis prepared by a noise consultant, including recommendations for achieving the noise limitations of the Noise Ordinance for new residential construction.

The use of best available noise abatement technology consistent with feasibility is required during construction to mitigate construction noise impacts to surrounding uses.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: BCC 9.18.020.C & 9.18.040

2. Facility Activation/Completion of Work

The facility shall not be activated until all work included in the project scope (excluding system test prior to complete activation) and shown on the plans and specifications, as conditioned, is completed.

Mitigation and restoration landscaping shall be seasonally installed for optimal plant success (spring or fall). If planting must occur after facility activation date, the applicant shall enter into a surety device for the remaining mitigation and restoration installation work. All restoration and mitigation work must be completed within six months of activation.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.40.425

3. Pole Design

a) Poles shall be wooden with wooden davit arms.
b) Where the alignment is required to turn a corner, the applicant will be allowed to construct a glu-lam pole that doesn't require guying. If steel poles are desired, they must first be reviewed and approved by Land Use. Any steel pole will be required to be painted either dark green or dark brown, depending on the adjacent vegetation and neighborhood context.

c) PSE will be allowed to construct no more than two (2) steel poles in the vicinity of Fire Station 3 and the conductors between these two poles may be facing away from the right-way on the southern side of the poles. The poles shall be painted dark green to better recede against the vegetated background to the south.

d) All power poles installed under terms of this proposal must meet the City's sight distance criteria.

REVIEWER: Sally Nichols, Land Use
Ray Godinez, Transportation
AUTHORITY: LUC 20.20.255 and 20.30B.140, Bellevue City Code 14.60.240; Transportation Department Design Manual (TE-1, TE-2, TE-3 and sections 21 and 22)

B. <u>PRIOR TO ISSUANCE OF ANY ENGINEERING/CLEARING AND GRADING PERMIT</u>

1. Right-of-Way Use Permit

The applicant is required to apply for a Right-of-Way Use Permit before the issuance of any clearing and grading, building, foundation, or demolition permit. In some cases, more than one Right-of-Way Use Permit may be required, such as one for hauling and one for construction work within the right-of-way. A Right-of-Way Use Permit regulates activity within the city right-of-way, including but not limited to the following:

a) Designated truck hauling routes.
b) Truck loading and unloading activities.
c) Hours of construction and hauling.
d) Continuity of pedestrian facilities.
e) Temporary traffic control and pedestrian detour routing for construction activities.
f) Street sweeping and maintenance during excavation and construction.
g) Location of construction fences.
h) Parking for construction workers.
i) Construction vehicles, equipment, and materials in the right-of-way.
j) All other construction activities as they affect the public street system.

In addition, the applicant shall submit for review and approval a plan for providing pedestrian access during construction of this project. Access shall be provided at all times during the construction process, except when specific construction activities such as shoring, foundation work, and construction of frontage improvements prevents access. General materials storage and contractor convenience are not reasons for preventing access.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.30

2. Off-Street Parking

The applicant must secure sufficient off-street parking for construction workers, equipment, and materials storage before the issuance of a Clearing and Grading Permit.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.30

3. Engineering Plans

A site plan produced by a qualified engineer must be approved by the City prior to clear and grading permit approval. The applicant will be required to restore all city infrastructure impacted by this project (sidewalks, curb and gutter, etc.). Restoration of ADA ramps must be in conformance with the most updated requirements of the Americans with Disabilities Act, the Transportation Development Code, and the provisions of the Transportation Department Design Manual. The engineering plans must correctly show all transportation-related engineering details, including but not limited to, the design of the guard rails and sight distance. Appropriate standard drawings from the Transportation Department Design Manual must be included in the engineering plans.

REVIEWER: Ray Godinez, Transportation
AUTHORITY: Bellevue City Code 14.60; Transportation Department Design Manual

4. Pavement Restoration

The applicant will be required to restore all damaged pavement within city right-of-way caused by construction activities related to this project. Limits and extent of pavement restoration shall be at the discretion of the Transportation Inspector. Trench restoration must meet the requirements of Section 21 of the Design Manual and standard drawings ROW-1 through ROW-5. Exact copies of the appropriate trench restoration drawing(s) must be included in the final engineering plans.

REVIEWER: Tim Stever, Transportation/Right-of-Way
AUTHORITY: Bellevue City Code 14.60.250 and Design Manual Design Standard # 23

5. Safety

The applicant will be required to provide appropriate clearances from existing overhead signal equipment.

REVIEWER: Ray Godinez, Transportation
AUTHORITY: Bellevue Transportation Code and Transportation Design Manual

6. Utilities

To avoid conflicts with existing utilities, the applicant must do the following:

a) PSE must call for utilities locate prior to any construction (800-424-555 or 811).
b) PSE must pothole prior to any work that requires digging in the right-of-way.

REVIEWER: Art Chi, Utilities
AUTHORITY: BCC Title 24

7. Disturbance and Restoration

General: In addition to all landscaping areas delineated on the Conceptual Mitigation Plan, the applicant shall fully *restore* with appropriate and approved shrubs and groundcover, to the satisfaction of the City of Bellevue, any areas disturbed as a result of construction activities, including mandatory restoration of the areas around each new pole.

Restoration in Wetland Buffer: ANY understory damaged within the wetland critical area buffer as a result of construction of the poles or installing the wire will need to be replaced with appropriate trees and/or shrubs that will restore the edge condition while discouraging access and use.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25.E.080.U

8. Final Landscape and Irrigation Plans – Mitigation AND Restoration

a) Final landscape and irrigation plans are required for all required mitigation (including work done in critical areas and critical area buffers) and for restoration of all other construction and tree removal activities along the entire alignment. These plans shall be consistent with the Conceptual Mitigation Plan submitted as part of this application. The final landscape and irrigation plans will be reviewed and approved under the Clearing and Grading Permit.

b) Final plans for the Substation site upgrades, including fencing and landscaping around each substation, shall also be reviewed and approved under the Clearing and Grading Permit, and shall comply with all standards applicable to Electrical Utility Facilities contained in LUC 20.20.255.

c) Final landscape and irrigation plans must also be approved by the Parks Department, who will have ultimate take over right-of-way maintenance responsibilities once the five-year maintenance period is over. Parks Department Contacts are:
Tom Kuykendall: tkuykendall@bellevuewa.gov, (425) 452-7924
Melissa Kerson: mkerson@bellevuewa.gov, (425) 452-4100

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.255

9. Final Plans for Substation Upgrades

Lake Hills Substation:

a) Final plans for the Substation upgrade, including landscape plans, review of tree removal/retention, and site changes for equipment installation shall take place under the required Clearing and Grading Permit for the installation of the entire transmission line. The design shall be reviewed against all the requirements in LUC 20.20.255.

Tree removal of healthy trees will be allowed only along the northwest corner of the fenced equipment area, where the new line will enter the substation. The remaining existing trees around the Substation are to remain to meet the requirement of LUC 20.20.255.F.

b) Any work at the Lake Hills Substation that is required to take place in advance of, and is not necessary for the new transmission line may be reviewed under a Land Use Exemption to the Substation's original Conditional Use. This work will be limited to the following:

- Replacement of the existing wood fence with a new wood fence or fencing with an alternate material that is site-obscuring per the LUC requirements.
- Cleaning out of overgrown understory and noxious weeds such as ivy, and replanting with appropriate groundcover and shrubs
- Redesign of existing driveways and minor relocation of bus stop. Any driveway configuration will be reviewed to ensure that it is as unobtrusive as possible, which may necessitate additional landscaping and angling the driveway(s) off 164th Avenue NE.
- Removal of dead or unhealthy trees as verified by a certified arborist via a Hazardous Tree Form(s). All other trees shall remain in place. Any tree removal of healthy trees on the substation sites will be reviewed under the Clearing and Grading Permit associated with *this* Conditional Use Permit application.

Phantom Lake Substation:
Preliminary review of the design concept for the Substation upgrade shall occur under a Land Use Exemption to this Conditional Use approval and shall be part of the review of the entire SE 16th portion of the alignment. Once the design has been approved, review of the final landscape plans shall take place under a separate Clearing and Grading Permit. The design shall be reviewed against all the requirements in LUC 20.20.255.

Both Substations:
All substation upgrades must meet the requirements of LUC 20.20.255.F, including the provision that any fence replacement material shall be site obscuring.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.255

10. Tree Removal and Mitigation Landscaping within Critical Areas and Critical Area Buffers (Wetlands/Shorelines)
A Clearing and Grading Permit will be required for any tree removal, trimming and mitigation landscaping within any Critical Areas.

The following requirements shall be followed when removing trees and/or installing mitigation landscaping in any wetland, wetland buffer and/or shoreline overlay district:

a) Tree Removal:
- All work shall be done by hand
- All trees over 12 inches in diameter shall be made into wildlife snags. Details for the snags shall be included in the Final Landscape Plans.
- Stumps shall be left in place to reduce soil disturbance.

b) Landscaping:
- Work shall be implemented using the Parks Department "Environmental Best Management Practices.
- Work within a wetland and/or shoreline shall be done by hand.

c) Miscellaneous:
- Machinery needed to place the woody debris and for some hauling shall be done in the dry season and use of mats or fabric-reinforced driving surfaces shall be used where necessary.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.055.C.2

11. Pesticides, Herbicides and Fertilizers:
Prior to any use of pesticides, herbicides, and/or fertilizers associated with the proposal, the applicant must receive approval from Land Use under the required Clearing and Grading Permit.

Applicant shall submit written information identifying the pesticide, herbicide and/or insecticide is to be used AND written confirmation that the product used has been reviewed and approved by a consulting arborist. Work shall be done in accordance with the City of Bellevue's "Environmental Best Management Practices."

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.080

12. Maintenance and Monitoring Plan for Restoration and Mitigation Work
The applicant shall hire a qualified professional to design and implement maintenance and monitoring plan for the mitigation required for work in critical areas and/or critical area buffers. The contractor shall submit documentation each year for five (5) years to the Land Use Division under the Critical Areas Land Use Permit #11-131125-LO to demonstrate compliance with the conditions of this report.

a) There will be 100% survival of all planted species in the enhancement area at the end of the first year.
b) There shall be a minimum of 80 percent survival rate throughout the monitoring period – years 2-5.
c) Monitoring stations shall be set up and identified.
d) Invasive species will not represent more than 15 percent areal cover.
e) If the applicant can demonstrate an 80 percent survival rate and proper plant establishment, there shall be an option to reduce the monitoring period to three (3) years.

All necessary documentation outlined in the Maintenance and Monitoring Plan shall be sent each year to the following:

City of Bellevue
Development Services Department/Land Use Division
c/o Sally Nichols, Planner
P.O. Box 90012
Bellevue, WA 98009-9012

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.25H.220

13. Landscape Maintenance Assurance Device for Areas of Restoration and Mitigation

To ensure plant establishment, the applicant shall provide a separate landscape assurance device that shall cover 20% of the fair market value of labor and materials for the initial landscape installation of all areas of restoration and mitigation required for this Conditional Use approval. This assurance device will cover the landscape maintenance of the project for a period of five (5) years from the date of final inspection.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.20.520.K.1 & 2 and 20.40.490

14. Fee in Lieu

a) Trees identified for removal are valued at $856,740. This amount shall be expended as compensation for the removal of 295 City-owned trees (public assets). This money shall be used by PSE exclusively to pay for materials (plants, soil, irrigation, etc.) needed for the installation of the approved restoration and mitigation landscaping. Verification of all expenditures shall be provided to the City.

b) Any money remaining from $856,740 after completion of the project may be used by the City of Bellevue Parks Department for additional landscape enhancements along the transmission line route.

c) If any public trees are required to be removed with the SE 16th Street portion of the alignment, an evaluation of the trees using the Trunk Formula Method shall be performed and the City shall be compensated for the loss of this resource.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA – WAC 197-11-350, BCC 22.02.035

15. Alignment on SE 16th Street

PSE will not be allowed to run a separate new transmission line down the south side of SE 16th Street. Nor will PSE be allowed to remove trees from this side of the street for this new line. Possible ways to accommodate the second line include but are not limited to co-location of the new line with the existing transmission on the north side of the street or to undergrounding the line in a manner that does not require removal of trees along the south side of the street.

The exact methodology for providing the second line and the design of this section of the alignment will be reviewed as a Land Use Exemption to this Conditional Use approval.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA – WAC 197-11-350, BCC 22.02.035, LUC 20.30.B.175

16. Development Agreement for SE 16th Street Alignment Vesting

In order to extend the vested status of the alignment of SE 16th Street until the City undertakes its Transportation Improvement Project, PSE will need to enter into a Development Agreement with the City of Bellevue. Any development agreement will need to demonstrate public benefit – which in this case will be the co-location of transmission lines, added reliability to the adjacent neighborhoods, and the coordination between the City and PSE regarding streetscape improvements and pole location, as well as location of required mitigation landscaping.

REVIEWER: Sally Nichols, Land Use
AUTHORITY: SEPA - WAC 197-11-350, BCC 22.02.035, Comprehensive Plan Policies UT-43, 51, 53, 71, and 74

17. Changes to Pole Location and/or Alignment

Any changes to the pole location and/or alignment submitted as part of this Conditional Use shall be reviewed as a Land Use Exemption to this Conditional Use approval prior to construction.

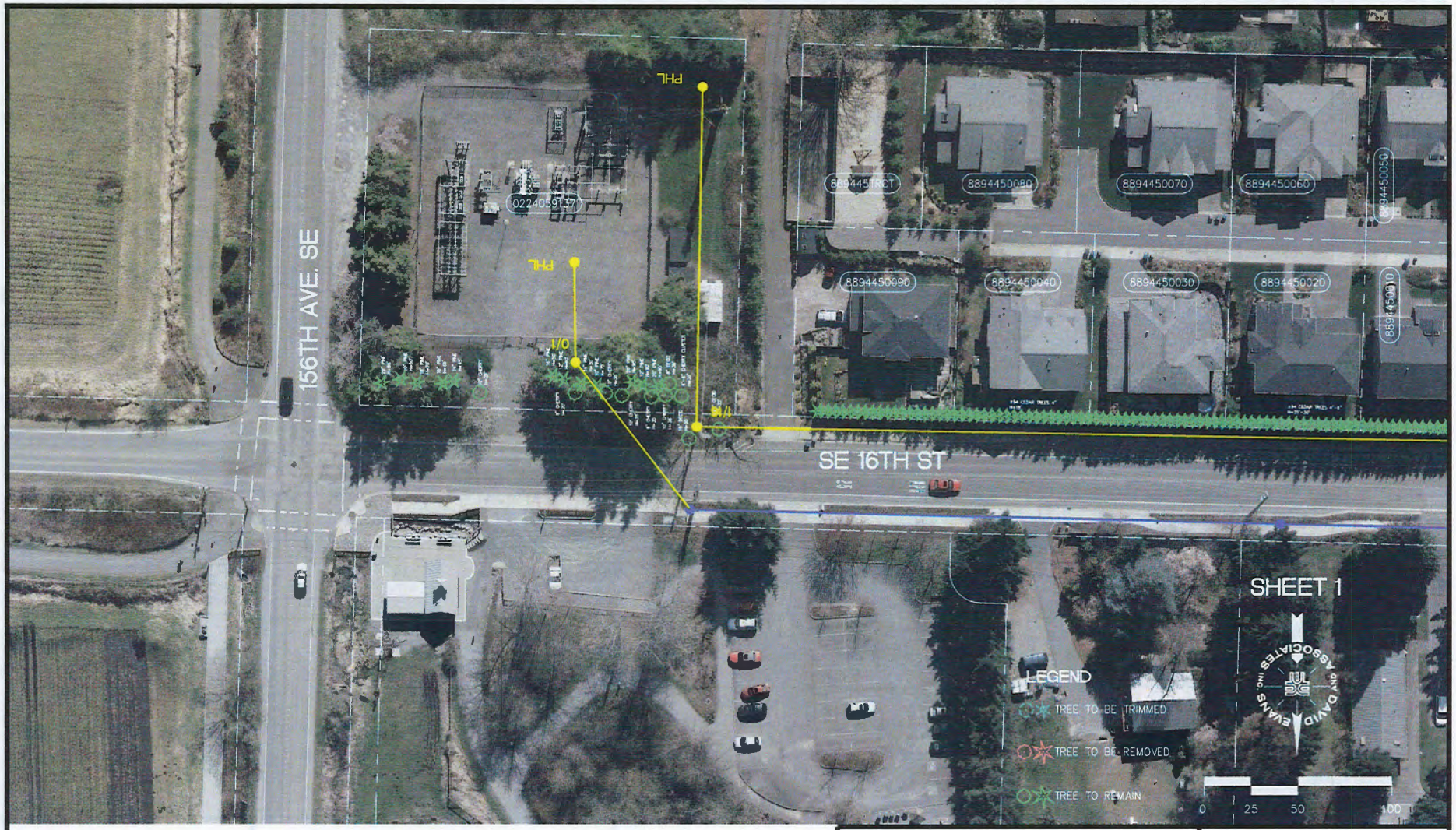
REVIEWER: Sally Nichols, Land Use
AUTHORITY: LUC 20.30B.175

Attachments

A. Project Plans
B. Tree Evaluation, Annotated Project Plans and Spreadsheet prepared by Tree Solutions Inc, Spreadsheet Minus Installation Costs, Sample Evaluation
C. Tree Evaluation Assessment
D. SEPA – Environmental Checklist
E. Comprehensive Plan Policy Analysis
F. Photo Simulations A
G. Photo Simulations B
H. Median Alignment Analysis
J. Proposed Alternative Routes – Affected Parcels and Zoning

Attachment A

PROJECT PLANS

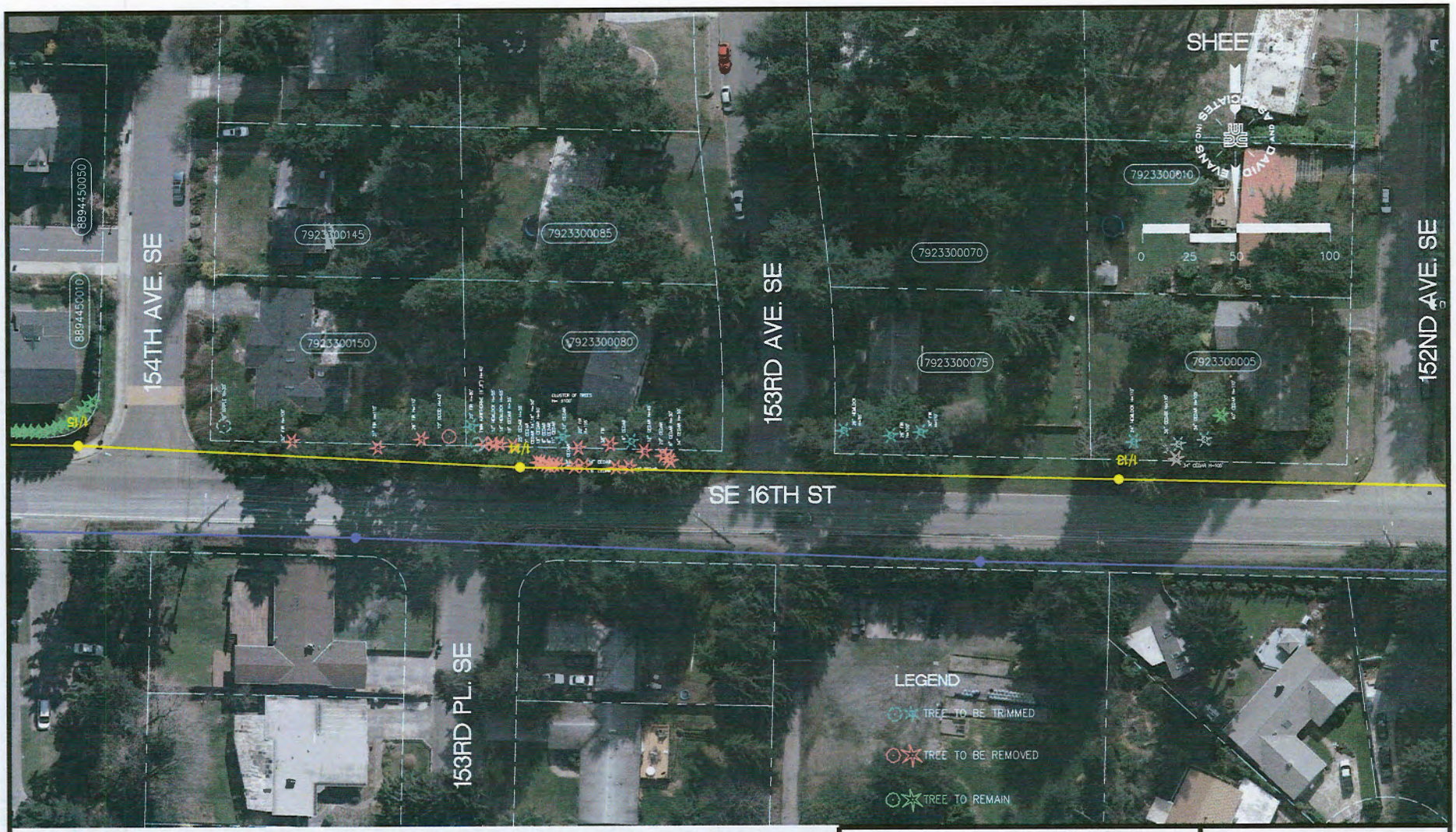


LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

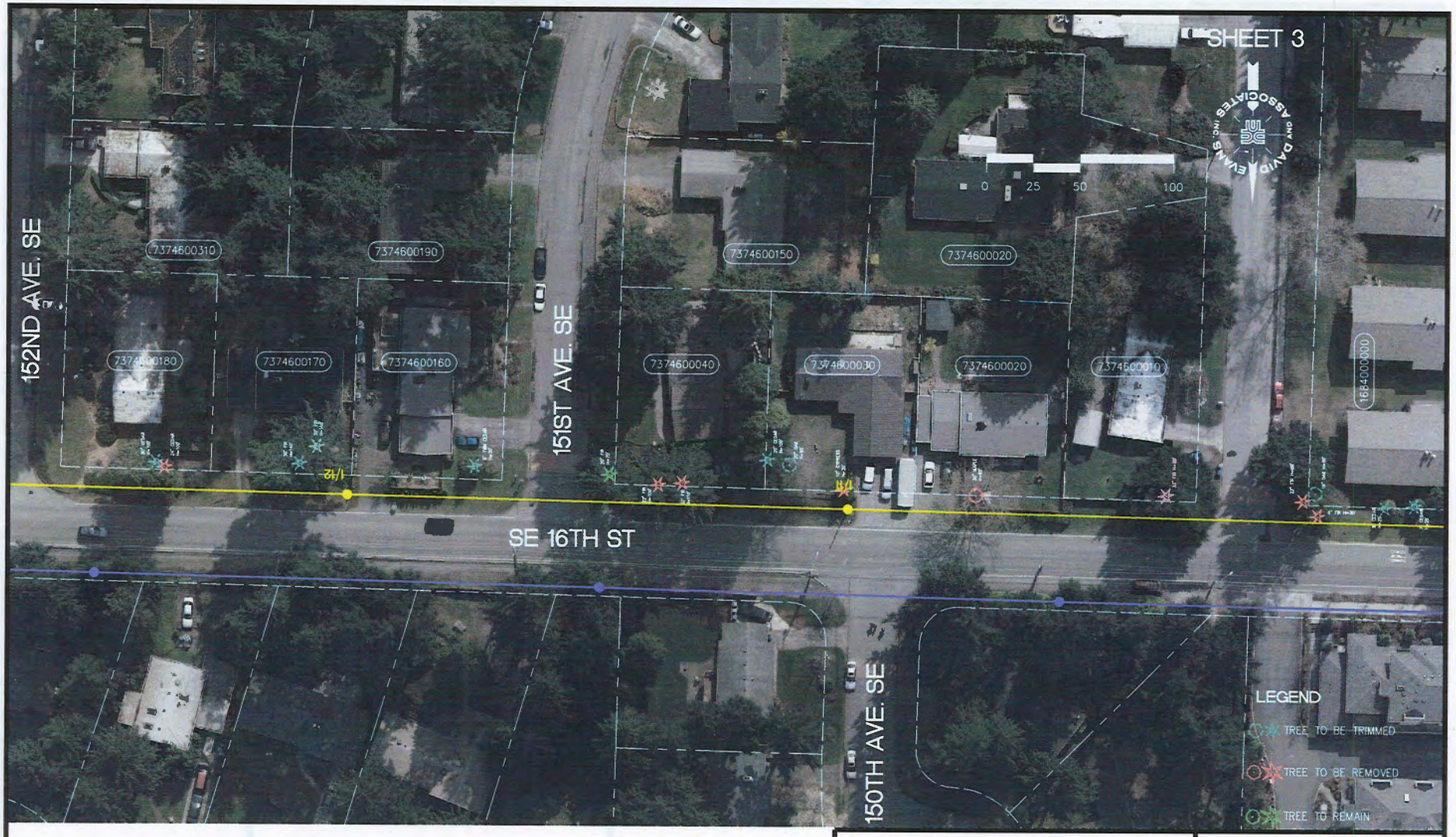


PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



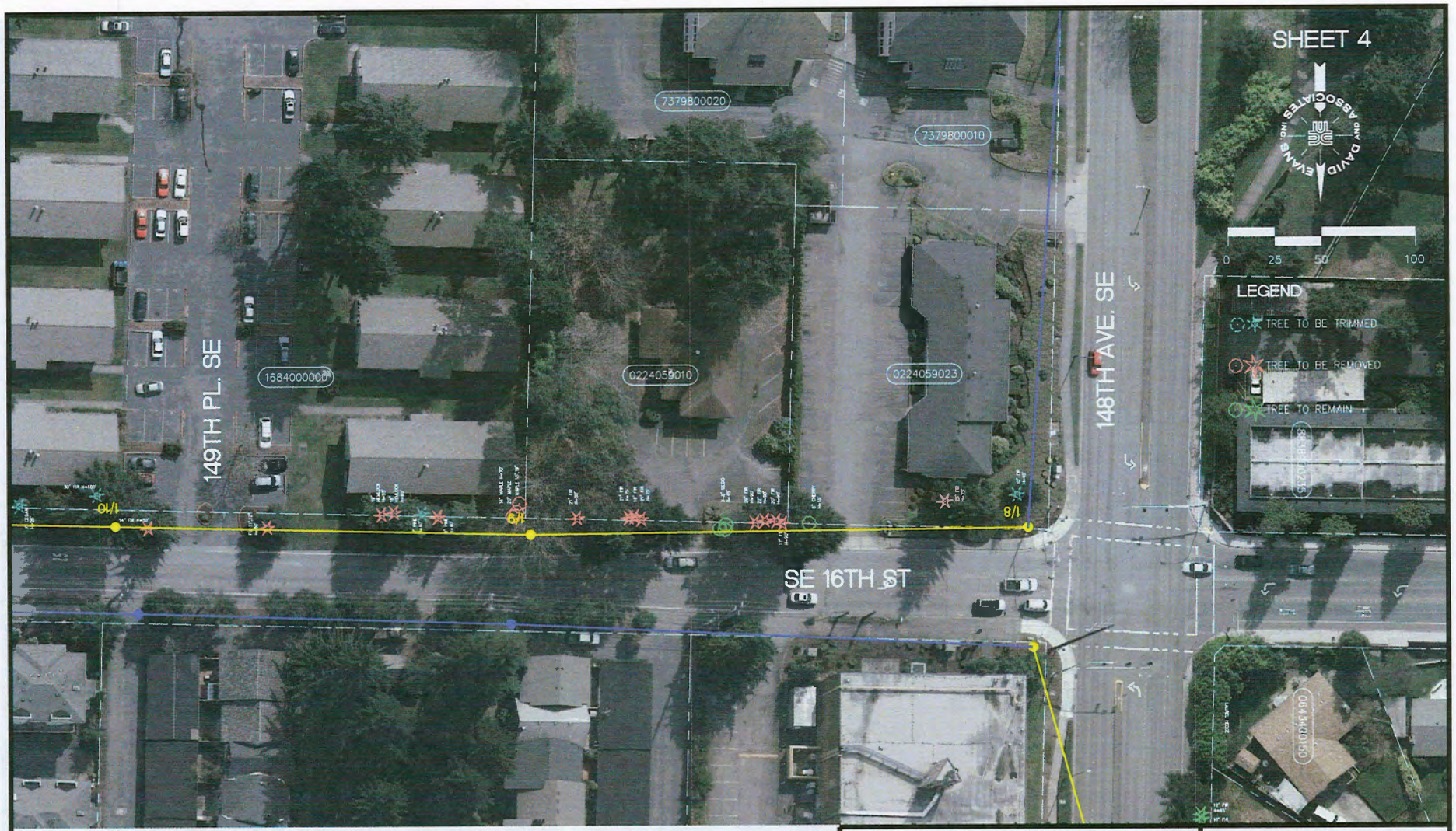
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

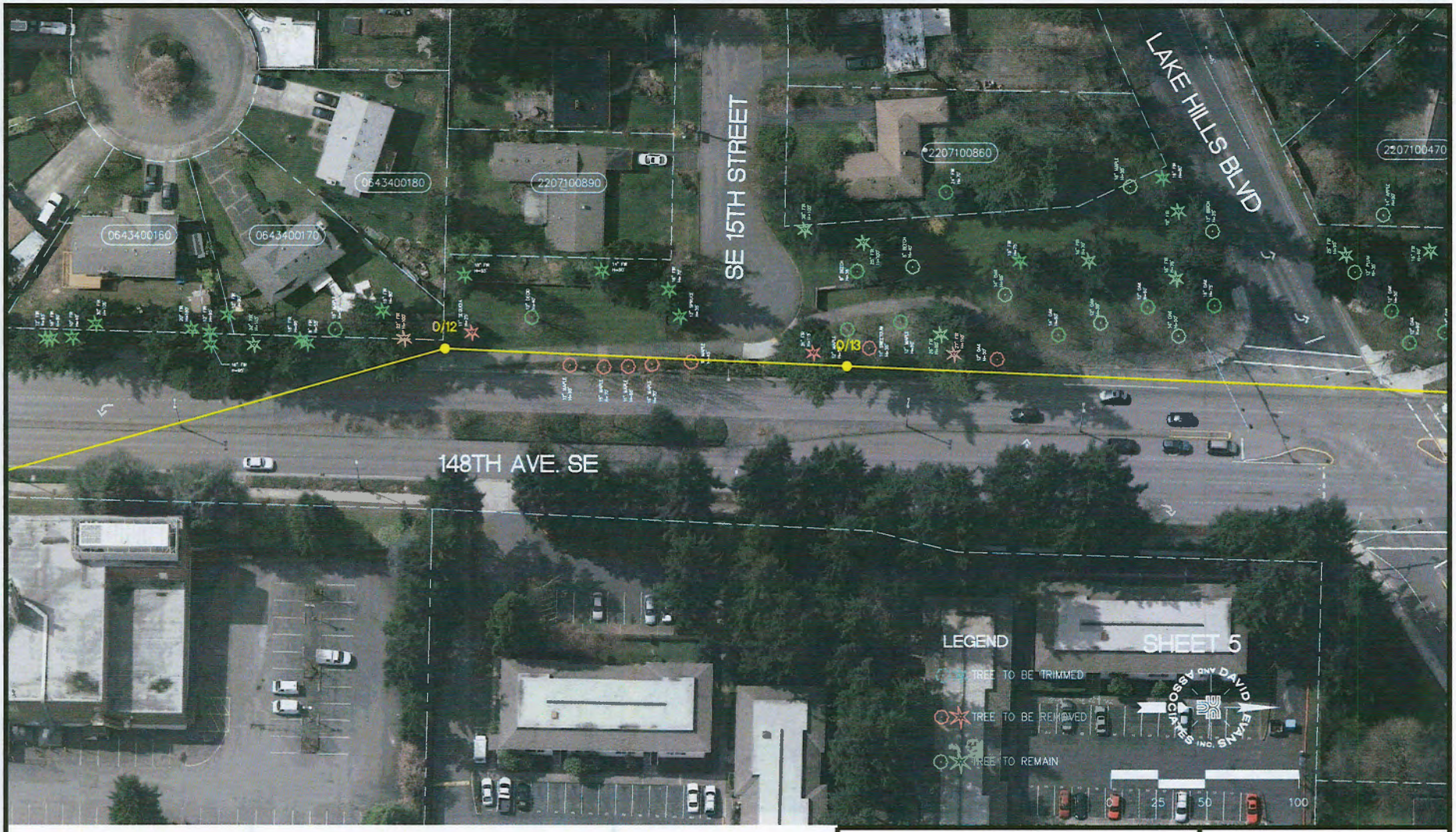


LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012



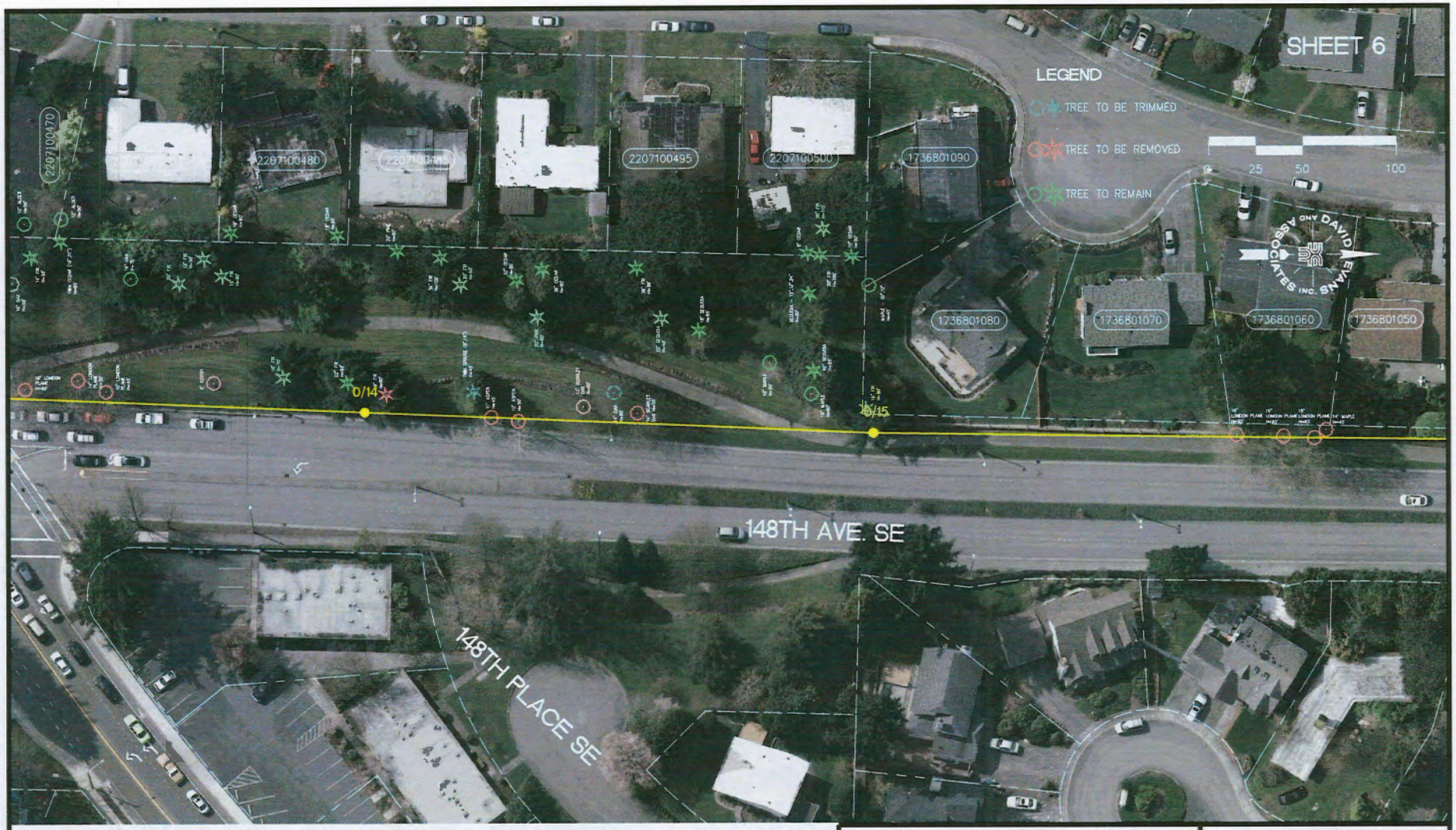
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

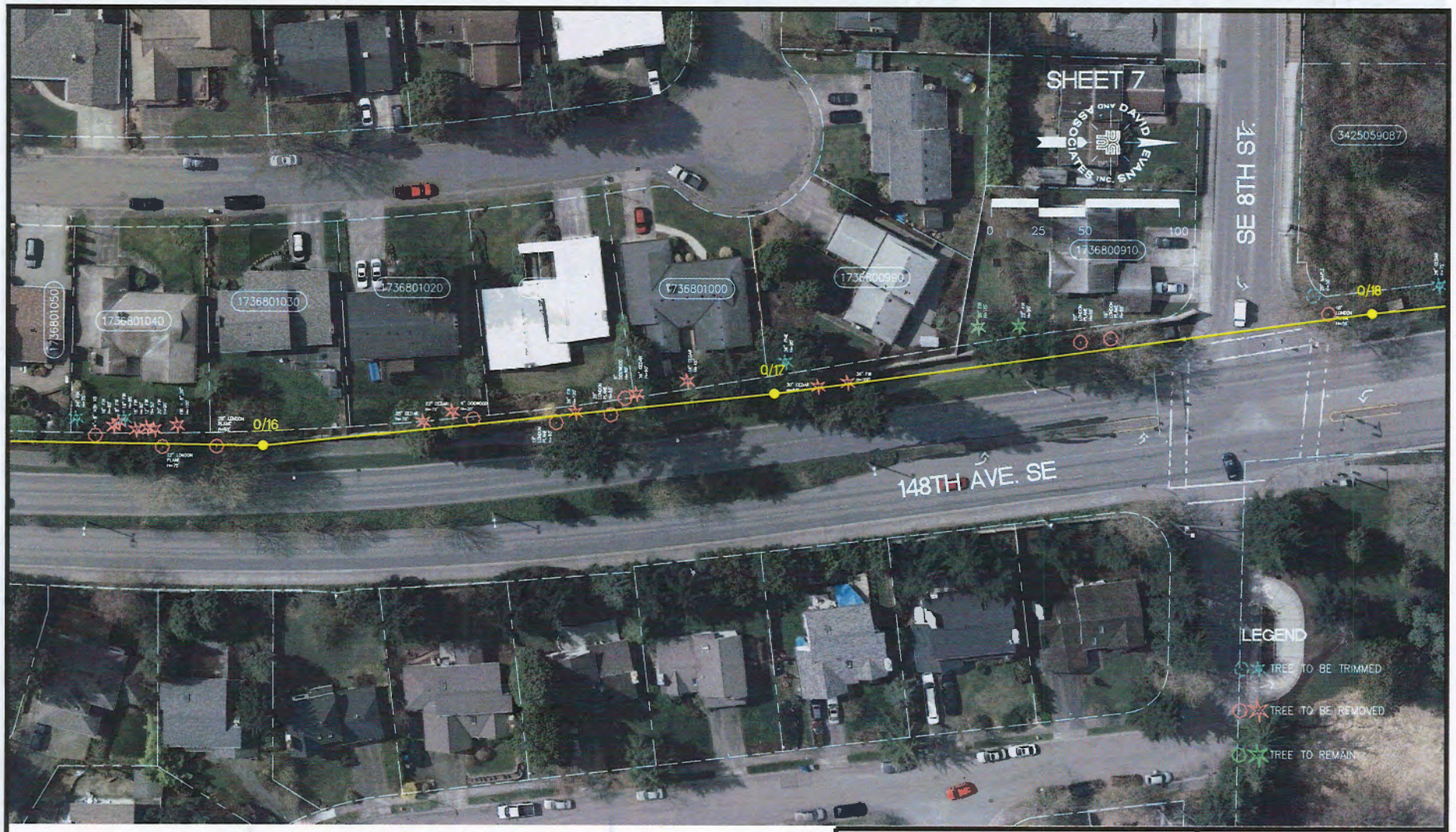


PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

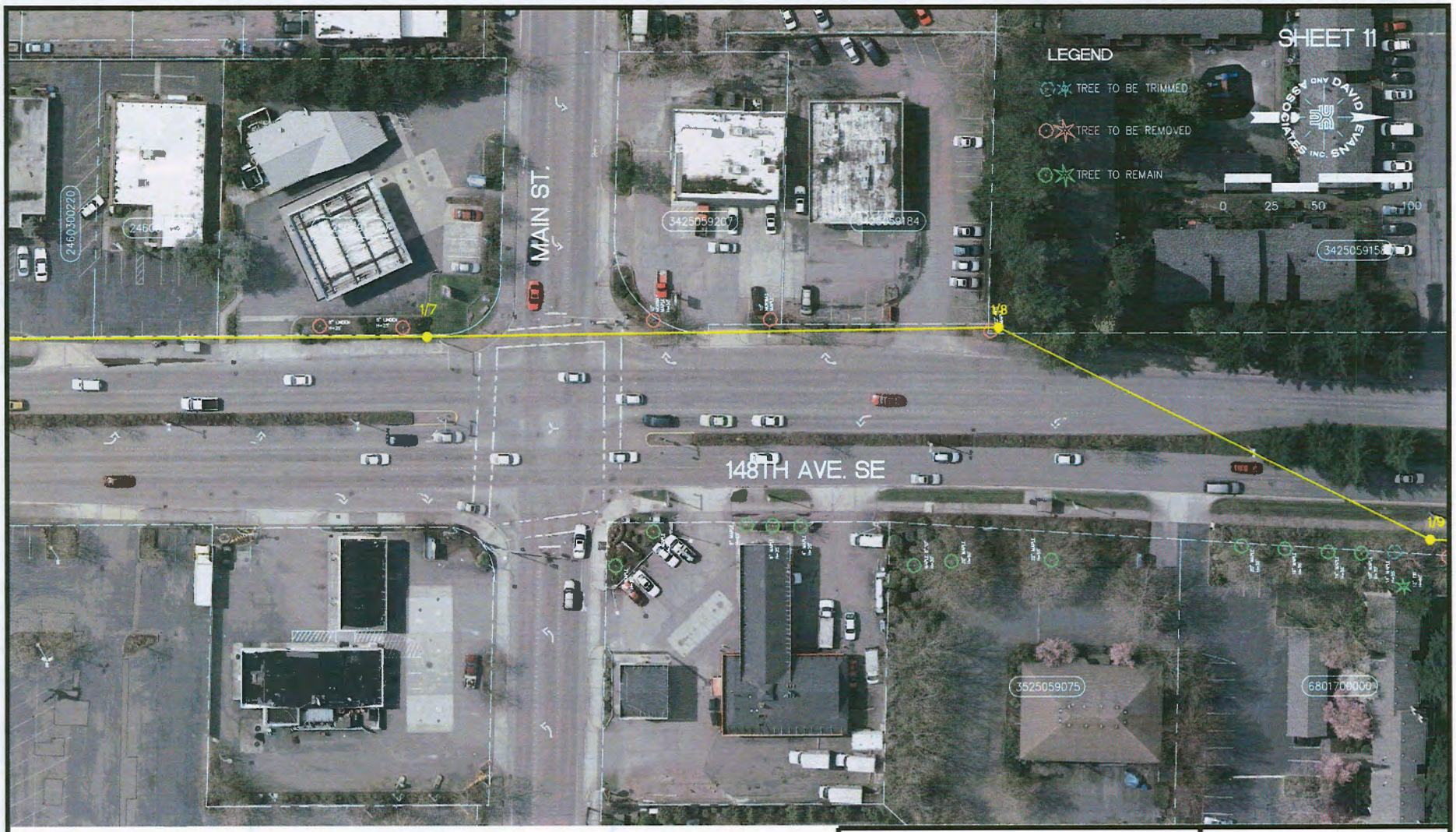
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

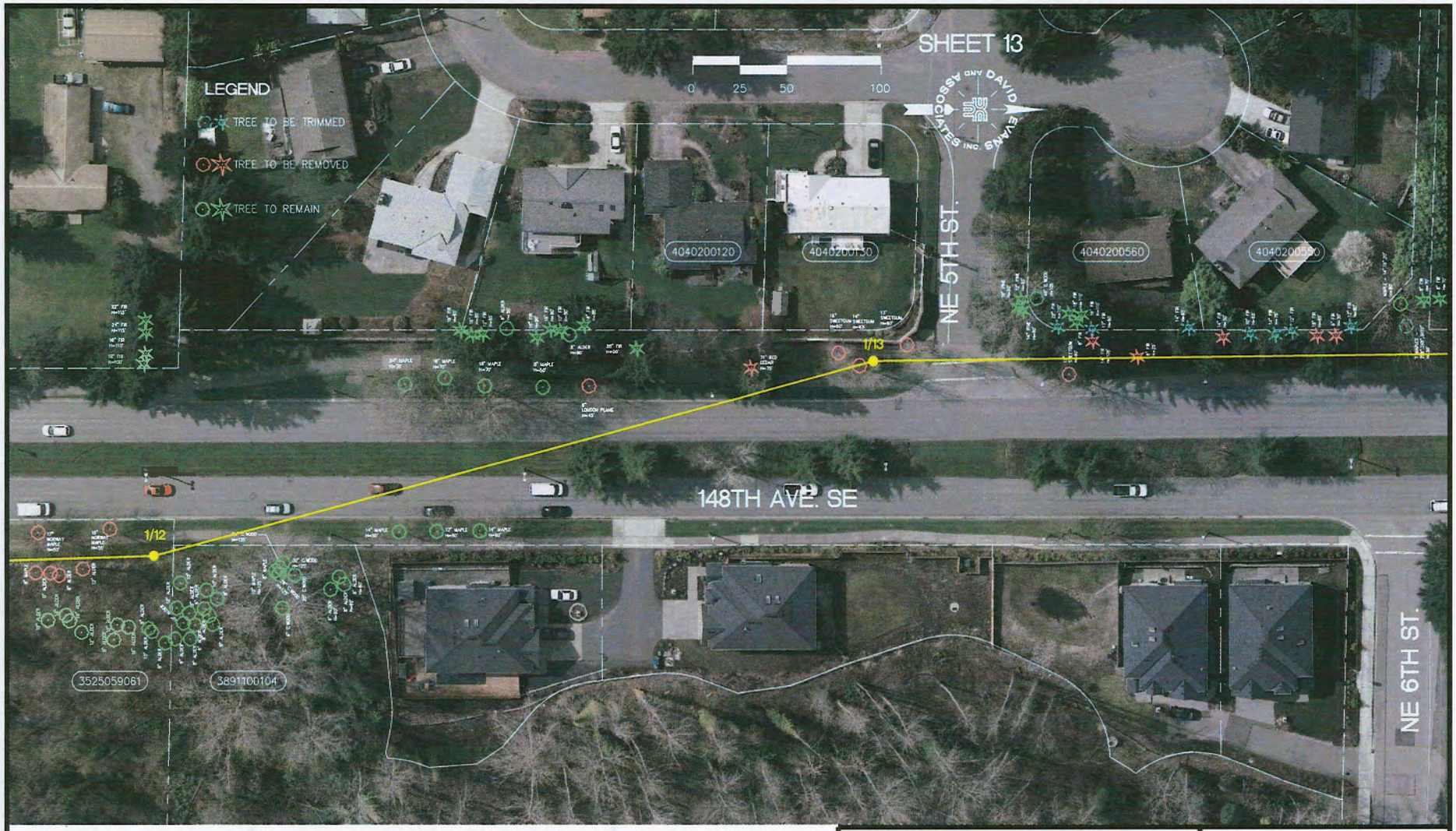
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

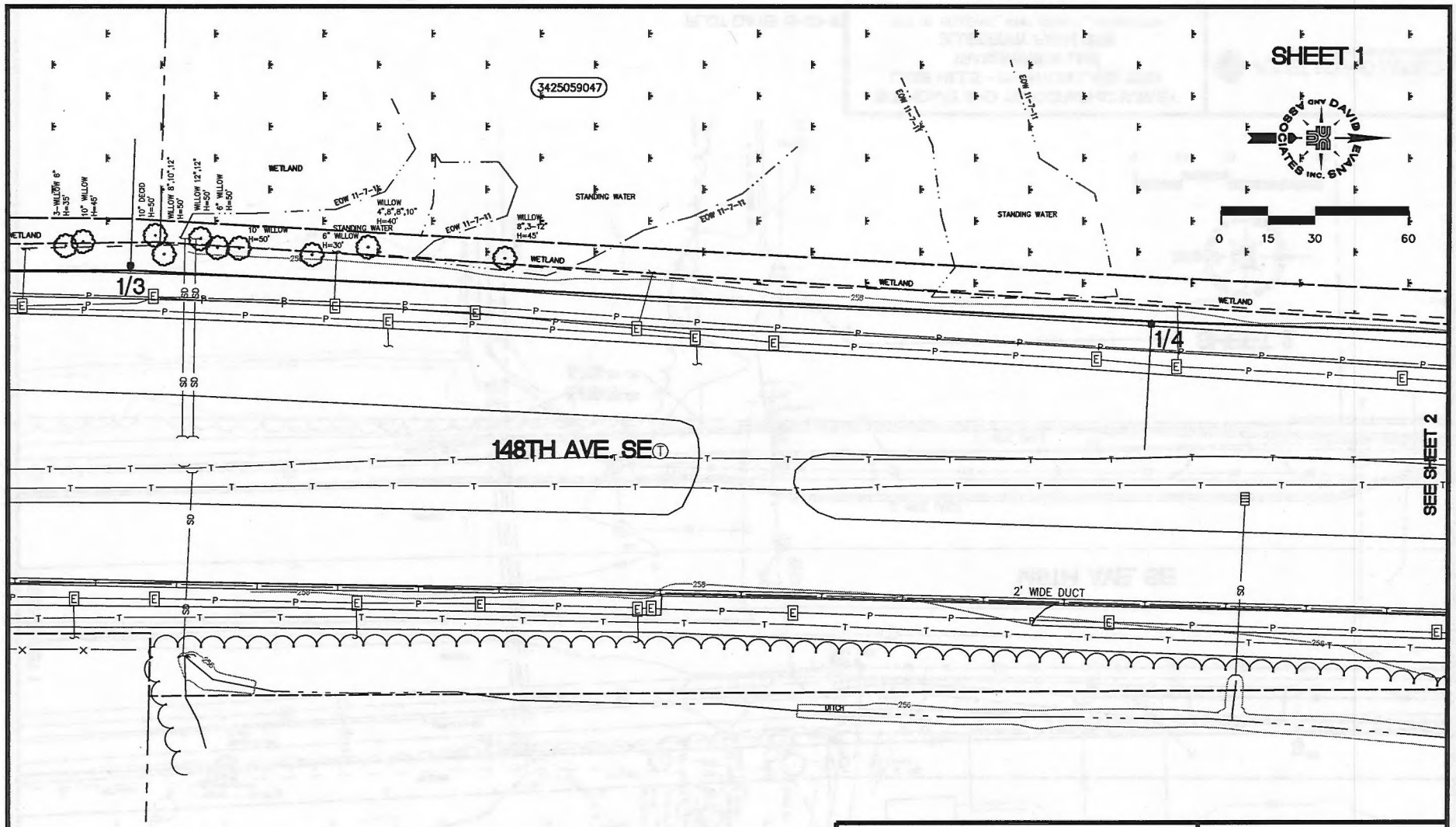
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PSE PUGET SOUND ENERGY

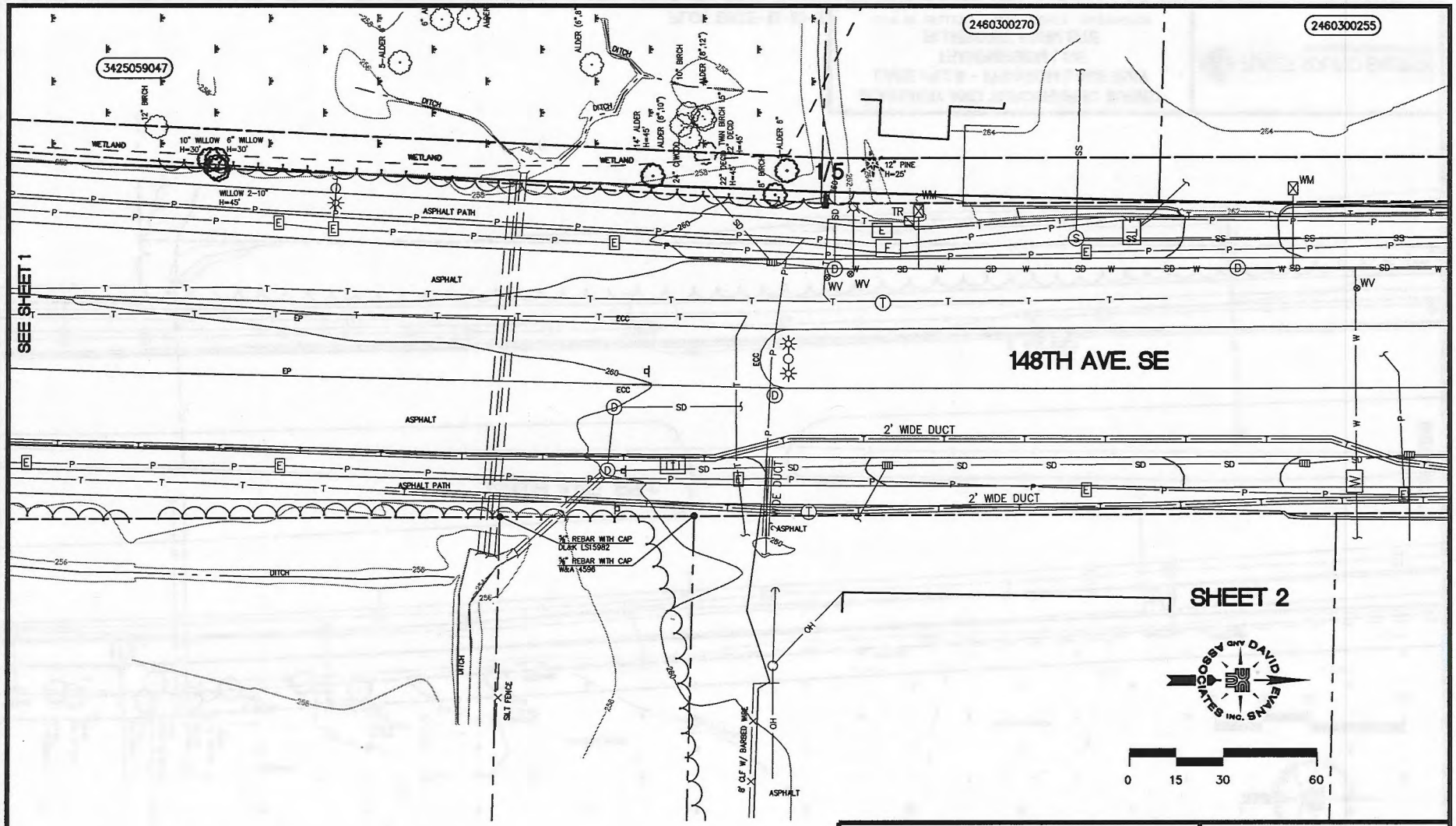
The Energy To Do Great Things



PLOT DATE: 12-23-11

BOUNDARY AND TOPOGRAPHIC SURVEY
LAKE HILLS - PHANTOM LAKE 115KV
TRANSMISSION LINE
BLUEBERRY FARM SITE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

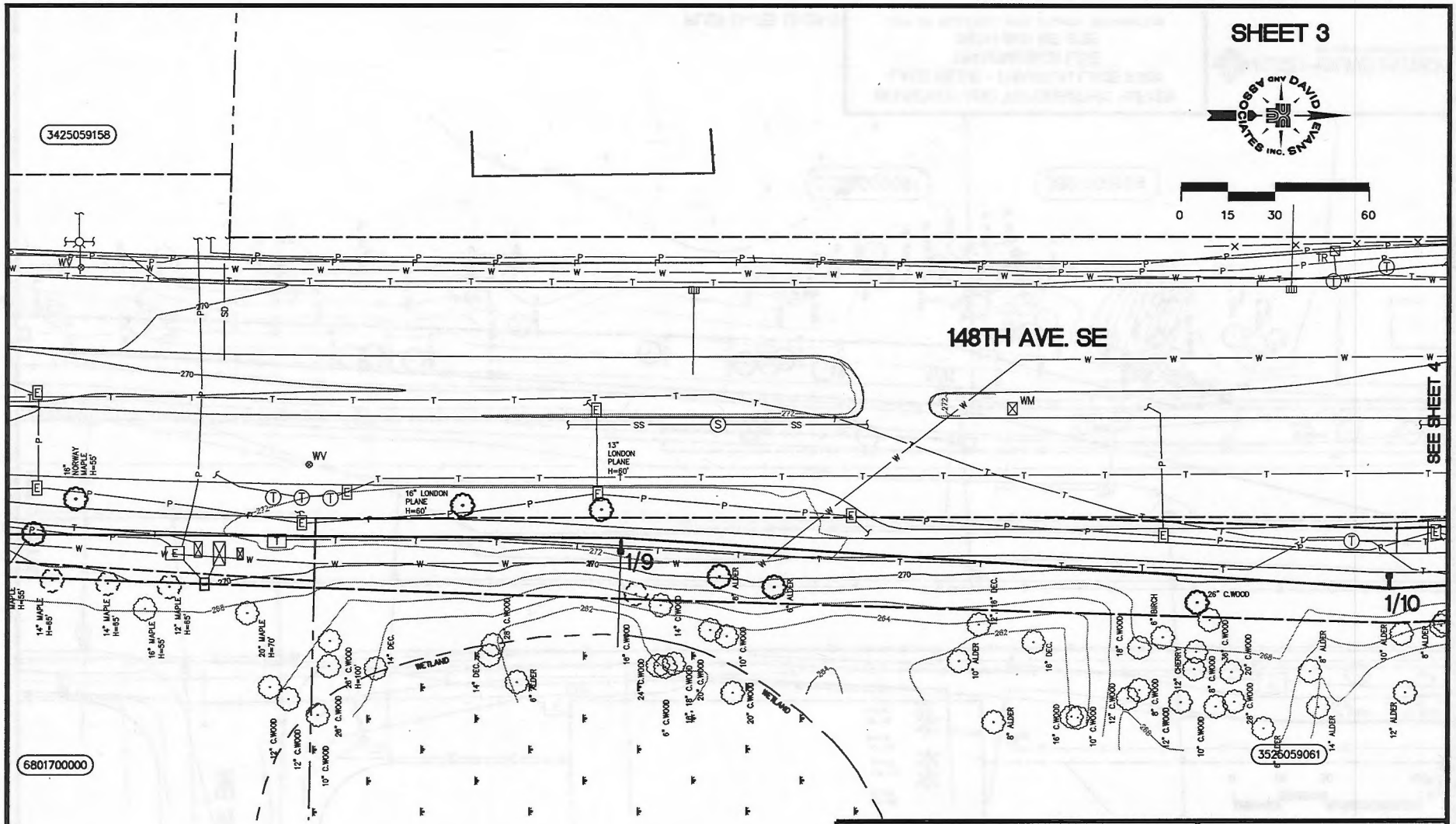
PUGET SOUND ENERGY
The Energy To Do Great Things



BOUNDARY AND TOPOGRAPHIC SURVEY
LAKE HILLS - PHANTOM LAKE 115KV
TRANSMISSION LINE
BLUEBERRY FARM SITE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

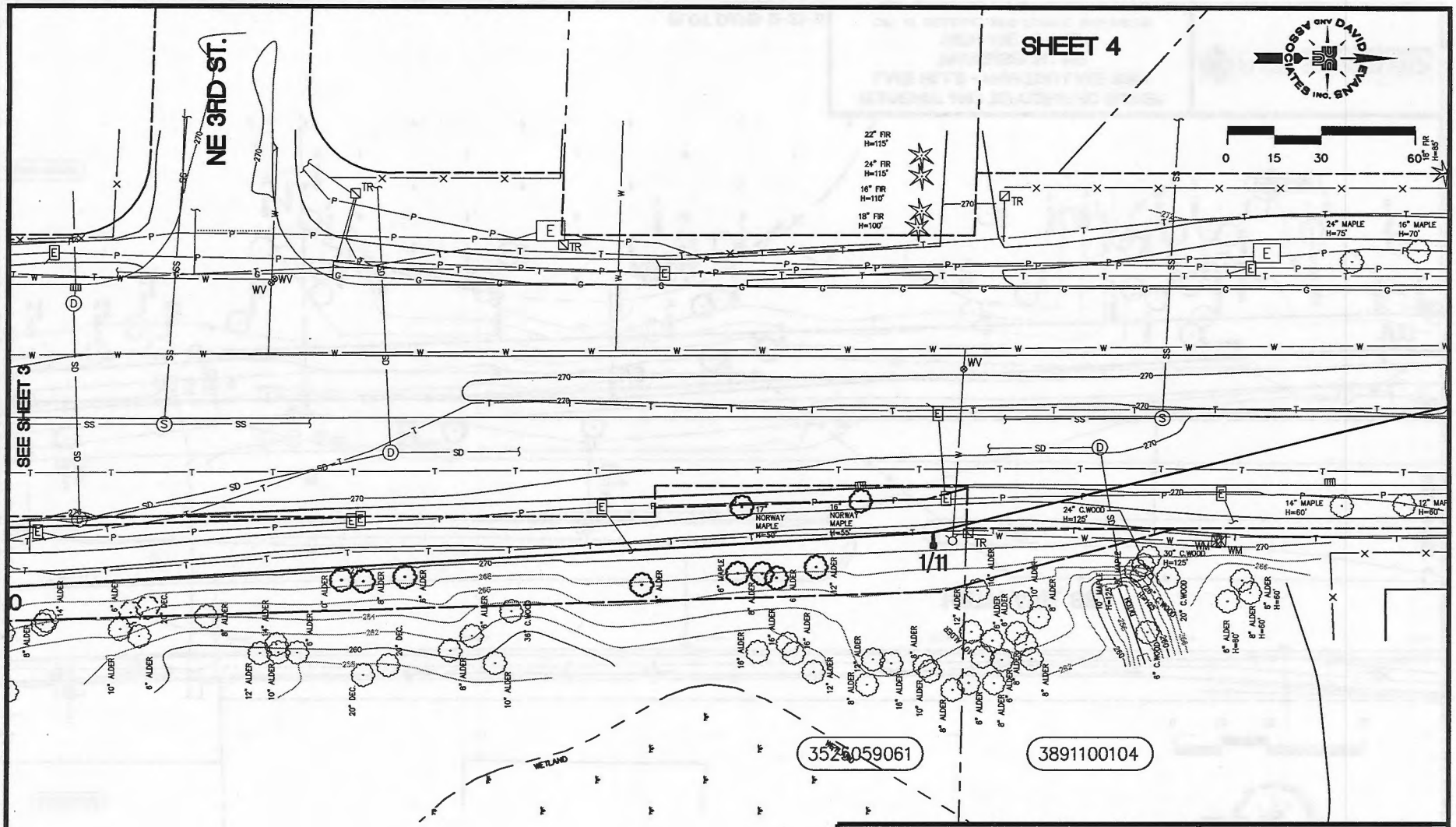
PLOT DATE: 12-23-11



BOUNDARY AND TOPOGRAPHIC SURVEY
LAKE HILLS - PHANTOM LAKE 115KV
TRANSMISSION LINE
148TH AVE NE SITE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PLOT DATE: 12-23-11

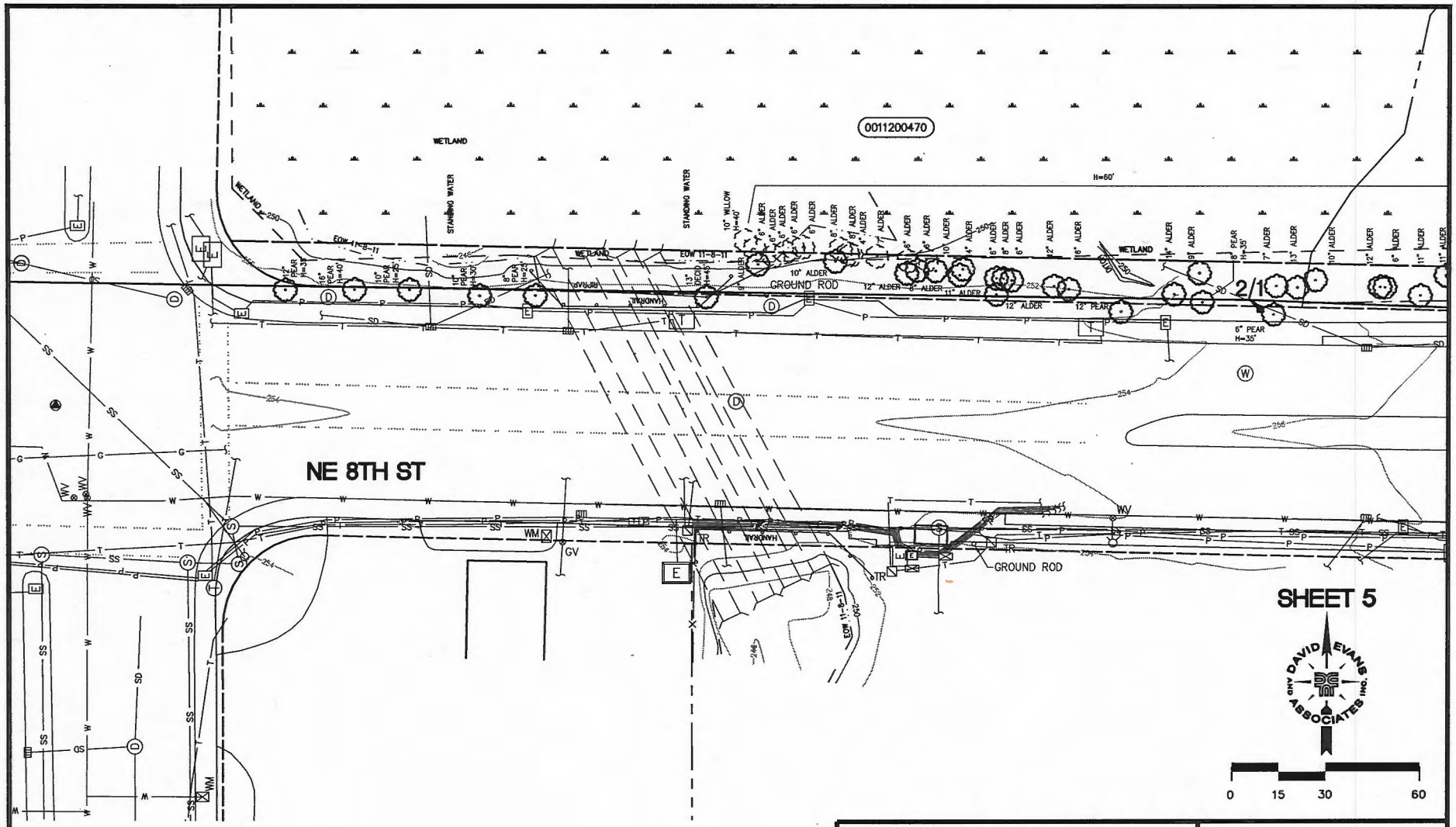
PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 12-23-11

BOUNDARY AND TOPOGRAPHIC SURVEY
LAKE HILLS - PHANTOM LAKE 115KV
TRANSMISSION LINE
148TH AVE NE SITE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



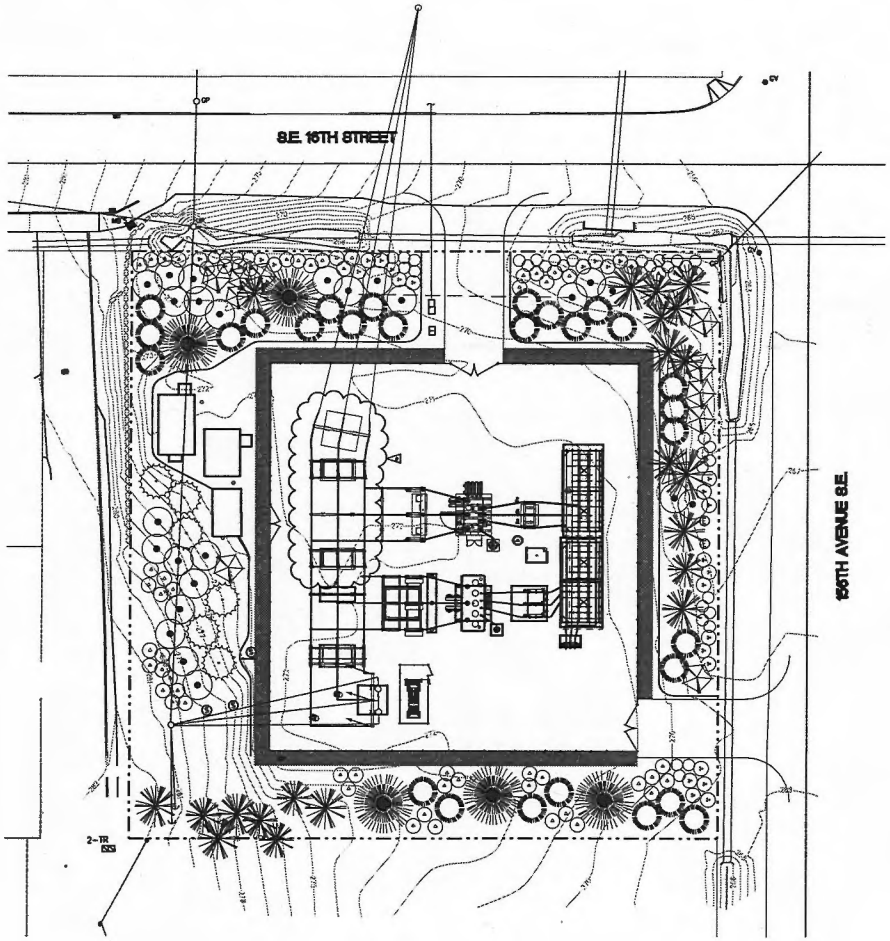
PLOT DATE: 12-23-11

BOUNDARY AND TOPOGRAPHIC SURVEY
LAKE HILLS - PHANTOM LAKE 115KV
TRANSMISSION LINE
NE 8TH KELSEY CREEK CROSSING SITE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

CONCEPTUAL LANDSCAPE PLAN

AFTER IMPROVEMENTS



PLANTING LEGEND

- AUSTRIAN BLACK PINE *PINUS NIGRA*
- BLACK HILLS SPRUCE *PICEA GLAUCA 'DENSATA'*
- VINE MAPLE *ACER CIRCINATUM*
- RED TWIG DOGWOOD *CORNUS ALBA*
- MOUNTAIN LAUREL *KALMIA LATIFOLIA*
- OREGON GRAPE *MAHONIA AQUIFOLIUM*
- SIENNA SUNSET HEAVENLY BAMBOO *NANDINA DOMESTICA 'MONFAR'*
- EXISITNG EVERGREEN TREE
- EXISITNG DECIDUOUS TREE

N

SCALE: 1" = 20'-0"

0 10 20 40

PHANTOM LAKE SUBSTATION

1607 156th AVE SE
BELLEVUE, WASHINGTON

PSE PUGET SOUND ENERGY

6/16/09 DRAWN BY L. ALTENBURG

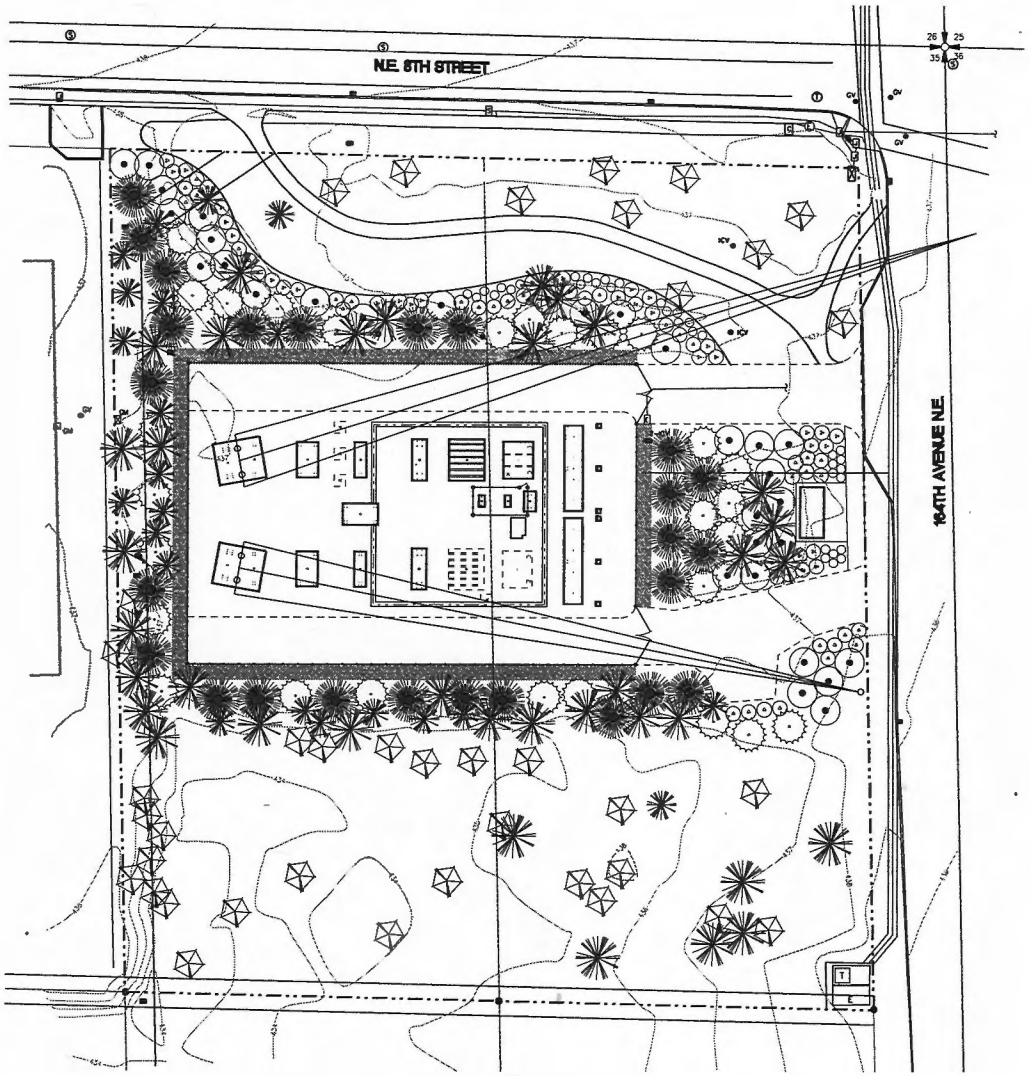
Phantom Lake Plan View.dgn 3/10/2011 2:20:42 PM

CONCEPTUAL LANDSCAPE PLAN

AFTER IMPROVEMENTS

PLANTING LEGEND

- AUSTRIAN BLACK PINE *PINUS NIGRA*
- VINE MAPLE *ACER CIRCINATUM*
- RED TWIG DOGWOOD *CORNUS ALBA*
- MOUNTAIN LAUREL *KALMIA LATIFOLIA*
- OREGON GRAPE *MAHONIA AQUIFOLIUM*
- SIENNA SUNSET HEAVENLY BAMBOO *NANDINA DOMESTICA 'MONFAR'*
- EXISITNG EVERGREEN TREE
- EXISITNG DECIDUOUS TREE



N

SCALE: 1" = 20'-0"

0 10 20 40

LAKE HILLS SUBSTATION

701 164th AVE NE
BELLEVUE, WASHINGTON

PSE PUGET SOUND ENERGY

6/16/09 DRAWN BY L. ALTENBURG

Lake Hills Plan View.dgn 3/10/2011 2:18:28 PM

Attachment B

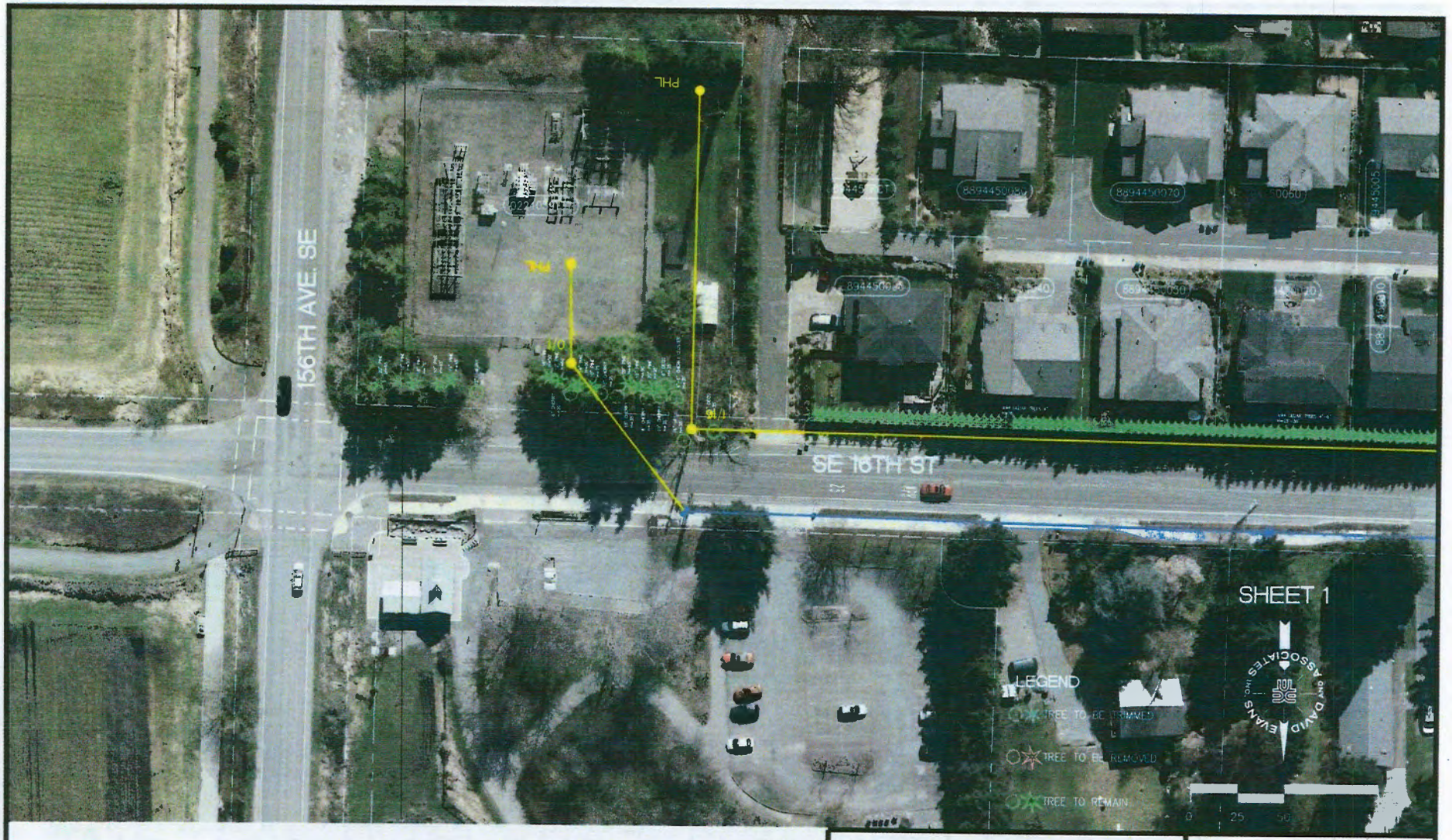
TREE EVALUATION

* Annotated Project Plans,

* Spreadsheet prepared by Tree Solutions Inc (TSI)

*Spreadsheet prepared by City of Bellevue to eliminate installation costs from TSI Spreadsheet

* Example of Evaluation for a Tree



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

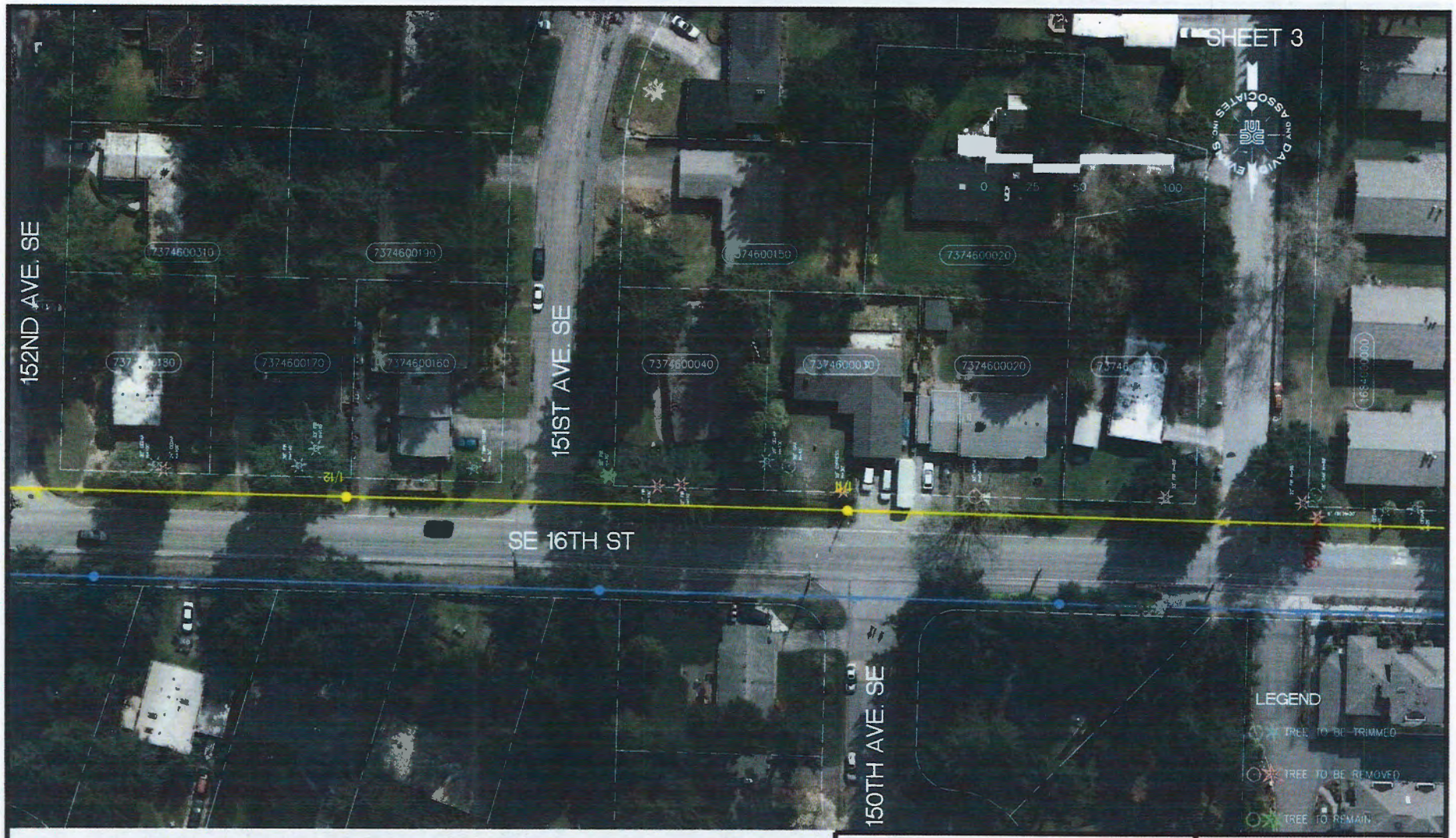
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

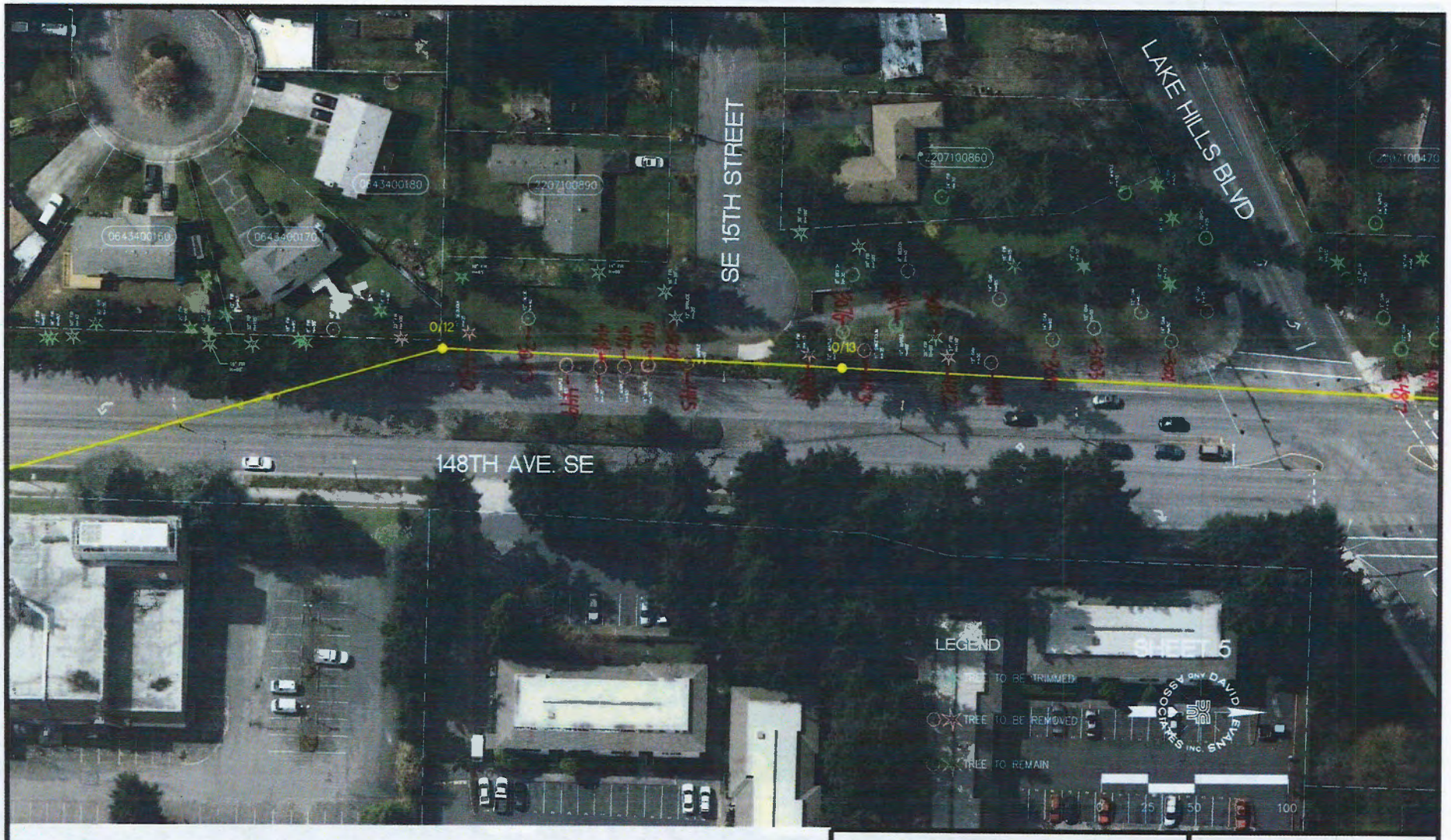
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



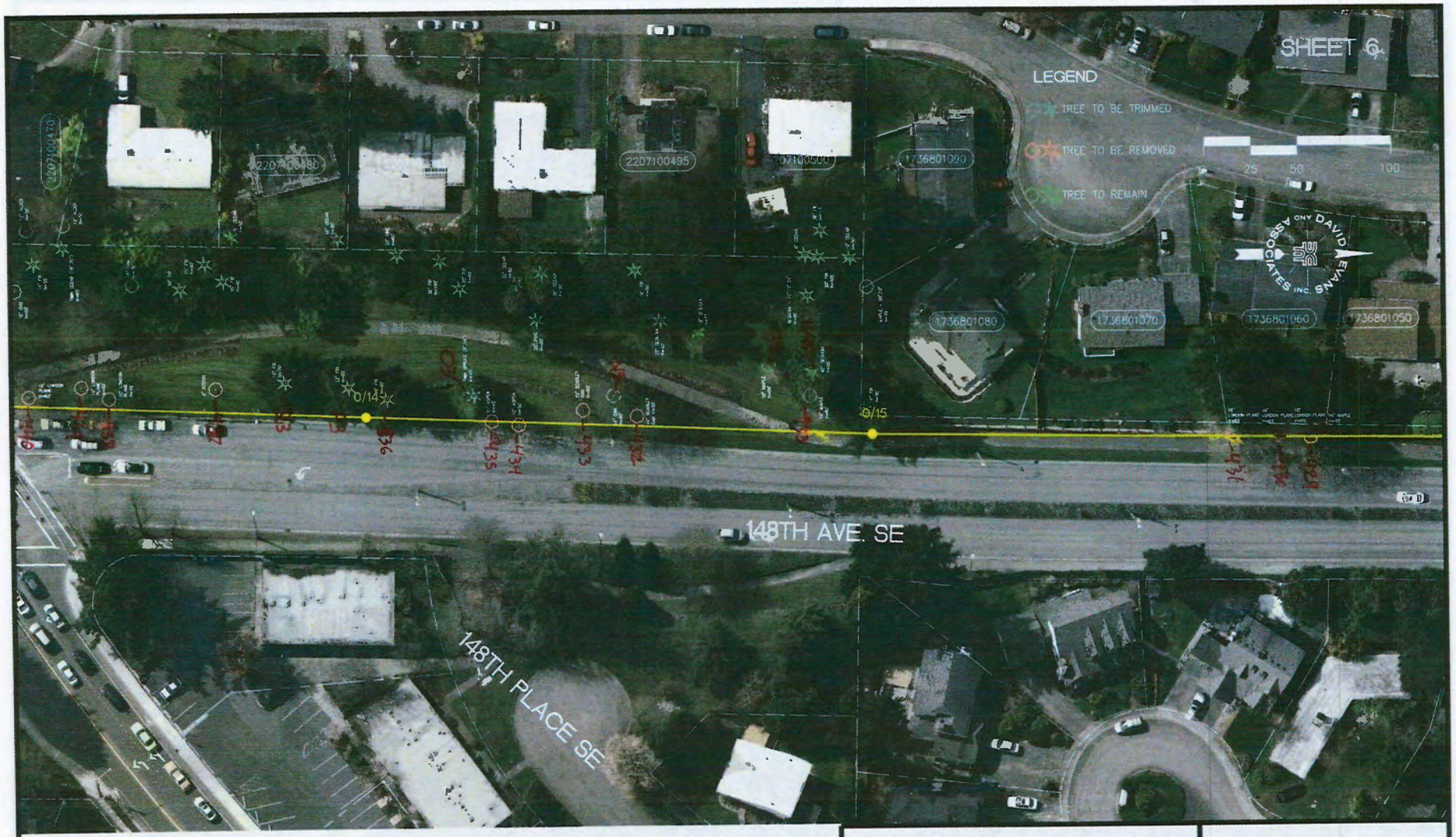
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

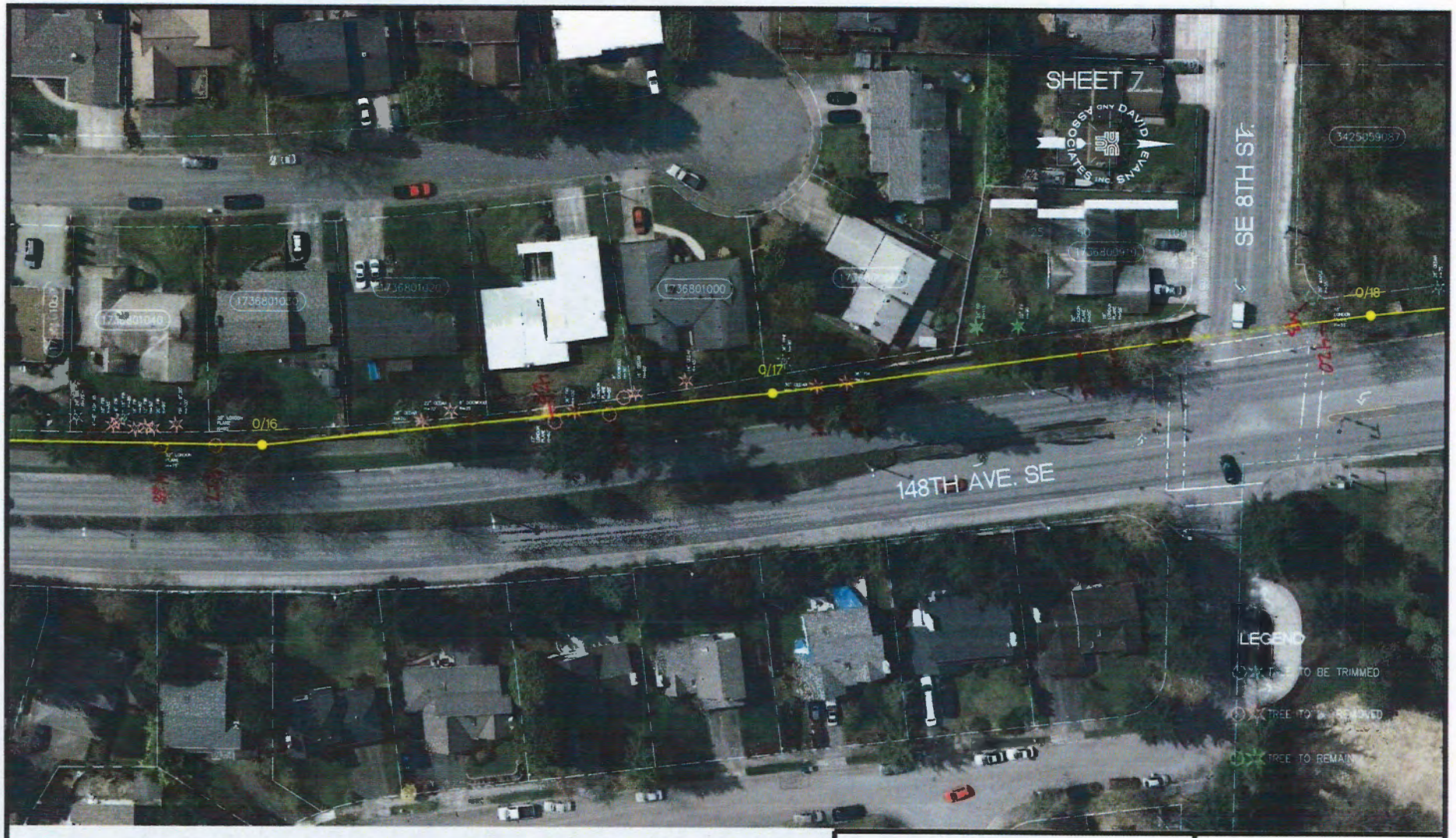


PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

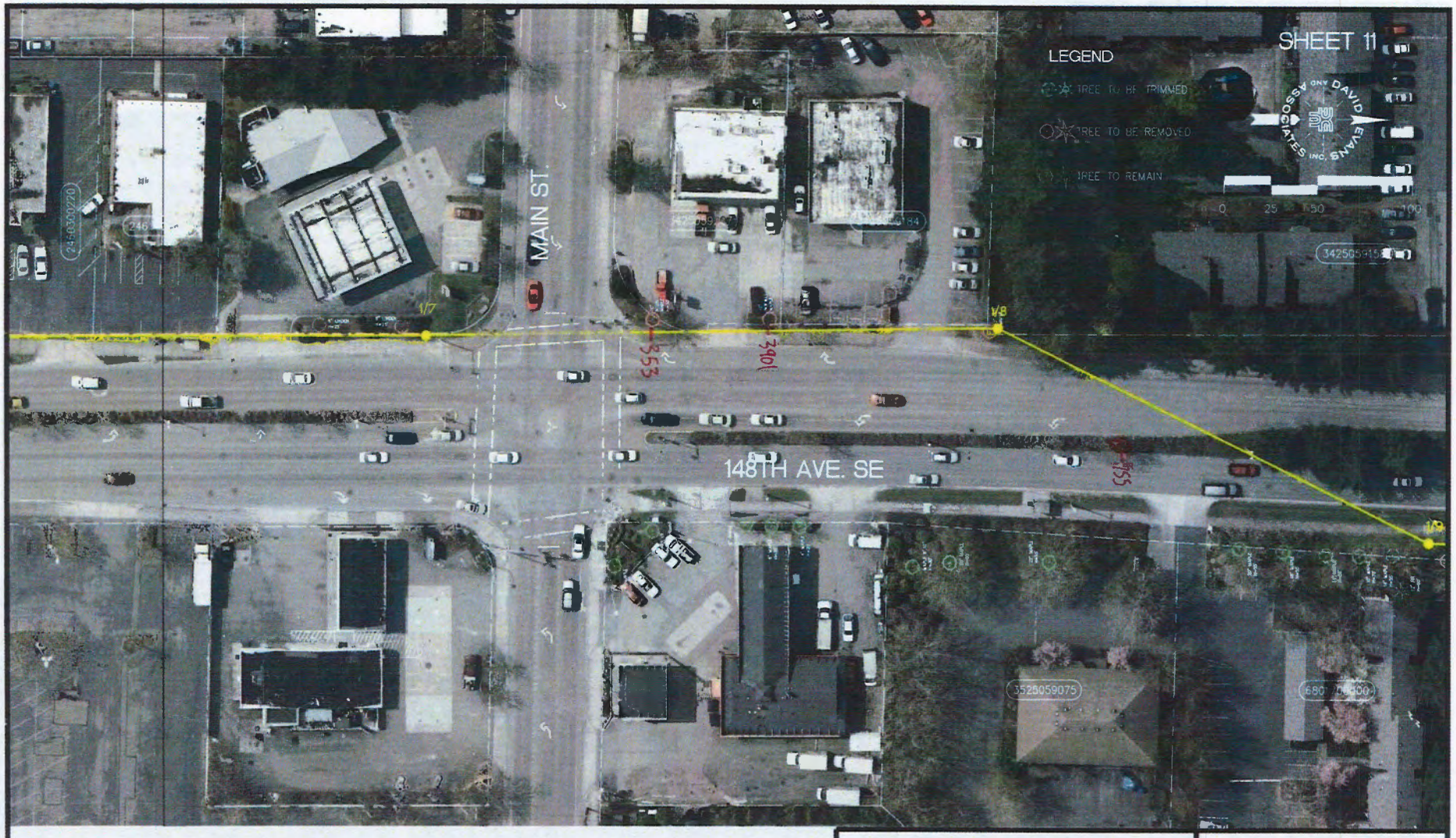
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

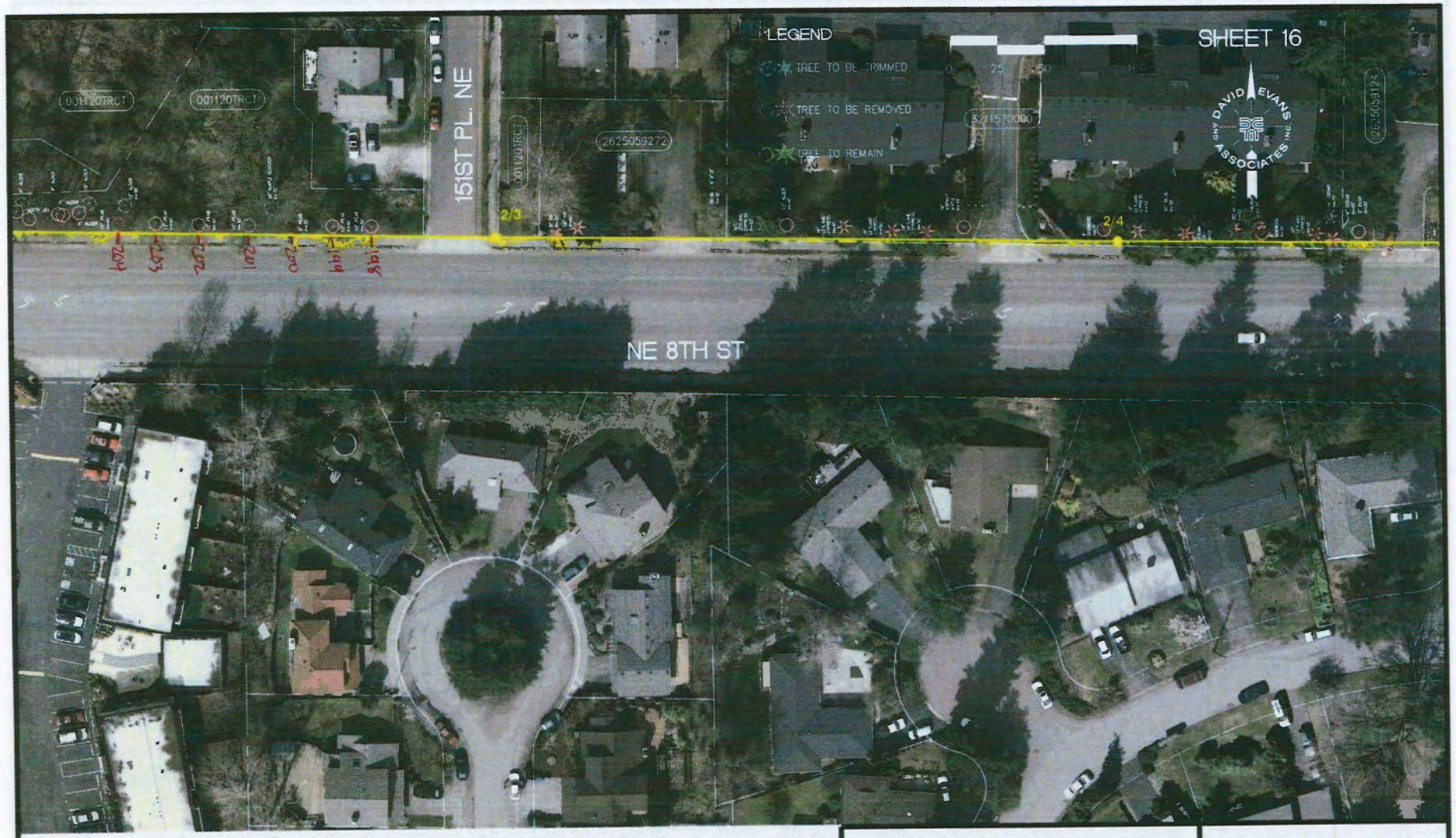
PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

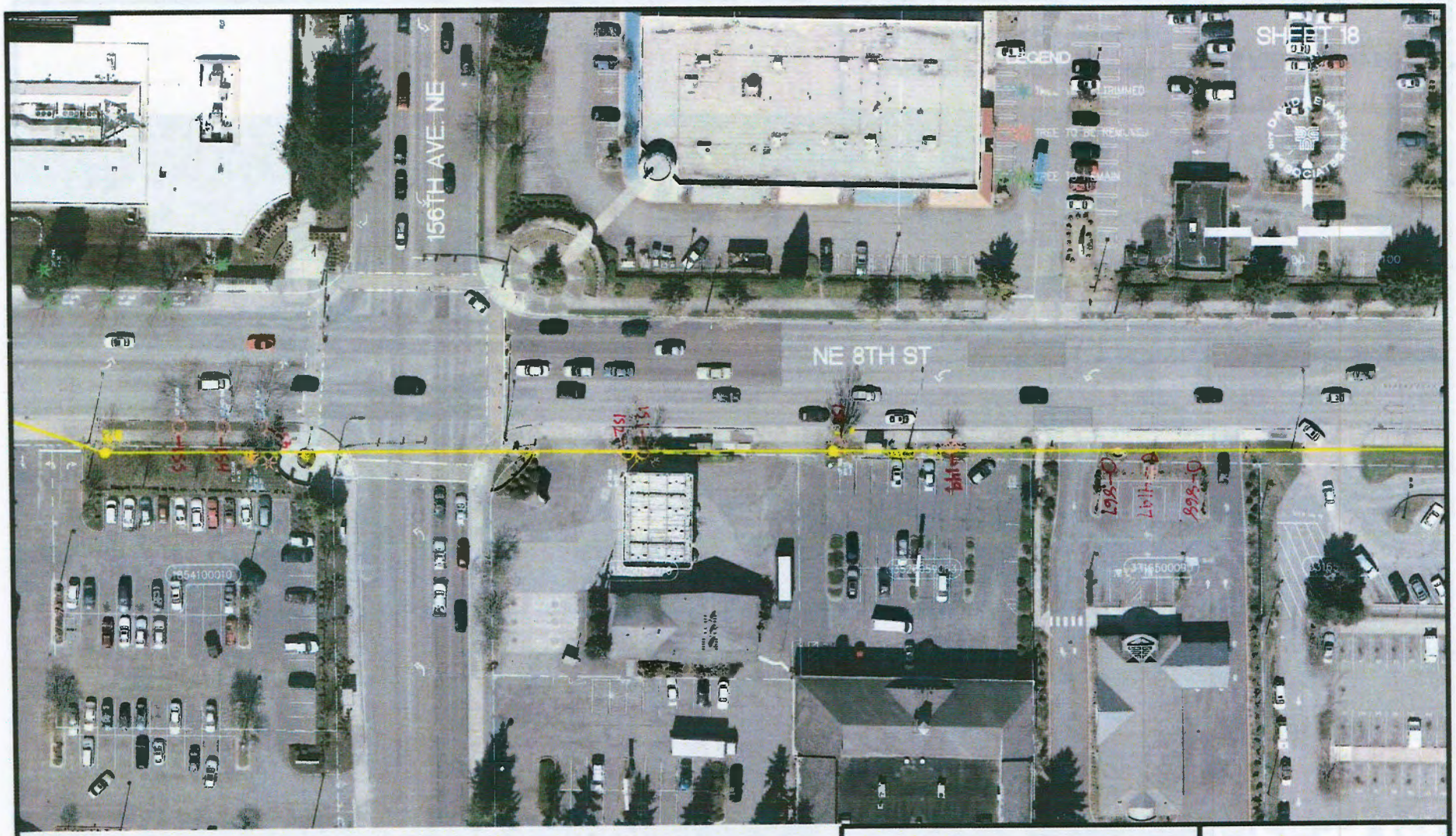
PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY

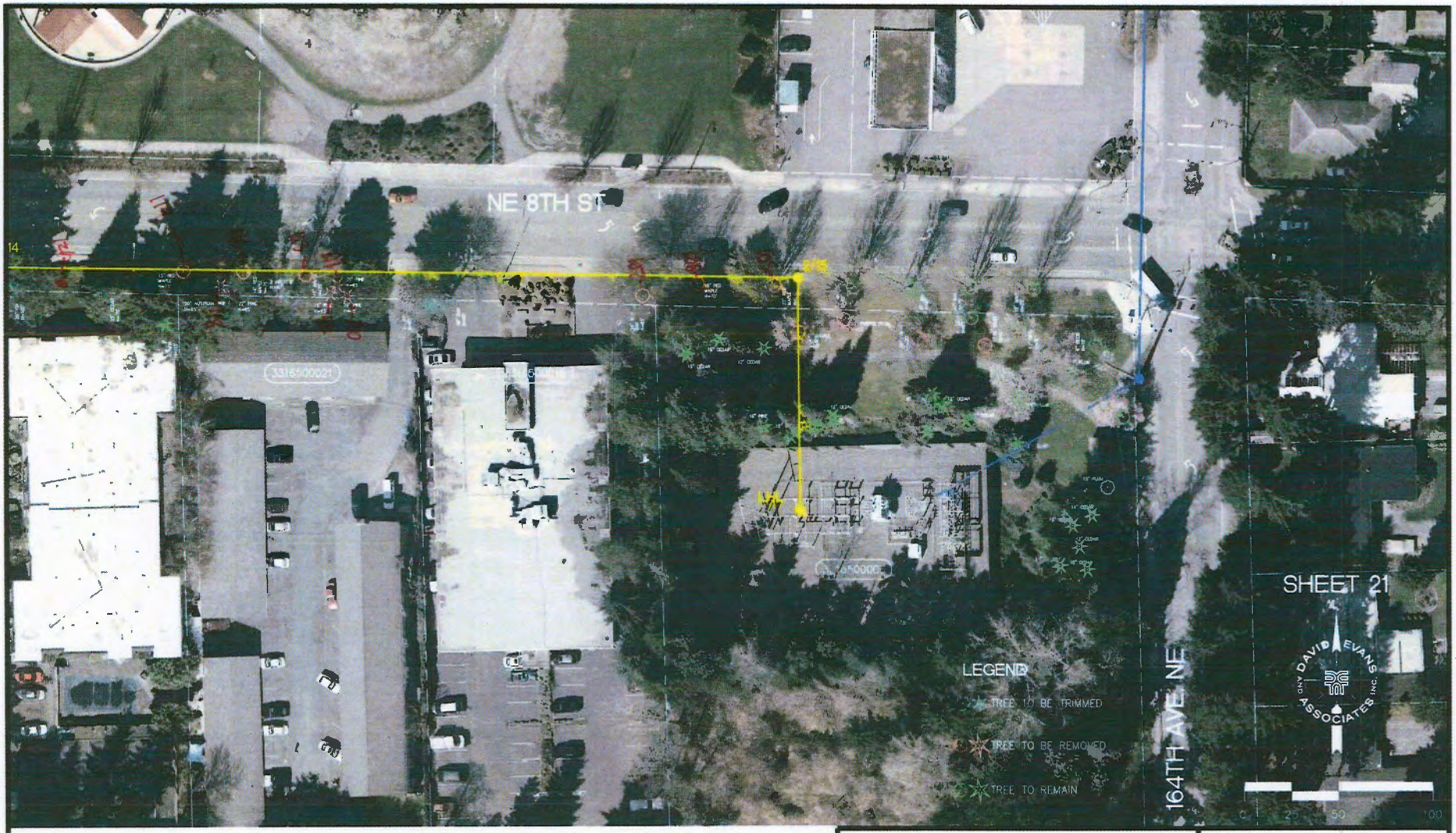
The Energy To Do Great Things

PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE

CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things



PLOT DATE: 06-05-2012

LAKE HILLS - PHANTOM LAKE 115KV TRANSMISSION LINE
CITY OF BELLEVUE, KING COUNTY, WASHINGTON

PUGET SOUND ENERGY
The Energy To Do Great Things

Tree #	Species	Trunk Diameter (inches)		Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Bellevue Appraised Value	Notes
SE 16th																								
484	Pseudotsuga menziesii	31	c		380	3	57	739.37	7.065	732	41724	42104	75	31578	72	22736.16	70	70	60	67	15233	100%	$ 15,200.00	shaded on the south side, on slope
483	Thuja plicata	25.5	c		380	3	57	510.45	7.065	503	28671	29051	75	21788.25	66	14380.25	70	60	60	63	9059.6	100%	$ 9,100.00	shaded on the south side, on slope, multipke trunks with narrow angle of attachment
482	Thuja plicata	18	c		380	3	57	254.34	7.065	247	14079	14459	75	10844.25	69	7482.533	70	60	60	63	4714	100%	$ 4,710.00	shaded on the south side, on slope
481	Thuja plicata	6.2	c		380	3	57	30.175	7.065	23	1311	1691	75	1268.25	50	634.125	70	40	60	57	361.45	100%	$ 360.00	shaded on the south side, on slope
480	Thuja plicata	6.4	c		380	3	57	32.154	7.065	25	1425	1805	75	1353.75	50	676.875	70	40	60	57	385.82	100%	$ 390.00	shaded on the south side, on slope
479	Thuja plicata	7	c		380	3	57	38.465	7.065	31	1767	2147	75	1610.25	63	1014.458	70	40	60	57	578.24	100%	$ 580.00	shaded on the south side, on slope
478	Thuja plicata	11	c		380	3	57	94.985	7.065	88	5016	5396	75	4047	69	2792.43	70	60	60	63	1759.2	100%	$ 1,760.00	shaded on the south side, on slope
477	Thuja plicata	7.6	c		380	3	57	45.342	7.065	38	2166	2546	75	1909.5	69	1317.555	70	40	60	57	751.01	100%	$ 750.00	shaded on the south side, on slope
476	Thuja plicata	8.2	c		380	3	57	52.783	7.065	46	2622	3002	75	2251.5	69	1553.535	70	40	60	57	885.51	100%	$ 890.00	shaded on the south side, on slope
475	Thuja plicata	14.7	c		380	3	57	169.63	7.065	163	9291	9671	75	7253.25	69	5004.743	70	60	60	63	3153	100%	$ 3,150.00	shaded on the south side, on slope
474	Thuja plicata	10.2	c		380	3	57	81.671	7.065	75	4275	4655	75	3491.25	69	2408.963	70	40	60	57	1373.1	100%	$ 1,370.00	shaded on the south side, on slope
473	Thuja plicata	21.5	c		380	3	57	362.87	7.065	356	20292	20672	75	15504	69	10697.76	70	60	60	63	6739.6	100%	$ 6,700.00	shaded on the south side, on slope
472	Thuja plicata	34	c		380	3	57	881.94	7.065	875	49875	50255	75	37691.25	66	24876.23	70	70	60	67	16667	100%	$ 16,700.00	shaded on the south side, on slope
466	Pseudotsuga menziesii	6.3	c		380	3	57	31.157	7.065	24	1368	1748	75	1311	72	943.92	85	40	60	62	585.23	100%	$ 590.00	root obstruction roadwalk
465	Tsuga heterophylla	13.6	c		380	3	57	145.19	7.065	138	7866	8246	60	4947.6	72	3562.272	85	60	60	68	2422.3	100%	$ 2,420.00	root obstruction curb and parking
464	Pseudotsuga menziesii	15.6	c	10,12	380	3	57	191.04	7.065	184	10488	10868	75	8151	69	5624.19	85	60	60	68	3824.4	100%	$ 3,820.00	codominant trunk with a narrow attchement, shallow roots, root obstruction parking and curb
																							$ 68,490.00	
148th & NE 8th																								
450	Sequoiadendron giganteum	11	c		380	3	57	94.985	7.065	88	5016	5396	95	5126.2	75	3844.65	85	60	60	68	2614.4	100%	$ 2,610.00	
3083	Fagus sylvatica(green beech	13.2	d		480	3	72	136.78	7.065	130	9360	9840	60	5904	75	4428	85	50	60	65	2878.2	100%	$ 2,880.00	16 feet to walk, 13 foot drip line
449	Acer rubrum	13	d		480	3	72	132.67	7.065	126	9072	9552	60	5731.2	72	4126.464	85	50	50	62	2558.4	100%	$ 2,560.00	root obstuction curb and walk, walk being damaged
448	Acer rubrum	15.3	d		480	3	72	183.76	7.065	177	12744	13224	60	7934.4	72	5712.768	85	50	50	62	3541.9	100%	$ 3,540.00	root obstuction curb and walk, walk being damaged
447	Acer rubrum	11.2	d		480	3	72	98.47	7.065	91	6552	7032	60	4219.2	72	3037.824	85	50	50	62	1883.5	100%	$ 1,880.00	root obstruction walk, curb; walkway being damaged, girdling root
446	Acer rubrum	15.8	d		480	3	72	195.97	7.065	189	13608	14088	60	8452.8	72	6086.016	85	50	50	62	3773.3	100%	$ 3,770.00	root obstruction walk and wall
445	Acer rubrum	9.4	d		480	3	72	69.363	7.065	62	4464	4944	60	2966.4	63	1868.832	85	50	50	62	1158.7	100%	$ 1,160.00	root obstruction walk and wall
5429	Sequoiadendron giganteum	16	c		380	3	57	200.96	7.065	194	11058	11438	95	10866.1	75	8149.575	85	40	50	58	4726.8	100%	$ 4,730.00	root obstruction wall, 13 feet to sidewalk
444	Pseudotsuga menziesii	30.4	c		380	3	57	710.13	7.065	703	40071	40451	75	30338.25	72	21843.54	85	60	50	65	14198	100%	$ 14,200.00	root obstrcution walk and wall, buried root flare, irrigation wetting trunk
3076	Liquidambar styraciflua(Am	14.5	d		480	3	72	165.05	7.065	158	11376	11856	65	7706.4	75	5779.8	85	40	60	62	3583.5	100%	$ 3,580.00	root obstruction ans infrastructure damage
443	Liquidambar styraciflua	11.2	d		480	3	72	98.47	7.065	91	6552	7032	65	4570.8	69	3153.852	85	40	60	62	1955.4	100%	$ 1,960.00	
3014	Liquidambar styraciflua(Am	14.4	d		480	3	72	162.78	7.065	156	11232	11712	65	7612.8	72	5481.216	85	40	60	62	3398.4	100%	$ 3,400.00	root obstruction ans infrastructure damage
3007	Pseudotsuga menziesii(Dou	28.6	c		380	3	57	642.1	7.065	635	36195	36575	75	27431.25	69	18927.56	85	60	60	68	12871	100%	$ 12,900.00	root flare buried, low live crown ratio east side, 24 feet to curb, roots shallow
442	Pseudotsuga menziesii	27.2	c		380	3	57	580.77	7.065	574	32718	33098	75	24823.5	72	17872.92	85	60	60	68	12154	100%	$ 12,200.00	buried root flare
441	Quercus coccinea	12.4	d		480	3	72	120.7	7.065	114	8208	8688	95	8253.6	72	5942.592	85	60	50	65	3862.7	100%	$ 3,860.00	root obstruction curb
3004	Quercus palustris(pin oak)	15.4	d		480	3	72	186.17	7.065	179	12888	13368	70	9357.6	72	6737.472	85	40	50	58	3907.7	100%	$ 3,910.00	root infrastructure damage, root obstruction
3003	Quercus palustris(pin oak)	15	d		480	3	72	176.63	7.065	170	12240	12720	70	8904	75	6678	85	40	50	58	3873.2	100%	$ 3,870.00	root obstruction
3001	Quercus palustris(pin oak)	17.2	d		480	3	72	232.23	7.065	225	16200	16680	70	11676	72	8406.72	85	40	50	58	4875.9	100%	$ 4,880.00	root infrastructure damage, root obstruction
5487	Quercus palustris(pin oak)	14.4	d		480	3	72	162.78	7.065	156	11232	11712	70	8198.4	75	6148.8	85	40	50	58	3566.3	100%	$ 3,570.00	
5491	Quercus palustris(pin oak)	14.6	d		480	3	72	167.33	7.065	160	11520	12000	70	8400	72	6048	85	40	50	58	3507.8	100%	$ 3,510.00	root obstruction walk, wall
440	Platanus acerifolia	20	d		480	3	72	314	7.065	307	22104	22584	70	15808.8	72	11382.34	85	40	50	58	6601.8	100%	$ 6,600.00	root obstruction curb and walk, girdling root, nails in trunk
439	Platanus acerifolia	14	d		480	3	72	153.86	7.065	147	10584	11064	70	7744.8	72	5576.256	85	40	50	58	3234.2	100%	$ 3,230.00	root obstruction rockery
438	Platanus acerifolia	10	d		480	3	72	78.5	7.065	71	5112	5592	70	3914.4	72	2818.368	85	40	60	62	1747.4	100%	$ 1,750.00	root obstruction curb
437	Cornus kousa	6	d		480	3	72	28.26	7.065	21	1512	1992	90	1792.8	75	1344.6	85	30	60	58	779.87	100%	$ 780.00	why remove if not growing large?
Q3	Pseudotsuga menziesii	20.5	c		380	3	57	329.9	7.065	323	18411	18791	75	14093.25	75	10569.94	85	60	60	68	7187.6	100%	$ 7,200.00	not shown to need pruning but likely will
P3	Pseudotsuga menziesii	22	c		380	3	57	379.94	7.065	373	21261	21641	75	16230.75	75	12173.06	85	60	60	68	8277.7	100%	$ 8,300.00	not shown to need pruning but likely will
436	Pseudotsuga menziesii	20	c		380	3	57	314	7.065	307	17499	17879	75	13409.25	72	9654.66	85	40	60	62	5985.9	100%	$ 6,000.00	Park/openspace area, root obstruction vault, invasive species english ivy at base
O3	Cedrus deodara	12.8	c		380	3	57	128.61	7.065	122	6954	7334	80	5867.2	69	4048.368	85	40	60	62	2510	100%	$ 2,510.00	possible removal if greater than 50% of the foliage is removed, root obstruction rockery, narrow angle of attchment between leads,, marginal seam
435	Populus tremuloides	10.7	d		480	3	72	89.875	7.065	83	5976	6456	40	2582.4	69	1781.856	85	40	40	55	980.02	100%	$ 980.00	Park/openspace area, root obstruction curb
434	Populus tremuloides	10.5	d		480	3	72	86.546	7.065	79	5688	6168	40	2467.2	72	1776.384	85	40	40	55	977.01	100%	$ 980.00	Park/openspace area, root obstruction curb
433	Quercus palustris	15	d		480	3	72	176.63	7.065	170	12240	12720	85	10812	72	7784.64	85	60	60	68	5293.6	100%	$ 5,300.00	Park/open space area, root obstruction rockery
N3	Quercus palustris	14.3	d		480	3	72	160.52	7.065	153	11016	11496	85	9771.6	72	7035.552	85	60	60	68	4784.2	100%	$ 4,780.00	18 feet to back of curb, park walkway area, low live crown ratio on east side due to shading
432	Quercus palustris	14.7	d		480	3	72	169.63	7.065	163	11736	12216	85	10383.6	75	7787.7	70	60	60	63	4906.3	100%	$ 4,910.00	Park/open space area
934	Liquidambar styraciflua(Am	11.2	d		480	3	72	98.47	7.065	91	6552	7032	95	6680.4	75	5010.3	85	50	60	65	3256.7	100%	$ 3,260.00	
933	Liquidambar styraciflua(Am	15.7	d		480	3	72	193.49	7.065	186	13392	13872	65	9016.8	72	6492.096	85	50	60	65	4219.9	100%	$ 4,220.00	root obstruction wall, 16 feet from walk
10485	Sequoiadendron giganteum	40	c		380	3	57	1149	7.065	1142	65094	65474	95	62200.3	75	46650.23	85	60	60	68	31722	100%	$ 31,700.00	root obstruction wall, 20 foot drip line radius

431	Platanus acerifolia	18.7 d	480	3	72	274.51	7.065	267	19224	19704	70	13792.8	72	9930.816	70	60	30	53	5263.3	100%	$	5,300.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose, pavement recently fixed
430	Platanus acerifolia	15.8 d	480	3	72	195.97	7.065	189	13608	14088	70	9861.6	69	6804.504	70	60	30	53	3606.4	100%	$	3,610.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose, cracking [pavement
429	Platanus acerifolia	18 d	480	3	72	254.34	7.065	247	17784	18264	70	12784.8	72	9205.056	70	60	30	53	4878.7	100%	$	4,880.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose, cracking [pavement
428	Platanus acerifolia	22 d	480	3	72	379.94	7.065	373	26856	27336	70	19135.2	72	13777.34	70	60	30	53	7302	100%	$	7,300.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose
427	Platanus acerifolia	28.9 d	480	3	72	655.64	7.065	649	46728	47208	70	33045.6	72	23792.83	70	60	30	53	12610	100%	$	12,600.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose
426	Platanus acerifolia	17.4 d	480	3	72	237.67	7.065	231	16632	17112	70	11978.4	69	8265.096	70	60	30	53	4380.5	100%	$	4,380.00	root obstruction walkway and wall, maintain clearence over walkway, softens wall, low level of anthracnose
425	Platanus acerifolia	20.4 d	480	3	72	326.69	7.065	320	23040	23520	70	16464	69	11360.16	70	60	30	53	6020.9	100%	$	6,000.00	root obstruction walkway and wall on three sides, maintain clearence over walkway, softens wall, low level of anthracnose
424	Thuja plicata	31 c	380	3	57	739.37	7.065	732	41724	42104	75	31578	69	21788.82	70	60	40	57	12420	100%	$	12,400.00	root obstruction wall and walkway, new sidewalk recently established
423	Pseudotsuga menziesii	36 c	380	3	57	973.64	7.065	967	55119	55499	75	41624.25	56	23309.58	70	60	40	57	13286	100%	$	13,300.00	root obstruction wall and walkway, trunk wound, decay at the base of the tree, fruiting body, second lead removed in past, new walkway recently established
422	Platanus acerifolia	20.3 d	480	3	72	323.49	7.065	316	22752	23232	70	16262.4	66	10733.18	70	40	50	53	5688.6	100%	$	5,700.00	root obstruction walkway and wall, crack and lift pavement, low level anthracnose in canopy
421	Platanus acerifolia	19.3 d	480	3	72	292.4	7.065	285	20520	21000	70	14700	72	10584	70	40	50	53	5609.5	100%	$	5,600.00	root obstructionnwalkway and wall, crack and lift pavement
M3	Platanus acerifolia	20 d	480	3	72	314	7.065	307	22104	22584	70	15808.8	72	11382.34	85	40	50	58	6601.8	100%	$	6,600.00	root obstruction walkway, crack and lift pavement, 14 feet to back of walk
420	Platanus acerifolia	18 d	480	3	72	254.34	7.065	247	17784	18264	70	12784.8	72	9205.056	85	40	50	58	5338.9	100%	$	5,300.00	root obstruction walkway, crack and lift pavement
L3	Thuja plicata	28 c	480	3	72	615.44	7.065	608	43776	44256	90	39830.4	72	28677.89	85	40	40	55	15773	100%	$	15,800.00	edge of a residential area, english ivy on trunk, root obstruction walkway, 7 feet back of walk
419	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	10	40	45	100.85	100%	$	100.00	declining, low risk to walkway
K3	Alnus rubra	4 d	480	3	72	12.56	7.065	5	360	840	45	378	25	94.5	85	0	0	28	26.46	0%	$	-	Remove
418	Alnus rubra	8 d	480	3	72	50.24	7.065	43	3096	3576	45	1609.2	69	1110.348	85	10	40	45	499.66	100%	$	500.00	
J3	Alnus rubra	4 d	480	3	72	12.56	7.065	5	360	840	45	378	38	143.64	85	10	40	45	64.638	100%	$	60.00	removed if topped, 5 feet back of walk
417	Alnus rubra	4 d	480	3	72	12.56	7.065	5	360	840	45	378	25	94.5	85	10	40	45	42.525	100%	$	40.00	declining, low risk
416	Alnus rubra	4 d	480	3	72	12.56	7.065	5	360	840	45	378	38	143.64	85	10	40	45	64.638	100%	$	60.00	previously topped
415	Alnus rubra	7 d	480	3	72	38.465	7.065	31	2232	2712	45	1220.4	50	610.2	85	10	40	45	274.59	100%	$	270.00	crown dieback 70%
414	Alnus rubra	4 d	480	3	72	12.56	7.065	5	360	840	45	378	25	94.5	85	0	0	28	26.46	100%	$	-	remove - dead, low risk tree
413	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	56	501.984	85	10	40	45	225.89	100%	$	230.00	
I3	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	50	448.2	85	10	40	45	201.69	100%	$	200.00	
412	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	10	40	45	100.85	100%	$	100.00	low risk
411	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	38	340.632	85	10	40	45	153.28	100%	$	150.00	
410	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	56	501.984	85	10	40	45	225.89	100%	$	230.00	
H3	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	56	501.984	85	10	40	45	225.89	25%	$	60.00	6 feet to back of walk, remove if topped
G3	Alnus rubra	12 d	480	3	72	113.04	7.065	106	7632	8112	45	3650.4	56	2044.224	85	10	40	45	919.9	100%	$	920.00	14 feet to back of walk
409	Alnus rubra	8 d	480	3	72	50.24	7.065	43	3096	3576	45	1609.2	56	901.152	85	10	40	45	405.52	100%	$	410.00	No tag, wetland, greenbelt, edge trees
408	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	63	564.732	85	10	40	45	254.13	100%	$	250.00	No tag, wetland, greenbelt, edge trees
F3	Alnus rubra	8 d	480	3	72	50.24	7.065	43	3096	3576	45	1609.2	25	402.3	85	10	40	45	181.04	0%	$	-	10 feet to back of walk, remove if topped
E3	Alnus rubra	16 d	480	3	72	200.96	7.065	194	13968	14448	45	6501.6	69	4486.104	85	20	40	48	2153.3	100%	$	2,150.00	11 feet to back of trunk
407	Alnus rubra	12.1 d 9,8	480	3	72	114.93	7.065	108	7776	8256	45	3715.2	66	2452.032	85	20	40	48	1177	100%	$	1,180.00	pst tunk failure, new growth at this point
406	Populus trichocarpa	36 d	480	3	72	973.64	7.065	967	69624	70104	40	28041.6	66	18507.46	85	30	40	52	9623.9	100%	$	9,600.00	root obstruction path, leaf with black spot
405	Populus trichocarpa	34 d	480	3	72	881.94	7.065	875	63000	63480	40	25392	66	16758.72	85	30	40	52	8714.5	100%	$	8,700.00	root obstruction path, leaf with black spot, no tag
404	Populus trichocarpa	32 d	480	3	72	787.56	7.065	780	56160	56640	40	22656	66	14952.96	85	30	40	52	7775.5	100%	$	7,800.00	root obstruction path, leaf with black spot
403	Betula pendula	5 d	480	3	72	19.625	7.065	13	936	1416	50	708	66	467.28	85	20	40	48	224.29	100%	$	220.00	
402	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	0	0	28	62.748	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
401	Alnus rubra	10 d	480	3	72	78.5	7.065	71	5112	5592	45	2516.4	25	629.1	85	0	0	28	176.15	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
D3	Alnus rubra	12 d	480	3	72	113.04	7.065	106	7632	8112	45	3650.4	56	2044.224	85	20	40	48	981.23	10%	$	100.00	past top failure, canopy asymetrical
400	Alnus rubra	12 d	480	3	72	113.04	7.065	106	7632	8112	45	3650.4	50	1825.2	85	20	40	48	876.1	100%	$	880.00	No tag, wetland, greenbelt, edge trees
399	Alnus rubra	6 d	480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	0	0	28	62.748	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
398	Alnus rubra	5 d	480	3	72	19.625	7.065	13	936	1416	45	637.2	25	159.3	85	0	0	28	44.604	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
397	Alnus rubra	5 d	480	3	72	19.625	7.065	13	936	1416	45	637.2	25	159.3	85	0	0	28	44.604	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
396	Salix lucida	5 d	480	3	72	19.625	7.065	13	936	1416	40	566.4	25	141.6	85	0	0	28	39.648	100%	$	-	No tag, wetland, greenbelt, edge trees; dead or severely declining
C3	Salix lucida	12 d	480	3	72	113.04	7.065	106	7632	8112	40	3244.8	28	908.544	85	10	40	45	408.84	0%	$	-	scrub willow with multiple failures
395	Salix lucida	10 d	480	3	72	78.5	7.065	71	5112	5592	40	2236.8	50	1118.4	85	10	40	45	503.28	100%	$	500.00	No tag, wetland, greenbelt, edge trees

394	Salix lucida	13.8 d	8,8,8	480	3	72	149.5	7.065	142	10224	10704	40	4281.6	69	2954.304	85	20	40	48	1418.1	100%	$	1,420.00	No tag, wetland, greenbelt, edge trees, cluster
393	Populus trichocarpa	24 d		480	3	72	452.16	7.065	445	32040	32520	40	13008	66	8585.28	85	30	40	52	4464.3	100%	$	4,460.00	
392	Salix lucida	10 d		480	3	72	78.5	7.065	71	5112	5592	40	2236.8	50	1118.4	85	10	40	45	503.28	100%	$	500.00	No tag, wetland, greenbelt, edge trees
391	Alnus rubra	6 d		480	3	72	28.26	7.065	21	1512	1992	45	896.4	69	618.516	85	10	40	45	278.33	100%	$	280.00	No tag, wetland, greenbelt, edge trees
390	Salix lucida	10 d		480	3	72	78.5	7.065	71	5112	5592	40	2236.8	47	1051.296	85	0	0	28	294.36	100%	$	-	No tag, wetland, greenbelt, edge trees; fruiting bodies in upper trunk. Low to moderate risk to road - Remove
389	Salix lucida	13.2 d	5,5,5,5,	480	3	72	136.78	7.065	130	9360	9840	40	3936	75	2952	85	40	40	55	1623.6	100%	$	1,620.00	No tag, wetland, greenbelt, edge trees; cluster of trees
388	Betula pendula	18 d		480	3	72	254.34	7.065	247	17784	18264	50	9132	59	5387.88	85	20	40	48	2586.2	100%	$	2,590.00	No tag, wetland, greenbelt, edge trees
387	Betula pendula	12 d		480	3	72	113.04	7.065	106	7632	8112	50	4056	63	2555.28	85	20	40	48	1226.5	100%	$	1,230.00	No tag, wetland, greenbelt, edge trees
386	Salix lucida	23.2 d	6,8,10,:	480	3	72	422.52	7.065	415	29880	30360	40	12144	50	6072	85	20	40	48	2914.6	100%	$	2,910.00	No tag, wetland, greenbelt, edge trees
385	Salix lucida	12 d		480	3	72	113.04	7.065	106	7632	8112	40	3244.8	50	1622.4	85	20	40	48	778.75	100%	$	780.00	No tag, wetland, greenbelt, edge trees
384	Betula pendula	3 d		480	3	72	7.065	7.065	0	0	480	50	240	50	120	85	10	10	35	42	100%	$	40.00	No tag, wetland, greenbelt, edge trees, suppressed by salix
383	Salix lucida	4 d		480	3	72	12.56	7.065	5	360	840	40	336	72	241.92	85	20	40	48	116.12	100%	$	120.00	No tag, wetland, greenbelt, edge trees
382	Salix lucida	5 d		480	3	72	19.625	7.065	13	936	1416	40	566.4	72	407.808	85	20	40	48	195.75	100%	$	200.00	No tag, wetland, greenbelt, edge trees
381	Salix lucida	5 d		480	3	72	19.625	7.065	13	936	1416	40	566.4	72	407.808	85	20	40	48	195.75	100%	$	200.00	No tag, wetland, greenbelt, edge trees
380	Salix lucida	9.2 d	6,7	480	3	72	66.442	7.065	59	4248	4728	40	1891.2	75	1418.4	85	20	40	48	680.83	100%	$	680.00	No tag, wetland, greenbelt, edge trees
379	Salix lucida	8 d		480	3	72	50.24	7.065	43	3096	3576	40	1430.4	44	629.376	85	20	40	48	302.1	100%	$	300.00	No tag, wetland, greenbelt, edge trees; may have failed at roots in past
378	Salix lucida	6 d		480	3	72	28.26	7.065	21	1512	1992	40	796.8	25	199.2	85	0	0	28	55.776	100%	$	-	No tag, wetland, greenbelt, edge trees; dead, remove, lean to road
377	Salix lucida	8 d		480	3	72	50.24	7.065	43	3096	3576	40	1430.4	50	715.2	85	10	40	45	321.84	100%	$	320.00	No tag, wetland, greenbelt, edge trees
376	Salix lucida	12 d		480	3	72	113.04	7.065	106	7632	8112	40	3244.8	25	811.2	85	10	10	35	283.92	100%	$	280.00	No tag, wetland, greenbelt, edge trees; diseased, failing parts, low risk
375	Alnus rubra	6 d		480	3	72	28.26	7.065	21	1512	1992	45	896.4	50	448.2	85	10	40	45	201.69	100%	$	200.00	No tag, wetland, greenbelt, edge trees
374	Alnus rubra	6 d		480	3	72	28.26	7.065	21	1512	1992	45	896.4	44	394.416	85	10	10	35	138.05	100%	$	140.00	No tag, wetland, greenbelt, edge trees; declining from the top down, standing in water in CRZ
373	Populus trichocarpa	20 d		480	3	72	314	7.065	307	22104	22584	40	9033.6	59	5329.824	85	30	20	45	2398.4	100%	$	2,400.00	No tag, wetland, greenbelt, edge trees; root obstruction walkway, infrastructure damage, crown dieback 5%
372	Salix scouloriana	12 d		480	3	72	113.04	7.065	106	7632	8112	30	2433.6	41	997.776	85	20	40	48	478.93	100%	$	480.00	No tag, wetland, greenbelt, edge trees, narrow angle of attachment at junction, previous lead removal
371	Salix lucida	12 d		480	3	72	113.04	7.065	106	7632	8112	40	3244.8	44	1427.712	85	20	40	48	685.3	100%	$	690.00	No tag, wetland, greenbelt, edge trees; crown decline 10%
370	Salix scouloriana	10 d		480	3	72	78.5	7.065	71	5112	5592	30	1677.6	75	1258.2	85	30	40	52	654.26	100%	$	650.00	No tag, wetland, greenbelt, edge trees
369	Salix lucida	5 d		480	3	72	19.625	7.065	13	936	1416	40	566.4	37	209.568	85	10	40	45	94.306	100%	$	90.00	No tag, wetland, greenbelt, edge trees
368	Salix lucida	10 d		480	3	72	78.5	7.065	71	5112	5592	40	2236.8	50	1118.4	85	30	40	52	581.57	100%	$	580.00	No tag, wetland, greenbelt, edge trees
367	Salix lucida	10 d		480	3	72	78.5	7.065	71	5112	5592	40	2236.8	44	984.192	85	20	40	48	472.41	100%	$	470.00	No tag, wetland, greenbelt, edge trees; broken scaffold branches, crown decline 20%
366	Salix scouloriana	17.5 d	8,10, 1:	480	3	72	240.41	7.065	233	16776	17256	30	5176.8	47	2433.096	85	30	40	52	1265.2	100%	$	1,270.00	No tag, wetland, greenbelt, edge trees
365	Salix lucida	18.5 d	10,10,1	480	3	72	268.67	7.065	262	18864	19344	40	7737.6	50	3868.8	85	30	40	52	2011.8	100%	$	2,010.00	No tag, wetland, greenbelt, edge trees
364	Salix lucida	5 d		480	3	72	19.625	7.065	13	936	1416	40	566.4	37	209.568	85	10	40	45	94.306	100%	$	90.00	No tag, wetland, greenbelt, edge trees
363	Salix lucida	10 d		480	3	72	78.5	7.065	71	5112	5592	40	2236.8	37	827.616	85	10	40	45	372.43	100%	$	370.00	No tag, wetland, greenbelt, edge trees; previous top cut
362	Alnus rubra	5 d		480	3	72	19.625	7.065	13	936	1416	45	637.2	72	458.784	85	30	40	52	238.57	100%	$	240.00	No tag, wetland, greenbelt, edge trees
361	Alnus rubra	5 d		480	3	72	19.625	7.065	13	936	1416	45	637.2	25	159.3	85	0	0	28	44.604	100%	$	-	Remove: Dead, No tag, wetland, greenbelt, edge trees
360	Salix lucida	15.6 d	4,8,8,1(	480	3	72	191.04	7.065	184	13248	13728	40	5491.2	50	2745.6	85	30	40	52	1427.7	100%	$	1,430.00	No tag, wetland, greenbelt, edge trees; narrow angle of attachment, bark loss from trunk, Crown dieback 20%
359	Salix lucida	22 d	8,12,12	480	3	72	379.94	7.065	373	26856	27336	40	10934.4	44	4811.136	85	30	40	52	2501.8	100%	$	2,500.00	No tag, wetland, greenbelt, edge trees; narrow angle of attachment, bark loss from trunk, Crown dieback 20%
##	Scouler's Willow; no numbe	5.5 d		480	3	72	23.746	7.065	17	1224	1704	30	511.2	25	127.8	85	30	40	52	66.456	100%	$	70.00	trunk cankers, trunk failure, Willow borer
##	Scouler's Willow; no numbe	7.9 d		480	3	72	48.992	7.065	42	3024	3504	30	1051.2	66	693.792	85	30	40	52	360.77	100%	$	360.00	Trunk cankers, willow borer
##	Scouler's Willow; no numbe	14.3 d	9.2, 11	480	3	72	160.52	7.065	153	11016	11496	30	3448.8	66	2276.208	85	30	40	52	1183.6	100%	$	1,180.00	Trunk cankers, willow borer
358	Salix scouloriana	15.2 d	4,6,9,1(	480	3	72	181.37	7.065	174	12528	13008	30	3902.4	67	2614.608	85	30	40	52	1359.6	100%	$	1,360.00	No tag, wetland, greenbelt, edge trees
357	Alnus rubra	8 d		480	3	72	50.24	7.065	43	3096	3576	45	1609.2	75	1206.9	85	30	40	52	627.59	100%	$	630.00	No tag, wetland, greenbelt, edge trees
356	Salix lucida	18 d		480	3	72	254.34	7.065	247	17784	18264	40	7305.6	59	4310.304	85	30	40	52	2241.4	100%	$	2,240.00	insect frass at base, 19 feet to back of walk
921	Acer platanoides(norway m	10.9 d		480	3	72	93.266	7.065	86	6192	6672	75	5004	66	3302.64	85	50	50	62	2047.6	100%	$	2,050.00	
353	Acer platanoides	12.2 d		480	3	72	116.84	7.065	110	7920	8400	75	6300	69	4347	85	50	50	62	2695.1	100%	$	2,700.00	Root obstruction: curb, walk; nails
3901	Acer platanoides(norway m	10.4 d		480	3	72	84.906	7.065	78	5616	6096	75	4572	66	3017.52	85	50	50	62	1870.9	100%	$	1,870.00	
755	Acer platanoides(norway m	10 d		480	3	72	78.5	7.065	71	5112	5592	75	4194	69	2893.86	85	40	70	65	1881	100%	$	1,880.00	Root obstruction: curb, walk; nails
351	Acer platanoides	12.2 d		480	3	72	116.84	7.065	110	7920	8400	75	6300	72	4536	80	60	50	63	2857.7	100%	$	2,860.00	Root obstruction: walk, curb; replaced walk
350	Acer platanoides	14.5 d		480	3	72	165.05	7.065	158	11376	11856	75	8892	72	6402.24	80	60	50	63	4033.4	100%	$	4,030.00	Root obstruction : walk, curb
349	Acer platanoides	16.3 d		480	3	72	208.57	7.065	202	14544	15024	75	11268	72	8112.96	80	60	50	63	5111.2	100%	$	5,100.00	Root obstruction : walk, curb
348	Acer platanoides	15.6 d		480	3	72	191.04	7.065	184	13248	13728	75	10296	72	7413.12	80	60	60	67	4966.8	100%	$	4,970.00	Root obstruction: walk
347	Platanus acerifolia	18.8 d		480	3	72	277.45	7.065	270	19440	19920	70	13944	69	9621.36	80	60	60	67	6446.3	100%	$	6,400.00	anthracnose; Root obstruction: curb, walk; past walk replaced; greenbelt
346	Platanus acerifolia	13.4 d		480	3	72	140.95	7.065	134	9648	10128	70	7089.6	69	4891.824	80	60	60	67	3277.5	100%	$	3,280.00	ROW; anthracnose; Root obstruction: walk, curb; greenbelt
332	Acer platanoides	17.5 d		480	3	72	240.41	7.065	233	16776	17256	75	12942	72	9318.24	80	60	50	63	5870.5	100%	$	5,900.00	Root obstruction: curb, walk; replaced walk
331	Acer platanoides	17.7 d		480	3	72	245.93	7.065	239	17208	17688	75	13266	72	9551.52	80	60	50	63	6017.5	100%	$	6,000.00	Root obstruction: curb, walk
944	Platanus acerifolia	16.8 d		480	3	72	221.56	7.065	214	15408	15888	70	11121.6	72	8007.552	80	60	50	63	5044.8	100%	$	5,000.00	anthracnose; Root obstruction: curb, walk; part of ROW
945	Platanus acerifolia	12.5 d		480	3	72	122.66	7.065	116	8352	8832	70	6182.4	72	4451.328	80	60	50	63	2804.3	100%	$	2,800.00	shallow roots, root obstruction walk
946	Platanus acerifolia	14.7 d		480	3	72	169.63	7.065	163	11736	12216	70	8551.2	72	6156.864	80	60	50	63	3878.8	100%	$	3,880.00	part of group in median, tip dieback 30%, root obstruction
330	Platanus acerifolia	8.3 d		480	3	72	54.079	7.065	47	3384	3864	70	2704.8	72	1947.456	80	50	60	63	1226.9	100%	$	1,230.00	anthracnose; Root obstruction: curb, walk; part of ROW
969	Populus tremuloides	11 d		480	3	72	94.985	7.065	88	6336	6816	75	5112	75	3834	80	60	70	70	2683.8	100%	$	2,680.00	

971	Populus tremuloides	8.9 d		480	3	72	62.18	7.065	55	3960	4440	75	3330	75	2497.5	80	60	70	70	1748.3	100%	$	1,750.00	one in group of three
972	Cedrus deodara	17.5 c		380	3	57	240.41	7.065	233	13281	13661	80	10928.8	75	8196.6	80	60	70	70	5737.6	100%	$	5,700.00	part of a designed landscape, lost balance
973	Cedrus deodara	23.7 c	14.5, 1!	380	3	57	440.93	7.065	434	24738	25118	80	20094.4	72	14467.97	80	60	70	70	10128	100%	$	10,100.00	forked trunk, narrow angle of attachment-stable, root obstruction vault, english ivy
329	Thuja plicata	31.2 c		380	3	57	749.06	7.065	742	42294	42674	75	32005.5	69	22083.8	80	60	30	57	12588	100%	$	12,600.00	Root obstruction: walk - 6" away
328	Liquidambar styraciflua	15.8 d		480	3	72	195.97	7.065	189	13608	14088	65	9157.2	72	6593.184	80	40	50	57	3758.1	100%	$	3,760.00	Root obstruction: wall, driveway
327	Liquidambar styraciflua	13.4 d		480	3	72	140.95	7.065	134	9648	10128	65	6583.2	72	4739.904	80	50	40	57	2701.7	100%	$	2,700.00	Root obstruction: walk
326	Liquidambar styraciflua	13.4 d		480	3	72	140.95	7.065	134	9648	10128	65	6583.2	62	4081.584	80	40	40	53	2163.2	100%	$	2,160.00	lost top; Root obstruction: wall, walk; roots cut
325	Liquidambar styraciflua	15.7 d		480	3	72	193.49	7.065	186	13392	13872	65	9016.8	72	6492.096	80	40	50	57	3700.5	100%	$	3,700.00	Root obstruction: walk; sapsucker
324	Pseudotsuga menziesii	17.6 c		380	3	57	243.16	7.065	236	13452	13832	75	10374	75	7780.5	80	60	60	67	5212.9	100%	$	5,200.00	no impact on adjacent trees
323	Pseudotsuga menziesii	6.2 c		380	3	57	30.175	7.065	23	1311	1691	75	1268.25	75	951.1875	80	50	60	63	599.25	100%	$	600.00	
322	Arbutus menziesii	7.3 d		480	3	72	41.833	7.065	35	2520	3000	70	2100	53	1113	80	10	60	50	556.5	100%	$	560.00	
321	Pseudotsuga menziesii	16 c		380	3	57	200.96	7.065	194	11058	11438	75	8578.5	72	6176.52	80	50	50	60	3705.9	100%	$	3,710.00	Root obstruction: wall
P2	Picea abies	16.6 c		380	3	57	216.31	7.065	209	11913	12293	60	7375.8	69	5089.302	80	50	50	60	3053.6	100%	$	3,050.00	RO: wall; codominant; 10+13.3
O2	Picea abies	15.8 c		380	3	57	195.97	7.065	189	10773	11153	60	6691.8	72	4818.096	80	50	50	60	2890.9	100%	$	2,890.00	RO: wall
N2	Picea abies	14.7 c		380	3	57	169.63	7.065	163	9291	9671	60	5802.6	72	4177.872	80	50	50	60	2506.7	100%	$	2,510.00	RO: wall
320	Platanus acerifolia	18 d		480	3	72	254.34	7.065	247	17784	18264	70	12784.8	72	9205.056	85	40	50	58	5338.9	100%	$	5,300.00	root obstruction walkway, crack and lift pavement
319	Alnus rubra	6 d		480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	10	40	45	100.85	100%	$	100.00	declining, low risk to walkway
317	Alnus rubra	5.6 d		480	3	72	24.618	7.065	18	1296	1776	45	799.2	50	399.6	85	10	20	38	151.85	100%	$	150.00	phototropic lean to east
315	Acer macrophyllum	25.7 d	4.5, 12	480	3	72	518.48	7.065	511	36792	37272	60	22363.2	72	16101.5	85	40	50	58	9338.9	100%	$	9,300.00	narrow angle of attachment; slope
314	Acer macrophyllum	15.1 d		480	3	72	178.99	7.065	172	12384	12864	60	7718.4	75	5788.8	85	40	50	58	3357.5	100%	$	3,360.00	Root obstuction: walk; slope
312	Acer palmatum	7.2 d		480	3	72	40.694	7.065	34	2448	2928	80	2342.4	72	1686.528	85	40	60	62	1045.6	100%	$	1,050.00	Root obstruction: walk
310	Acer palmatum	5.6 d		480	3	72	24.618	7.065	18	1296	1776	80	1420.8	69	980.352	85	40	60	62	607.82	100%	$	610.00	Root obstruction: walk
309	Pseudotsuga menziesii	6.8 c		380	3	57	36.298	7.065	29	1653	2033	75	1524.75	72	1097.82	85	50	60	65	713.58	100%	$	710.00	Root obstruction: vault
308	Cedrus deodara	16.2 c		380	3	57	206.02	7.065	199	11343	11723	80	9378.4	72	6752.448	85	70	60	72	4861.8	100%	$	4,860.00	Root obstruction: walk
307	Cedrus deodara	10.2 c		380	3	57	81.671	7.065	75	4275	4655	80	3724	69	2569.56	85	70	60	72	1850.1	100%	$	1,850.00	Root obstruction: walk
306	Cedrus deodara	15.9 c		380	3	57	198.46	7.065	191	10887	11267	80	9013.6	72	6489.792	85	70	60	72	4672.7	100%	$	4,670.00	Root obstruction: walk
305	Cedrus deodara	18.2 c		380	3	57	260.02	7.065	253	14421	14801	80	11840.8	72	8525.376	85	70	60	72	6138.3	100%	$	6,100.00	Root obstruction: walk
303	Acer platanoides	11.6 d		480	3	72	105.63	7.065	99	7128	7608	75	5706	72	4108.32	85	60	60	68	2793.7	100%	$	2,790.00	wide planting bed; roots under asphalt paving
302	Pyrus calleryana	10.1 d		480	3	72	80.078	7.065	73	5256	5736	50	2868	72	2064.96	85	60	50	65	1342.2	100%	$	1,340.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
664	Cedrus deodara	23 c		380	3	57	415.27	7.065	408	23256	23636	80	18908.8	75	14181.6	85	70	70	75	10636	100%	$	10,600.00	Located on a corner, invasive english ivy climbing trunk
1112	Pyrus calleryana	11.4 d		480	3	72	102.02	7.065	95	6840	7320	50	3660	75	2745	85	60	50	65	1784.3	100%	$	1,780.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
1113	Pyrus calleryana	11 d		480	3	72	94.985	7.065	88	6336	6816	50	3408	75	2556	85	60	50	65	1661.4	100%	$	1,660.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
301	Pyrus calleryana	11.7 d		480	3	72	107.46	7.065	100	7200	7680	50	3840	72	2764.8	85	60	50	65	1797.1	100%	$	1,800.00	Root obstruction: walk; intersection; wetland, greenbelt, slope; protection sign attached
300	Pyrus calleryana	15.5 d		480	3	72	188.6	7.065	182	13104	13584	50	6792	72	4890.24	85	60	50	65	3178.7	100%	$	3,180.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
299	Pyrus calleryana	9.6 d		480	3	72	72.346	7.065	65	4680	5160	50	2580	72	1857.6	85	60	50	65	1207.4	100%	$	1,210.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
298	Pyrus calleryana	10.4 d		480	3	72	84.906	7.065	78	5616	6096	50	3048	72	2194.56	85	60	50	65	1426.5	100%	$	1,430.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
297	Pyrus calleryana	8.4 d		480	3	72	55.39	7.065	48	3456	3936	50	1968	72	1416.96	85	60	50	65	921.02	100%	$	920.00	Root obstruction: walk; intersection; wetland, greenbelt, slope
296	Alnus rubra	12.4 d		480	3	72	120.7	7.065	114	8208	8688	45	3909.6	66	2580.336	85	40	40	55	1419.2	100%	$	1,420.00	wetland, greenbelt, slope
H2	Alnus rubra	8 d		480	3	72	50.24	7.065	43	3096	3576	45	1609.2	69	1110.348	85	20	60	55	610.69	30%	$	180.00	wetland, greenbelt, slope; phototropic lean to south
295	Alnus rubra	11 d		480	3	72	94.985	7.065	88	6336	6816	45	3067.2	50	1533.6	85	40	40	55	843.48	100%	$	840.00	wetland, greenbelt, slope; phototropic lean to south
294	Alnus rubra	5 d		480	3	72	19.625	7.065	13	936	1416	45	637.2	50	318.6	85	20	40	48	152.93	100%	$	150.00	wetland, greenbelt, slope; phototropic lean to south
293	Alnus rubra	7 d		480	3	72	38.465	7.065	31	2232	2712	45	1220.4	50	610.2	85	20	40	48	292.9	100%	$	290.00	wetland, greenbelt, slope; phototropic lean to south; poor H/D ratio
292	Alnus rubra	12.5 d		480	3	72	122.66	7.065	116	8352	8832	45	3974.4	69	2742.336	85	40	40	55	1508.3	100%	$	1,510.00	wetland, greenbelt, slope; phototropic lean to south
291	Alnus rubra	6.5 d		480	3	72	33.166	7.065	26	1872	2352	45	1058.4	69	730.296	85	20	40	48	350.54	100%	$	350.00	wetland, greenbelt, slope; phototropic lean to south
E2	Alnus rubra	6.5 d		480	3	72	33.166	7.065	26	1872	2352	45	1058.4	72	762.048	85	20	60	55	419.13	20%	$	80.00	wetland, greenbelt, slope; 14' bow
F2	Alnus rubra	6.5 d		480	3	72	33.166	7.065	26	1872	2352	45	1058.4	72	762.048	85	20	60	55	419.13	20%	$	80.00	wetland, greenbelt, slope; 14' bow
290	Alnus rubra	10.5 d		480	3	72	86.546	7.065	79	5688	6168	45	2775.6	50	1387.8	85	40	40	55	763.29	100%	$	760.00	phototropic lean to south; top decline; wetland, greenbelt, slope
289	Alnus rubra	11.5 d		480	3	72	103.82	7.065	97	6984	7464	45	3358.8	50	1679.4	85	40	40	55	923.67	100%	$	920.00	wetland, greenbelt, slope; phototropic lean to south
288	Alnus rubra	10.3 d		480	3	72	83.281	7.065	76	5472	5952	45	2678.4	34	910.656	85	30	40	52	473.54	100%	$	470.00	wetland, greenbelt; trunk wound
287	Alnus rubra	12.3 d		480	3	72	118.76	7.065	112	8064	8544	45	3844.8	69	2652.912	85	20	40	48	1273.4	100%	$	1,270.00	wetland, greenbelt, slope
286	Alnus rubra	7 d		480	3	72	38.465	7.065	31	2232	2712	45	1220.4	69	842.076	85	20	40	48	404.2	100%	$	400.00	wetland, greenbelt, slope
285	Alnus rubra	7.5 d		480	3	72	44.156	7.065	37	2664	3144	45	1414.8	69	976.212	85	20	40	48	468.58	100%	$	470.00	wetland, greenbelt, slope
284	Alnus rubra	8 d		480	3	72	50.24	7.065	43	3096	3576	45	1609.2	69	1110.348	85	20	40	48	532.97	100%	$	530.00	wetland, greenbelt, slope
283	Alnus rubra	6 d		480	3	72	28.26	7.065	21	1512	1992	45	896.4	25	224.1	85	0	0	28	62.748	0%	$	-	Remove: wetland, greenbelt, slope
282	Alnus rubra	11.5 d		480	3	72	103.82	7.065	97	6984	7464	45	3358.8	66	2216.808	85	40	40	55	1219.2	100%	$	1,220.00	wetland, greenbelt, slope
281	Alnus rubra	14.9 d		480	3	72	174.28	7.065	167	12024	12504	45	5626.8	66	3713.688	85	40	40	55	2042.5	100%	$	2,040.00	trunk wound; wetland, greenbelt, slope
280	Pyrus calleryana	12.5 d		480	3	72	122.66	7.065	116	8352	8832	50	4416	66	2914.56	85	40	60	62	1807	100%	$	1,810.00	wetland, greenbelt, slope; Root obstruction: walk
279	Alnus rubra	15 d		480	3	72	176.63	7.065	170	12240	12720	45	5724	72	4121.28	85	40	40	55	2266.7	100%	$	2,270.00	wetland, greenbelt, slope; phototropic lean to south
278	Alnus rubra	8 d		480	3	72	50.24	7.065	43	3096	3576	45	1609.2	62	997.704	85	20	40	48	478.9	100%	$	480.00	wetland, greenbelt, slope; failed trunk
277	Pyrus calleryana	9.4 d		480	3	72	69.363	7.065	62	4464	4944	50	2472	66	1631.52	85	40	50	58	946.28	100%	$	950.00	wetland, greenbelt, slope; Root obstuction: walk
276	Pyrus calleryana	8 d		480	3	72	50.24	7.065	43	3096	3576	50	1788	66	1180.08	85	40	50	58	684.45	100%	$	680.00	wetland, greenbelt, slope; Root obstuction: walk

275	Alnus rubra	7.5 d		480	3	72	44.156	7.065	37	2664	3144	45	1414.8	50	707.4	85	20	40	48	339.55	100%	$	340.00	wetland, greenbelt, slope
274	Alnus rubra	13.9 d		480	3	72	151.67	7.065	145	10440	10920	45	4914	69	3390.66	85	40	40	55	1864.9	100%	$	1,860.00	wetland, greenbelt, slope
268	Pyrus calleryana	10 d		480	3	72	78.5	7.065	71	5112	5592	50	2796	69	1929.24	85	40	60	62	1196.1	100%	$	1,200.00	Root obstruction: walk; phototropic lean to south; wetland, greenbelt, slope
266	Pyrus calleryana	10 d		480	3	72	78.5	7.065	71	5112	5592	50	2796	69	1929.24	85	40	50	58	1119	100%	$	1,120.00	wetland, greenbelt, slope; Root obstruction:walk
265	Pyrus calleryana	10 d		480	3	72	78.5	7.065	71	5112	5592	50	2796	69	1929.24	85	40	50	58	1119	100%	$	1,120.00	wetland, greenbelt, slope; Root obstruction:walk
264	Pyrus calleryana	11.7 d		480	3	72	107.46	7.065	100	7200	7680	50	3840	69	2649.6	85	40	50	58	1536.8	100%	$	1,540.00	wetland, greenbelt, slope; Root obstruction:walk
263	Pyrus calleryana	10.6 d		480	3	72	88.203	7.065	81	5832	6312	50	3156	72	2272.32	85	40	50	58	1317.9	100%	$	1,320.00	wetland, greenbelt, slope; Root obstruction:walk
262	Pyrus calleryana	11.9 d		480	3	72	111.16	7.065	104	7488	7968	50	3984	66	2629.44	85	40	50	58	1525.1	100%	$	1,530.00	wetland, greenbelt, slope
256	Pyrus calleryana	9.6 d		480	3	72	72.346	7.065	65	4680	5160	50	2580	69	1780.2	85	40	50	58	1032.5	100%	$	1,030.00	phototropic lean to south; Root obstruction: walk; wetland, greenbelt, slope
251	Pyrus calleryana	7 d		480	3	72	38.465	7.065	31	2232	2712	50	1356	69	935.64	85	40	50	58	542.67	100%	$	540.00	wetland, greenbelt, slope; Root obstuction: walk
249	Pyrus calleryana	8.5 d		480	3	72	56.716	7.065	50	3600	4080	50	2040	69	1407.6	85	40	50	58	816.41	100%	$	820.00	Root obstuction: walk; wetland, greenbelt, slope
245	Pyrus calleryana	5.5 d		480	3	72	23.746	7.065	17	1224	1704	50	852	69	587.88	85	40	50	58	340.97	100%	$	340.00	wetland, greenbelt, slope
241	Pyrus calleryana	8.9 d		480	3	72	62.18	7.065	55	3960	4440	50	2220	72	1598.4	85	40	40	55	879.12	100%	$	880.00	wetland, greenbelt, slope; Root obstruction: walk
237	Pyrus calleryana	9.1 d		480	3	72	65.006	7.065	58	4176	4656	50	2328	69	1606.32	85	40	50	58	931.67	100%	$	930.00	Root obstruction: walk; trunk lean due to light suppression; wetland, greenbelt, slope
232	Pyrus calleryana	9 d		480	3	72	63.585	7.065	57	4104	4584	50	2292	72	1650.24	85	40	50	58	957.14	100%	$	960.00	Root obstruction: walk; wet area
230	Pyrus calleryana	9.3 d		480	3	72	67.895	7.065	61	4392	4872	50	2436	66	1607.76	85	40	50	58	932.5	100%	$	930.00	wet area; Root obstruction: walk
225	Pyrus calleryana	10 d		480	3	72	78.5	7.065	71	5112	5592	50	2796	69	1929.24	85	40	50	58	1119	100%	$	1,120.00	wet area
224	Pyrus calleryana	10.5 d		480	3	72	86.546	7.065	79	5688	6168	50	3084	72	2220.48	85	40	50	58	1287.9	100%	$	1,290.00	wet area; Root obstruction: walk
222	Pyrus calleryana	9.6 d		480	3	72	72.346	7.065	65	4680	5160	50	2580	75	1935	85	40	50	58	1122.3	100%	$	1,120.00	wet area; Root obstruction: walk
218	Pyrus calleryana	8.9 d		480	3	72	62.18	7.065	55	3960	4440	50	2220	72	1598.4	85	40	50	58	927.07	100%	$	930.00	wet area
216	Pyrus calleryana	9.3 d		480	3	72	67.895	7.065	61	4392	4872	50	2436	72	1753.92	85	40	50	58	1017.3	100%	$	1,020.00	wet area
204	Pyrus calleryana	12.6 d		480	3	72	124.63	7.065	118	8496	8976	50	4488	75	3366	85	40	50	58	1952.3	100%	$	1,950.00	
203	Pyrus calleryana	12.2 d		480	3	72	116.84	7.065	110	7920	8400	50	4200	75	3150	85	40	50	58	1827	100%	$	1,830.00	
202	Pyrus calleryana	12.3 d		480	3	72	118.76	7.065	112	8064	8544	50	4272	75	3204	85	40	50	58	1858.3	100%	$	1,860.00	Root obstruction: walk, in greenbelt area
201	Pyrus calleryana	10.5 d		480	3	72	86.546	7.065	79	5688	6168	50	3084	75	2313	85	40	50	58	1341.5	100%	$	1,340.00	Root obstruction: walk; in greenbelt area
200	Pyrus calleryana	9.4 d		480	3	72	69.363	7.065	62	4464	4944	50	2472	66	1631.52	70	40	60	57	929.97	100%	$	930.00	
199	Pyrus calleryana	12.8 d		480	3	72	128.61	7.065	122	8784	9264	50	4632	72	3335.04	70	60	60	63	2101.1	100%	$	2,100.00	
198	Pyrus calleryana	10.2 d		480	3	72	81.671	7.065	75	5400	5880	50	2940	75	2205	70	60	40	57	1256.9	100%	$	1,260.00	Root obstruction: walk, wall
161	Pyrus calleryana	12.1 d		480	3	72	114.93	7.065	108	7776	8256	50	4128	72	2972.16	70	40	40	50	1486.1	100%	$	1,490.00	Root obstruction: wall, walk
159	Quercus rubra	10.7 d		480	3	72	89.875	7.065	83	5976	6456	90	5810.4	72	4183.488	70	50	40	53	2217.2	100%	$	2,220.00	
158	Quercus rubra	8.8 d		480	3	72	60.79	7.065	54	3888	4368	90	3931.2	69	2712.528	70	50	40	53	1437.6	100%	$	1,440.00	
157	Quercus rubra	10.8 d		480	3	72	91.562	7.065	84	6048	6528	90	5875.2	72	4230.144	70	50	40	53	2242	100%	$	2,240.00	Root obstruction: walk, curb, road
156	Quercus rubra	20.9 d		480	3	72	342.9	7.065	336	24192	24672	90	22204.8	72	15987.46	85	60	40	62	9912.2	100%	$	9,900.00	Root obstuction: walk, curb, road, new walk; replant
1137	Quercus rubra(red oak)	17 d		480	3	72	226.87	7.065	220	15840	16320	90	14688	75	11016	85	50	40	58	6389.3	100%	$	6,400.00	Root obstruction: walk, curb, road; multi prune events
1138	Quercus rubra(red oak)	16.4 d		480	3	72	211.13	7.065	204	14688	15168	90	13651.2	75	10238.4	85	50	40	58	5938.3	100%	$	5,900.00	Root obstruction: walk, curb, road; multi prune events
4261	Quercus rubra(red oak)	13.6 d		480	3	72	145.19	7.065	138	9936	10416	90	9374.4	75	7030.8	85	50	40	58	4077.9	100%	$	4,080.00	Root obstruction: walk, curb, road; multi prune events
4260	Quercus rubra(red oak)	12 d		480	3	72	113.04	7.065	106	7632	8112	90	7300.8	75	5475.6	85	50	40	58	3175.8	100%	$	3,180.00	Root obstruction: walk, curb, road; multi prune events
155	Quercus rubra	13 d		480	3	72	132.67	7.065	126	9072	9552	90	8596.8	66	5673.888	85	50	40	58	3290.9	100%	$	3,290.00	Root obstruction: walk, curb, road; multi prune events
154	Quercus rubra	11.9 d		480	3	72	111.16	7.065	104	7488	7968	90	7171.2	66	4732.992	85	50	40	58	2745.1	100%	$	2,750.00	Root obstruction: walk, curb, road; multi clc prune events
153	Quercus rubra	12.3 d		480	3	72	118.76	7.065	112	8064	8544	90	7689.6	66	5075.136	85	50	40	58	2943.6	100%	$	2,940.00	Root obstruction: walk, curb, road; multi clc prune events
152	Acer rubrum	2 d		480	3	72	3.14	7.065	-4	-288	192	60	115.2	60	69.12	85	20	40	48	33.178	100%	$	30.00	new top decline possible due to lack of water, can transplant
151	Pyrus calleryana	6.3 d		480	3	72	31.157	7.065	24	1728	2208	50	1104	62	684.48	85	20	40	48	328.55	100%	$	330.00	trunk lean, asymetrical canopy
150	Acer rubrum	14.1 d		480	3	72	156.07	7.065	149	10728	11208	60	6724.8	66	4438.368	85	40	40	55	2441.1	100%	$	2,440.00	Root obstruction- walk, entry to site; girdling roots
149	Acer rubrum	5.2 d		480	3	72	21.226	7.065	14	1008	1488	60	892.8	56	499.968	85	20	20	42	209.99	100%	$	210.00	root obstruction - walk; buried/exposed flare
867	Pyrus calleryana	2.3 d		480	3	72	4.1527	7.065	-3	-216	264	50	132	71	93.72	85	20	40	48	44.986	100%	$	40.00	Roots no established, root flare buried
4197	Pyrus calleryana	2.5 d		480	3	72	4.9063	7.065	-2	-144	336	50	168	71	119.28	85	20	40	48	57.254	100%	$	60.00	Roots no established, root flare buried
868	Pyrus calleryana	2.6 d		480	3	72	5.3066	7.065	-2	-144	336	50	168	71	119.28	85	20	40	48	57.254	100%	$	60.00	Roots no established, root flare buried
148	Pinus nigra	22.3 c	9.2, 20	380	3	57	390.37	7.065	383	21831	22211	80	17768.8	69	12260.47	85	60	40	62	7601.5	100%	$	7,600.00	ivy on trunk
147	Pseudotsuga menziesii	8.3 c	6.5, 4.5	380	3	57	54.079	7.065	47	2679	3059	75	2294.25	66	1514.205	85	40	30	52	787.39	100%	$	790.00	ivy; intermediate/suppressed, tridominant
145	Pinus nigra	15.2 c		380	3	57	181.37	7.065	174	9918	10298	80	8238.4	75	6178.8	85	60	60	68	4201.6	100%	$	4,200.00	ivy
144	Acer rubrum	12 d		480	3	72	113.04	7.065	106	7632	8112	60	4867.2	72	3504.384	85	60	40	62	2172.7	100%	$	2,170.00	root obstruction - walk
143	Acer rubrum	16.4 d		480	3	72	211.13	7.065	204	14688	15168	60	9100.8	72	6552.576	85	60	40	62	4062.6	100%	$	4,060.00	root obstruction - walk
142	Acer rubrum	19.7 d		480	3	72	304.65	7.065	298	21456	21936	60	13161.6	72	9476.352	85	60	40	62	5875.3	100%	$	5,900.00	root obstruction - walk
141	Pseudotsuga menziesii	30.5 c		380	3	57	715.02	7.065	708	40356	40736	75	30552	75	22914	85	60	70	72	16498	100%	$	16,500.00	impact to adjacent tree; raised planter near entry
140	Prunus serrulata	5.7 d		480	3	72	25.505	7.065	18	1296	1776	65	1154.4	75	865.8	85	40	60	62	536.8	100%	$	540.00	right of way
139	Pseudotsuga menziesii	22.8 c		380	3	57	408.07	7.065	401	22857	23237	75	17427.75	56	9759.54	85	60	40	62	6050.9	100%	$	6,100.00	root obstruction - rockery, walk
138	Thuja plicata	3.3 c		380	3	57	8.5487	7.065	1	57	437	90	393.3	69	271.377	85	10	40	45	122.12	100%	$	120.00	parks entry; removal
137	Cedrus atlantica	36 c	17.4, 3;	380	3	57	973.64	7.065	967	55119	55499	80	44399.2	69	30635.45	85	70	40	65	19913	100%	$	19,900.00	rockery, walk, shallow roots
G1	Pseudotsuga menziesii	23.9 c		380	3	57	448.4	7.065	441	25137	25517	75	19137.75	66	12630.92	85	40	40	55	6947	20%	$	1,390.00	parks entry, too much water, bow at 13'
136	Pseudotsuga menziesii	15.6 c		380	3	57	191.04	7.065	184	10488	10868	75	8151	72	5868.72	85	60	40	62	3638.6	100%	$	3,640.00	
135	Acer rubrum	11 d	4.5, 3.2	480	3	72	94.985	7.065	88	6336	6816	60	4089.6	69	2821.824	85	40	40	55	1552	100%	$	1,550.00	root obstruction - rockery, walk
134	Pseudotsuga menziesii	12.7 c		380	3	57	126.61	7.065	120	6840	7220	75	5415	69	3736.35	85	40	40	55	2055	100%	$	2,050.00	root obstruction - rockery, walk; shallow roots
133	Pseudotsuga menziesii	16.1 c		380	3	57	203.48	7.065	196	11172	11552	75	8664	69	5978.16	85	40	40	55	3288	100%	$	3,290.00	root obstruction - rockery, walk
132	Pseudotsuga menziesii	12 c		380	3	57	113.04	7.065	106	6042	6422	75	4816.5	69	3323.385	85	40	40	55	1827.9	100%	$	1,830.00	root obstruction - rockery, walk
131	Pseudotsuga menziesii	12.2 c		380	3	57	116.84	7.065	110	6270	6650	75	4987.5	69	3441.375	85	40	40	55	1892.8	100%	$	1,890.00	root obstruction - rockery, walk
122	Acer rubrum	9 d		480	3	72	63.585	7.065	57	4104	4584	60	2750.4	66	1815.264	85	20	40	48	871.33	100%	$	870.00	root obstruction - rockery, walk; intermediate canopy
120	Pseudotsuga menziesii	18.5 c		380	3	57	268.67	7.065	262	14934	15314	75	11485.5	66	7580.43	85	40	40	55	4169.2	100%	$	4,170.00	root obstruction - rockery, walk
117	Thuja plicata	4.4 c		380	3	57	15.198	7.065	8	456	836	90	752.4	69	519.156	85	10	30	42	218.05	100%	$	220.00	small tree; below adjacent canopy

	109	Acer rubrum	14.2 d	480	3	72	158.29	7.065	151	10872	11352	60	6811.2	69	4699.728	85	50	40	58	2725.8	100%	$	2,730.00	root obstruction - rockery, walk
F1		Pseudotsuga menziesii	20.8 c	380	3	57	339.62	7.065	333	18981	19361	75	14520.75	59	8567.243	85	40	10	45	3855.3	100%	$	3,860.00	growing in wall; root obstruction; 14.9' behind walk
	108	Betula pendula	15 d	480	3	72	176.63	7.065	170	12240	12720	50	6360	25	1590	85	0	0	28	445.2	0%	$	-	Remove for heatlh reasons; zero value
	130	Prunus serrulata	8.3 d	480	3	72	54.079	7.065	47	3384	3864	65	2511.6	56	1406.496	85	40	40	55	773.57	100%	$	770.00	shallow roots, entry to city property
	129	Pseudotsuga menziesii	32.2 c	380	3	57	797.12	7.065	790	45030	45410	75	34057.5	59	20093.93	85	60	40	62	12458	100%	$	12,500.00	root obstruction - rockery
	128	Pseudotsuga menziesii	20.8 c	380	3	57	339.62	7.065	333	18981	19361	75	14520.75	66	9583.695	85	60	60	68	6516.9	100%	$	6,500.00	
	127	Pseudotsuga menziesii	26.7 c	380	3	57	559.62	7.065	553	31521	31901	75	23925.75	69	16508.77	85	60	50	65	10731	100%	$	10,700.00	root obstruction - rockery, walk; lower trunk with a slight bulge
	126	Pseudotsuga menziesii	33.8 c	380	3	57	872.62	7.065	866	49362	49742	75	37306.5	72	26860.68	85	60	50	65	17459	100%	$	17,500.00	
	125	Pseudotsuga menziesii	11.4 c	380	3	57	102.02	7.065	95	5415	5795	75	4346.25	59	2564.288	85	40	50	58	1487.3	100%	$	1,490.00	root obstruction - rockery
	124	Pseudotsuga menziesii	13.8 c	380	3	57	149.5	7.065	142	8094	8474	75	6355.5	59	3749.745	85	40	50	58	2174.9	100%	$	2,170.00	root obstruction - walk, rockery
	123	Pseudotsuga menziesii	33 c	380	3	57	835.09	7.065	828	47196	47576	75	35682	69	24620.58	85	60	50	65	16003	100%	$	16,000.00	root obstruction - walk, rockery; over entryway
E1		Pseudotsuga menziesii	29.8 c	380	3	57	697.11	7.065	690	39330	39710	75	29782.5	75	22336.88	85	60	60	68	15189	10%	$	1,520.00	11.3 behind rockery
	121	Thuja plicata	3.6 c	380	3	57	10.174	7.065	3	171	551	90	495.9	75	371.925	85	20	40	48	178.52	100%	$	180.00	
	119	Acer rubrum	15.4 d	480	3	72	186.17	7.065	179	12888	13368	60	8020.8	69	5534.352	85	60	40	62	3431.3	100%	$	3,430.00	root obstruction
	118	Pinus nigra	17.8 c	380	3	57	248.72	7.065	242	13794	14174	80	11339.2	62	7030.304	85	60	60	68	4780.6	100%	$	4,780.00	
	116	Acer rubrum	13.8 d	480	3	72	149.5	7.065	142	10224	10704	60	6422.4	66	4238.784	85	60	40	62	2628	100%	$	2,630.00	root obstruction
	113	Acer rubrum	15.5 d	480	3	72	188.6	7.065	182	13104	13584	60	8150.4	69	5623.776	85	60	60	68	3824.2	100%	$	3,820.00	root obstruction - walk
	112	Pinus nigra	16.5 c	380	3	57	213.72	7.065	207	11799	12179	80	9743.2	62	6040.784	85	60	60	68	4107.7	100%	$	4,110.00	forked with split
	111	Pinus nigra	20.4 c	380	3	57	326.69	7.065	320	18240	18620	80	14896	62	9235.52	85	60	60	68	6280.2	100%	$	6,300.00	codominant
	110	Pinus nigra	20.3 c	380	3	57	323.49	7.065	316	18012	18392	80	14713.6	62	9122.432	85	60	60	68	6203.3	100%	$	6,200.00	codominant, wide planting bed; growing in group with 111, 112
	107	Quercus rubra	24.7 d	480	3	72	478.92	7.065	472	33984	34464	90	31017.6	72	22332.67	80	70	60	70	15633	100%	$	15,600.00	only tree in planting bed; root obstruction - driveway
	106	Acer rubrum	16.1 d	480	3	72	203.48	7.065	196	14112	14592	60	8755.2	66	5778.432	80	60	40	60	3467.1	100%	$	3,470.00	
	105	Acer rubrum	20.8 d	480	3	72	339.62	7.065	333	23976	24456	60	14673.6	66	9684.576	80	60	40	60	5810.7	100%	$	5,800.00	root obstruction - curb
																						$	878,940.00	

KEY

- 8/2013 appraisal
- % differs from SUF
- RM property
- Utilities property
- Park property, not ROW
- 7/2013 appraisal

Trunk Formula Method Appraisal

TSI Tree Evaluation Minus Installation
Prepared by City of Bellevue

Property: 148th Ave NE Bellevue between NE
Appraiser: Sean Dugan
Date: 29-Aug-13

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replacement tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replacement Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
105	*Acer rubrum*	20.8	d		174.00	3	$ 72.00	339.62	7	333	23976	24,150	60	14,490	66	9563.4	80	60	40	60	$5,738	100%	**$5,700**
106	*Acer rubrum*	16.1	d		174.00	3	$ 72.00	203.48	7	196	14112	14,286	60	8,572	66	5657.256	80	60	40	60	$3,394	100%	**$3,390**
107	*Quercus rubra*	24.7	d		174.00	3	$ 72.00	478.92	7	472	33984	34,158	90	30,742	72	22134.384	80	70	60	70	$15,494	100%	**$15,500**
108	*Betula pendula*	15	d		174.00	3	$ 72.00	176.63	7	170	12240	12,414	50	6,207	25	1551.75	85	0	0	28	$434	0%	**$0**
109	*Acer rubrum*	14.2	d		174.00	3	$ 72.00	158.29	7	151	10872	11,046	60	6,628	69	4573.044	85	50	40	58	$2,652	100%	**$2,650**
110	*Pinus nigra*	20.3	c		139.00	3	$ 57.00	323.49	7	316	18012	18,151	80	14,521	62	9002.896	85	60	60	68	$6,122	100%	**$6,100**
111	*Pinus nigra*	20.4	c		139.00	3	$ 57.00	326.69	7	320	18240	18,379	80	14,703	62	9115.984	85	60	60	68	$6,199	100%	**$6,200**
112	*Pinus nigra*	16.5	c		139.00	3	$ 57.00	213.72	7	207	11799	11,938	80	9,550	62	5921.248	85	60	60	68	$4,026	100%	**$4,030**
113	*Acer rubrum*	15.5	d		174.00	3	$ 72.00	188.60	7	182	13104	13,278	60	7,967	69	5497.092	85	60	60	68	$3,738	100%	**$3,740**
116	*Acer rubrum*	13.8	d		174.00	3	$ 72.00	149.50	7	142	10224	10,398	60	6,239	66	4117.608	85	60	40	62	$2,553	100%	**$2,550**
117	*Thuja plicata*	4.4	c		139.00	3	$ 57.00	15.20	7	8	456	595	90	536	69	369.495	85	10	30	42	$155	100%	**$160**
118	*Pinus nigra*	17.8	c		139.00	3	$ 57.00	248.72	7	242	13794	13,933	80	11,146	62	6910.768	85	60	60	68	$4,699	100%	**$4,700**
119	*Acer rubrum*	15.4	d		174.00	3	$ 72.00	186.17	7	179	12888	13,062	60	7,837	69	5407.668	85	60	40	62	$3,353	100%	**$3,350**
120	*Pseudotsuga menziesii*	18.5	c		139.00	3	$ 57.00	268.67	7	262	14934	15,073	75	11,305	66	7461.135	85	40	40	55	$4,104	100%	**$4,100**
121	*Thuja plicata*	3.6	c		139.00	3	$ 57.00	10.17	7	3	171	310	90	279	75	209.25	85	20	40	48	$100	100%	**$100**
122	*Acer rubrum*	9	d		174.00	3	$ 72.00	63.59	7	57	4104	4,278	60	2,567	66	1694.088	85	20	40	48	$813	100%	**$810**
123	*Pseudotsuga menziesii*	33	c		139.00	3	$ 57.00	835.09	7	828	47196	47,335	75	35,501	69	24495.863	85	60	50	65	$15,922	100%	**$15,900**
124	*Pseudotsuga menziesii*	13.8	c		139.00	3	$ 57.00	149.50	7	142	8094	8,233	75	6,175	59	3643.1025	85	40	50	58	$2,113	100%	**$2,110**
125	*Pseudotsuga menziesii*	11.4	c		139.00	3	$ 57.00	102.02	7	95	5415	5,554	75	4,166	59	2457.645	85	40	50	58	$1,425	100%	**$1,430**
126	*Pseudotsuga menziesii*	33.8	c		139.00	3	$ 57.00	872.62	7	866	49362	49,501	75	37,126	72	26730.54	85	60	50	65	$17,375	100%	**$17,400**
127	*Pseudotsuga menziesii*	26.7	c		139.00	3	$ 57.00	559.62	7	553	31521	31,660	75	23,745	69	16384.05	85	60	50	65	$10,650	100%	**$10,600**
128	*Pseudotsuga menziesii*	20.8	c		139.00	3	$ 57.00	339.62	7	333	18981	19,120	75	14,340	66	9464.4	85	60	60	68	$6,436	100%	**$6,400**
129	*Pseudotsuga menziesii*	32.2	c		139.00	3	$ 57.00	797.12	7	790	45030	45,169	75	33,877	59	19987.283	85	60	40	62	$12,392	100%	**$12,400**
130	*Prunus serrulata*	8.3	d		174.00	3	$ 72.00	54.08	7	47	3384	3,558	65	2,313	56	1295.112	85	40	40	55	$712	100%	**$710**
131	*Pseudotsuga menziesii*	12.2	c		139.00	3	$ 57.00	116.84	7	110	6270	6,409	75	4,807	69	3316.6575	85	40	40	55	$1,824	100%	**$1,820**
132	*Pseudotsuga menziesii*	12	c		139.00	3	$ 57.00	113.04	7	106	6042	6,181	75	4,636	69	3198.6675	85	40	40	55	$1,759	100%	**$1,760**
133	*Pseudotsuga menziesii*	16.1	c		139.00	3	$ 57.00	203.48	7	196	11172	11,311	75	8,483	69	5853.4425	85	40	40	55	$3,219	100%	**$3,220**
134	*Pseudotsuga menziesii*	12.7	c		139.00	3	$ 57.00	126.61	7	120	6840	6,979	75	5,234	69	3611.6325	85	40	40	55	$1,986	100%	**$1,990**
135	*Acer rubrum*	11	d	5.2, 5.6, 3.8	174.00	3	$ 72.00	94.99	7	88	6336	6,510	60	3,906	69	2695.14	85	40	40	55	$1,482	100%	**$1,480**
136	*Pseudotsuga menziesii*	15.6	c		139.00	3	$ 57.00	191.04	7	184	10488	10,627	75	7,970	72	5738.58	85	60	40	62	$3,558	100%	**$3,560**
137	*Cedrus atlantica*	36	c	17.4, 32	139.00	3	$ 57.00	973.64	7	967	55119	55,258	80	44,206	69	30502.416	85	70	40	65	$19,827	100%	**$19,800**
138	*Thuja plicata*	3.3	c		139.00	3	$ 57.00	8.55	7	1	57	196	90	176	69	121.716	85	10	40	45	$55	100%	**$50**
139	*Pseudotsuga menziesii*	22.8	c		139.00	3	$ 57.00	408.07	7	401	22857	22,996	75	17,247	56	9658.32	85	60	40	62	$5,988	100%	**$6,000**
140	*Prunus serrulata*	5.7	d		174.00	3	$ 72.00	25.50	7	18	1296	1,470	65	956	75	716.625	85	40	60	62	$444	100%	**$440**
141	*Pseudotsuga menziesii*	30.5	c		139.00	3	$ 57.00	715.02	7	708	40356	40,495	75	30,371	75	22778.438	85	60	70	72	$16,400	100%	**$16,400**
142	*Acer rubrum*	19.7	d		174.00	3	$ 72.00	304.65	7	298	21456	21,630	60	12,978	72	9344.16	85	60	40	62	$5,793	100%	**$5,800**
143	*Acer rubrum*	16.4	d		174.00	3	$ 72.00	211.13	7	204	14688	14,862	60	8,917	72	6420.384	85	60	40	62	$3,981	100%	**$3,980**
144	*Acer rubrum*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	60	4,684	72	3372.192	85	60	40	62	$2,091	100%	**$2,090**
145	*Pinus nigra*	15.2	c		139.00	3	$ 57.00	181.37	7	174	9918	10,057	80	8,046	75	6034.2	85	60	60	68	$4,103	100%	**$4,100**
147	*Pseudotsuga menziesii*	8.3	c	6.5, 4.5, 2.7	139.00	3	$ 57.00	54.08	7	47	2679	2,818	75	2,114	66	1394.91	85	40	30	52	$725	100%	**$730**
148	*Pinus nigra*	22.3	c	9.2, 20	139.00	3	$ 57.00	390.37	7	383	21831	21,970	80	17,576	69	12127.44	85	60	40	62	$7,519	100%	**$7,500**
149	*Acer rubrum*	5.2	d		174.00	3	$ 72.00	21.23	7	14	1008	1,182	60	709	56	397.152	85	20	20	42	$167	100%	**$170**
150	*Acer rubrum*	14.1	d		174.00	3	$ 72.00	156.07	7	149	10728	10,902	60	6,541	66	4317.192	85	40	40	55	$2,374	100%	**$2,370**
151	*Pyrus calleryana*	6.3	d		174.00	3	$ 72.00	31.16	7	24	1728	1,902	50	951	62	589.62	85	20	40	48	$283	100%	**$280**
152	*Acer rubrum*	2	d		174.00	3	$ 72.00	3.14	7	-4	-288	-	60	-	60	0	85	20	40	48	$0	100%	**$0**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
153	*Quercus rubra*	12.3	d		174.00	3	$ 72.00	118.76	7	112	8064	8,238	90	7,414	66	4893.372	85	50	40	58	$2,838	100%	**$2,840**
154	*Quercus rubra*	11.9	d		174.00	3	$ 72.00	111.16	7	104	7488	7,662	90	6,896	66	4551.228	85	50	40	58	$2,640	100%	**$2,640**
155	*Quercus rubra*	13	d		174.00	3	$ 72.00	132.67	7	126	9072	9,246	90	8,321	66	5492.124	85	50	40	58	$3,185	100%	**$3,190**
156	*Quercus rubra*	20.9	d		174.00	3	$ 72.00	342.90	7	336	24192	24,366	90	21,929	72	15789.168	85	60	40	62	$9,789	100%	**$9,800**
157	*Quercus rubra*	10.8	d		174.00	3	$ 72.00	91.56	7	84	6048	6,222	90	5,600	72	4031.856	70	50	40	53	$2,137	100%	**$2,140**
158	*Quercus rubra*	8.8	d		174.00	3	$ 72.00	60.79	7	54	3888	4,062	90	3,656	69	2522.502	70	50	40	53	$1,337	100%	**$1,340**
159	*Quercus rubra*	10.7	d		174.00	3	$ 72.00	89.87	7	83	5976	6,150	90	5,535	72	3985.2	70	50	40	53	$2,112	100%	**$2,110**
161	*Pyrus calleryana*	12.1	d		174.00	3	$ 72.00	114.93	7	108	7776	7,950	50	3,975	72	2862	70	40	40	50	$1,431	100%	**$1,430**
198	*Pyrus calleryana*	10.2	d		174.00	3	$ 72.00	81.67	7	75	5400	5,574	50	2,787	75	2090.25	70	60	40	57	$1,191	100%	**$1,190**
199	*Pyrus calleryana*	12.8	d		174.00	3	$ 72.00	128.61	7	122	8784	8,958	50	4,479	72	3224.88	70	60	60	63	$2,032	100%	**$2,030**
200	*Pyrus calleryana*	9.4	d		174.00	3	$ 72.00	69.36	7	62	4464	4,638	50	2,319	66	1530.54	70	40	60	57	$872	100%	**$870**
201	*Pyrus calleryana*	10.5	d		174.00	3	$ 72.00	86.55	7	79	5688	5,862	50	2,931	75	2198.25	85	40	50	58	$1,275	100%	**$1,270**
202	*Pyrus calleryana*	12.3	d		174.00	3	$ 72.00	118.76	7	112	8064	8,238	50	4,119	75	3089.25	85	40	50	58	$1,792	100%	**$1,790**
203	*Pyrus calleryana*	12.2	d		174.00	3	$ 72.00	116.84	7	110	7920	8,094	50	4,047	75	3035.25	85	40	50	58	$1,760	100%	**$1,760**
204	*Pyrus calleryana*	12.6	d		174.00	3	$ 72.00	124.63	7	118	8496	8,670	50	4,335	75	3251.25	85	40	50	58	$1,886	100%	**$1,890**
216	*Pyrus calleryana*	9.3	d		174.00	3	$ 72.00	67.89	7	61	4392	4,566	50	2,283	72	1643.76	85	40	50	58	$953	100%	**$950**
218	*Pyrus calleryana*	8.9	d		174.00	3	$ 72.00	62.18	7	55	3960	4,134	50	2,067	72	1488.24	85	40	50	58	$863	100%	**$860**
222	*Pyrus calleryana*	9.6	d		174.00	3	$ 72.00	72.35	7	65	4680	4,854	50	2,427	75	1820.25	85	40	50	58	$1,056	100%	**$1,060**
224	*Pyrus calleryana*	10.5	d		174.00	3	$ 72.00	86.55	7	79	5688	5,862	50	2,931	72	2110.32	85	40	50	58	$1,224	100%	**$1,220**
225	*Pyrus calleryana*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	50	2,643	69	1823.67	85	40	50	58	$1,058	100%	**$1,060**
230	*Pyrus calleryana*	9.3	d		174.00	3	$ 72.00	67.89	7	61	4392	4,566	50	2,283	66	1506.78	85	40	50	58	$874	100%	**$870**
232	*Pyrus calleryana*	9	d		174.00	3	$ 72.00	63.59	7	57	4104	4,278	50	2,139	72	1540.08	85	40	50	58	$893	100%	**$890**
237	*Pyrus calleryana*	9.1	d		174.00	3	$ 72.00	65.01	7	58	4176	4,350	50	2,175	69	1500.75	85	40	50	58	$870	100%	**$870**
241	*Pyrus calleryana*	8.9	d		174.00	3	$ 72.00	62.18	7	55	3960	4,134	50	2,067	72	1488.24	85	40	40	55	$819	100%	**$820**
245	*Pyrus calleryana*	5.5	d		174.00	3	$ 72.00	23.75	7	17	1224	1,398	50	699	69	482.31	85	40	50	58	$280	100%	**$280**
249	*Pyrus calleryana*	8.5	d		174.00	3	$ 72.00	56.72	7	50	3600	3,774	50	1,887	69	1302.03	85	40	50	58	$755	100%	**$760**
251	*Pyrus calleryana*	7	d		174.00	3	$ 72.00	38.47	7	31	2232	2,406	50	1,203	69	830.07	85	40	50	58	$481	100%	**$480**
256	*Pyrus calleryana*	9.6	d		174.00	3	$ 72.00	72.35	7	65	4680	4,854	50	2,427	69	1674.63	85	40	50	58	$971	100%	**$970**
262	*Pyrus calleryana*	11.9	d		174.00	3	$ 72.00	111.16	7	104	7488	7,662	50	3,831	66	2528.46	85	40	50	58	$1,467	100%	**$1,470**
263	*Pyrus calleryana*	10.6	d		174.00	3	$ 72.00	88.20	7	81	5832	6,006	50	3,003	72	2162.16	85	40	50	58	$1,254	100%	**$1,250**
264	*Pyrus calleryana*	11.7	d		174.00	3	$ 72.00	107.46	7	100	7200	7,374	50	3,687	69	2544.03	85	40	50	58	$1,476	100%	**$1,480**
265	*Pyrus calleryana*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	50	2,643	69	1823.67	85	40	50	58	$1,058	100%	**$1,060**
266	*Pyrus calleryana*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	50	2,643	69	1823.67	85	40	50	58	$1,058	100%	**$1,060**
268	*Pyrus calleryana*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	50	2,643	69	1823.67	85	40	60	62	$1,131	100%	**$1,130**
274	*Alnus rubra*	13.9	d		174.00	3	$ 72.00	151.67	7	145	10440	10,614	45	4,776	69	3295.647	85	40	40	55	$1,813	100%	**$1,810**
275	*Alnus rubra*	7.5	d		174.00	3	$ 72.00	44.16	7	37	2664	2,838	45	1,277	50	638.55	85	20	40	48	$307	100%	**$310**
276	*Pyrus calleryana*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	50	1,635	66	1079.1	85	40	50	58	$626	100%	**$630**
277	*Pyrus calleryana*	9.4	d		174.00	3	$ 72.00	69.36	7	62	4464	4,638	50	2,319	66	1530.54	85	40	50	58	$888	100%	**$890**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Conditio n Rating	Adjusted value for condition rating	Site Rating (%)	Contrib ution Rating (%)	Placem ent Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
278	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	62	912.33	85	20	40	48	$438	100%	**$440**
279	*Alnus rubra*	15	d		174.00	3	$ 72.00	176.63	7	170	12240	12,414	45	5,586	72	4022.136	85	40	40	55	$2,212	100%	**$2,210**
280	*Pyrus calleryana*	12.5	d		174.00	3	$ 72.00	122.66	7	116	8352	8,526	50	4,263	66	2813.58	85	40	60	62	$1,744	100%	**$1,740**
281	*Alnus rubra*	14.9	d		174.00	3	$ 72.00	174.28	7	167	12024	12,198	45	5,489	66	3622.806	85	40	40	55	$1,993	100%	**$1,990**
282	*Alnus rubra*	11.5	d		174.00	3	$ 72.00	103.82	7	97	6984	7,158	45	3,221	66	2125.926	85	40	40	55	$1,169	100%	**$1,170**
283	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	25	189.675	85	0	0	28	$53	0%	**$0**
284	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	69	1015.335	85	20	40	48	$487	100%	**$490**
285	*Alnus rubra*	7.5	d		174.00	3	$ 72.00	44.16	7	37	2664	2,838	45	1,277	69	881.199	85	20	40	48	$423	100%	**$420**
286	*Alnus rubra*	7	d		174.00	3	$ 72.00	38.47	7	31	2232	2,406	45	1,083	69	747.063	85	20	40	48	$359	100%	**$360**
287	*Alnus rubra*	12.3	d		174.00	3	$ 72.00	118.76	7	112	8064	8,238	45	3,707	69	2557.899	85	20	40	48	$1,228	100%	**$1,230**
288	*Alnus rubra*	10.3	d		174.00	3	$ 72.00	83.28	7	76	5472	5,646	45	2,541	34	863.838	85	30	40	52	$449	100%	**$450**
289	*Alnus rubra*	11.5	d		174.00	3	$ 72.00	103.82	7	97	6984	7,158	45	3,221	50	1610.55	85	40	40	55	$886	100%	**$890**
290	*Alnus rubra*	10.5	d		174.00	3	$ 72.00	86.55	7	79	5688	5,862	45	2,638	50	1318.95	85	40	40	55	$725	100%	**$730**
291	*Alnus rubra*	6.5	d		174.00	3	$ 72.00	33.17	7	26	1872	2,046	45	921	69	635.283	85	20	40	48	$305	100%	**$300**
292	*Alnus rubra*	12.5	d		174.00	3	$ 72.00	122.66	7	116	8352	8,526	45	3,837	69	2647.323	85	40	40	55	$1,456	100%	**$1,460**
293	*Alnus rubra*	7	d		174.00	3	$ 72.00	38.47	7	31	2232	2,406	45	1,083	50	541.35	85	20	40	48	$260	100%	**$260**
294	*Alnus rubra*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	45	500	50	249.75	85	20	40	48	$120	100%	**$120**
295	*Alnus rubra*	11	d		174.00	3	$ 72.00	94.99	7	88	6336	6,510	45	2,930	50	1464.75	85	40	40	55	$806	100%	**$810**
296	*Alnus rubra*	12.4	d		174.00	3	$ 72.00	120.70	7	114	8208	8,382	45	3,772	66	2489.454	85	40	40	55	$1,369	100%	**$1,370**
297	*Pyrus calleryana*	8.4	d		174.00	3	$ 72.00	55.39	7	48	3456	3,630	50	1,815	72	1306.8	85	60	50	65	$849	100%	**$850**
298	*Pyrus calleryana*	10.4	d		174.00	3	$ 72.00	84.91	7	78	5616	5,790	50	2,895	72	2084.4	85	60	50	65	$1,355	100%	**$1,350**
299	*Pyrus calleryana*	9.6	d		174.00	3	$ 72.00	72.35	7	65	4680	4,854	50	2,427	72	1747.44	85	60	50	65	$1,136	100%	**$1,140**
300	*Pyrus calleryana*	15.5	d		174.00	3	$ 72.00	188.60	7	182	13104	13,278	50	6,639	72	4780.08	85	60	50	65	$3,107	100%	**$3,110**
301	*Pyrus calleryana*	11.7	d		174.00	3	$ 72.00	107.46	7	100	7200	7,374	50	3,687	72	2654.64	85	60	50	65	$1,726	100%	**$1,730**
302	*Pyrus calleryana*	10.1	d		174.00	3	$ 72.00	80.08	7	73	5256	5,430	50	2,715	72	1954.8	85	60	50	65	$1,271	100%	**$1,270**
303	*Acer platanoides*	11.6	d		174.00	3	$ 72.00	105.63	7	99	7128	7,302	75	5,477	72	3943.08	85	60	60	68	$2,681	100%	**$2,680**
305	*Cedrus deodara*	18.2	c		139.00	3	$ 57.00	260.02	7	253	14421	14,560	80	11,648	72	8386.56	85	70	60	72	$6,038	100%	**$6,000**
306	*Cedrus deodara*	15.9	c		139.00	3	$ 57.00	198.46	7	191	10887	11,026	80	8,821	72	6350.976	85	70	60	72	$4,573	100%	**$4,570**
307	*Cedrus deodara*	10.2	c		139.00	3	$ 57.00	81.67	7	75	4275	4,414	80	3,531	69	2436.528	85	70	60	72	$1,754	100%	**$1,750**
308	*Cedrus deodara*	16.2	c		139.00	3	$ 57.00	206.02	7	199	11343	11,482	80	9,186	72	6613.632	85	70	60	72	$4,762	100%	**$4,760**
309	*Pseudotsuga menziesii*	6.8	c		139.00	3	$ 57.00	36.30	7	29	1653	1,792	75	1,344	72	967.68	85	50	60	65	$629	100%	**$630**
310	*Acer palmatum*	5.6	d		174.00	3	$ 72.00	24.62	7	18	1296	1,470	80	1,176	69	811.44	85	40	60	62	$503	100%	**$500**
312	*Acer palmatum*	7.2	d		174.00	3	$ 72.00	40.69	7	34	2448	2,622	80	2,098	72	1510.272	85	40	60	62	$936	100%	**$940**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Conditio n Rating	Adjusted value for condition rating	Site Rating (%)	Contrib ution Rating (%)	Placem ent Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
314	*Acer macrophyllum*	15.1	d		174.00	3	$ 72.00	178.99	7	172	12384	12,558	60	7,535	75	5651.1	85	40	50	58	$3,278	100%	**$3,280**
315	*Acer macrophyllum*	25.7	d	9.9, 9.5, 5, 8, 10.5, 9.4,	174.00	3	$ 72.00	518.48	7	511	36792	36,966	60	22,180	72	15969.312	85	40	50	58	$9,262	100%	**$9,300**
317	*Alnus rubra*	5.6	d		174.00	3	$ 72.00	24.62	7	18	1296	1,470	45	662	50	330.75	85	10	20	38	$126	100%	**$130**
319	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	25	189.675	85	10	40	45	$85	100%	**$90**
320	*Platanus acerifolia*	18	d		174.00	3	$ 72.00	254.34	7	247	17784	17,958	70	12,571	72	9050.832	85	40	50	58	$5,249	100%	**$5,200**
321	*Pseudotsuga menziesii*	16	c		139.00	3	$ 57.00	200.96	7	194	11058	11,197	75	8,398	72	6046.38	80	50	50	60	$3,628	100%	**$3,630**
322	*Arbutus menziesii*	7.3	d		174.00	3	$ 72.00	41.83	7	35	2520	2,694	70	1,886	53	999.474	80	10	60	50	$500	100%	**$500**
323	*Pseudotsuga menziesii*	6.2	c		139.00	3	$ 57.00	30.18	7	23	1311	1,450	75	1,088	75	815.625	80	50	60	63	$514	100%	**$510**
324	*Pseudotsuga menziesii*	17.6	c		139.00	3	$ 57.00	243.16	7	236	13452	13,591	75	10,193	75	7644.9375	80	60	60	67	$5,122	100%	**$5,100**
325	*Liquidambar styraciflua*	15.7	d		174.00	3	$ 72.00	193.49	7	186	13392	13,566	65	8,818	72	6348.888	80	40	50	57	$3,619	100%	**$3,620**
326	*Liquidambar styraciflua*	13.4	d		174.00	3	$ 72.00	140.95	7	134	9648	9,822	65	6,384	62	3958.266	80	40	40	53	$2,098	100%	**$2,100**
327	*Liquidambar styraciflua*	13.4	d		174.00	3	$ 72.00	140.95	7	134	9648	9,822	65	6,384	72	4596.696	80	50	40	57	$2,620	100%	**$2,620**
328	*Liquidambar styraciflua*	15.8	d		174.00	3	$ 72.00	195.97	7	189	13608	13,782	65	8,958	72	6449.976	80	40	50	57	$3,676	100%	**$3,680**
329	*Thuja plicata*	31.2	c		139.00	3	$ 57.00	749.06	7	742	42294	42,433	75	31,825	69	21959.078	80	60	30	57	$12,517	100%	**$12,500**
330	*Platanus acerifolia*	8.3	d		174.00	3	$ 72.00	54.08	7	47	3384	3,558	70	2,491	72	1793.232	80	50	60	63	$1,130	100%	**$1,130**
331	*Acer platanoides*	17.7	d		174.00	3	$ 72.00	245.93	7	239	17208	17,382	75	13,037	72	9386.28	80	60	50	63	$5,913	100%	**$5,900**
332	*Acer platanoides*	17.5	d		174.00	3	$ 72.00	240.41	7	233	16776	16,950	75	12,713	72	9153	80	60	50	63	$5,766	100%	**$5,800**
346	*Platanus acerifolia*	13.4	d		174.00	3	$ 72.00	140.95	7	134	9648	9,822	70	6,875	69	4744.026	80	60	60	67	$3,178	100%	**$3,180**
347	*Platanus acerifolia*	18.8	d		174.00	3	$ 72.00	277.45	7	270	19440	19,614	70	13,730	69	9473.562	80	60	60	67	$6,347	100%	**$6,300**
348	*Acer platanoides*	15.6	d		174.00	3	$ 72.00	191.04	7	184	13248	13,422	75	10,067	72	7247.88	80	60	60	67	$4,856	100%	**$4,860**
349	*Acer platanoides*	16.3	d		174.00	3	$ 72.00	208.57	7	202	14544	14,718	75	11,039	72	7947.72	80	60	50	63	$5,007	100%	**$5,000**
350	*Acer platanoides*	14.5	d		174.00	3	$ 72.00	165.05	7	158	11376	11,550	75	8,663	72	6237	80	60	50	63	$3,929	100%	**$3,930**
351	*Acer platanoides*	12.2	d		174.00	3	$ 72.00	116.84	7	110	7920	8,094	75	6,071	72	4370.76	80	60	50	63	$2,754	100%	**$2,750**
353	*Acer platanoides*	12.2	d		174.00	3	$ 72.00	116.84	7	110	7920	8,094	75	6,071	69	4188.645	85	50	50	62	$2,597	100%	**$2,600**
356	*Salix lucida*	18	d		174.00	3	$ 72.00	254.34	7	247	17784	17,958	40	7,183	59	4238.088	85	30	40	52	$2,204	100%	**$2,200**
357	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	75	1103.625	85	30	40	52	$574	100%	**$570**
358	*Salix scouloriana*	15.2	d	4,6,9,10	174.00	3	$ 72.00	181.37	7	174	12528	12,702	30	3,811	67	2553.102	85	30	40	52	$1,328	100%	**$1,330**
359	*Salix lucida*	22	d	8,12,12,12	174.00	3	$ 72.00	379.94	7	373	26856	27,030	40	10,812	44	4757.28	85	30	40	52	$2,474	100%	**$2,470**
360	*Salix lucida*	15.6	d	4,8,8,10	174.00	3	$ 72.00	191.04	7	184	13248	13,422	40	5,369	50	2684.4	85	30	40	52	$1,396	100%	**$1,400**
361	*Alnus rubra*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	45	500	0	0	85	0	0	28	$0	100%	**$0**
362	*Alnus rubra*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	45	500	72	359.64	85	30	40	52	$187	100%	**$190**
363	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	37	782.328	85	10	40	45	$352	100%	**$350**
364	*Salix lucida*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	40	444	37	164.28	85	10	40	45	$74	100%	**$70**
365	*Salix lucida*	18.5	d	10,10,12	174.00	3	$ 72.00	268.67	7	262	18864	19,038	40	7,615	50	3807.6	85	30	40	52	$1,980	100%	**$1,980**
366	*Salix scouloriana*	17.5	d	8,10, 12	174.00	3	$ 72.00	240.41	7	233	16776	16,950	30	5,085	47	2389.95	85	30	40	52	$1,243	100%	**$1,240**
367	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	44	930.336	85	20	40	48	$447	100%	**$450**
368	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	50	1057.2	85	30	40	52	$550	100%	**$550**
369	*Salix lucida*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	40	444	37	164.28	85	10	40	45	$74	100%	**$70**
370	*Salix scouloriana*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	30	1,586	75	1189.35	85	30	40	52	$618	100%	**$620**
371	*Salix lucida*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	40	3,122	44	1373.856	85	20	40	48	$659	100%	**$660**
372	*Salix scouloriana*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	30	2,342	41	960.138	85	20	40	48	$461	100%	**$460**
373	*Populus trichocarpa*	20	d		174.00	3	$ 72.00	314.00	7	307	22104	22,278	40	8,911	59	5257.608	85	30	20	45	$2,366	100%	**$2,370**
374	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	44	333.828	85	10	10	35	$117	100%	**$120**
375	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	50	379.35	85	10	40	45	$171	100%	**$170**
376	*Salix lucida*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	40	3,122	25	780.6	85	10	10	35	$273	100%	**$270**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
377	*Salix lucida*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	40	1,308	50	654	85	10	40	45	$294	100%	**$290**
378	*Salix lucida*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	40	674	0	0	85	0	0	28	$0	100%	**$0**
379	*Salix lucida*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	40	1,308	44	575.52	85	20	40	48	$276	100%	**$280**
380	*Salix lucida*	**9.2**	d	6,7	174.00	3	$ 72.00	66.44	7	59	4248	4,422	40	1,769	75	1326.6	85	20	40	48	$637	100%	**$640**
381	*Salix lucida*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	40	444	72	319.68	85	20	40	48	$153	100%	**$150**
382	*Salix lucida*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	40	444	72	319.68	85	20	40	48	$153	100%	**$150**
383	*Salix lucida*	4	d		174.00	3	$ 72.00	12.56	7	5	360	534	40	214	72	153.792	85	20	40	48	$74	100%	**$70**
384	*Betula pendula*	3	d		174.00	3	$ 72.00	7.07	7	0	0	174	50	87	50	43.5	85	10	10	35	$15	100%	**$20**
385	*Salix lucida*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	40	3,122	50	1561.2	85	20	40	48	$749	100%	**$750**
386	*Salix lucida*	**23.2**	d	6,8,10,12,14	174.00	3	$ 72.00	422.52	7	415	29880	30,054	40	12,022	50	6010.8	85	20	40	48	$2,885	100%	**$2,890**
387	*Betula pendula*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	50	3,903	63	2458.89	85	20	40	48	$1,180	100%	**$1,180**
388	*Betula pendula*	18	d		174.00	3	$ 72.00	254.34	7	247	17784	17,958	50	8,979	59	5297.61	85	20	40	48	$2,543	100%	**$2,540**
389	*Salix lucida*	**13.2**	d	5,5,5,5,5,5,5	174.00	3	$ 72.00	136.78	7	130	9360	9,534	40	3,814	75	2860.2	85	40	40	55	$1,573	100%	**$1,570**
390	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	0	0	85	0	0	28	$0	100%	**$0**
391	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	69	523.503	85	10	40	45	$236	100%	**$240**
392	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	50	1057.2	85	10	40	45	$476	100%	**$480**
393	*Populus trichocarpa*	24	d		174.00	3	$ 72.00	452.16	7	445	32040	32,214	40	12,886	66	8504.496	85	30	40	52	$4,422	100%	**$4,420**
394	*Salix lucida*	**13.8**	d	8,8,8	174.00	3	$ 72.00	149.50	7	142	10224	10,398	40	4,159	69	2869.848	85	20	40	48	$1,378	100%	**$1,380**
395	*Salix lucida*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	40	2,114	50	1057.2	85	10	40	45	$476	100%	**$480**
396	*Salix lucida*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	40	444	0	0	85	0	0	28	$0	100%	**$0**
397	*Alnus rubra*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	45	500	0	0	85	0	0	28	$0	100%	**$0**
398	*Alnus rubra*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	45	500	0	0	85	0	0	28	$0	100%	**$0**
399	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	0	0	85	0	0	28	$0	100%	**$0**
400	*Alnus rubra*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	45	3,513	50	1756.35	85	20	40	48	$843	100%	**$840**
401	*Alnus rubra*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	45	2,379	0	0	85	0	0	28	$0	100%	**$0**
402	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	0	0	85	0	0	28	$0	100%	**$0**
403	*Betula pendula*	5	d		174.00	3	$ 72.00	19.63	7	13	936	1,110	50	555	66	366.3	85	20	40	48	$176	100%	**$180**
404	*Populus trichocarpa*	32	d		174.00	3	$ 72.00	787.56	7	780	56160	56,334	40	22,534	66	14872.176	85	30	40	52	$7,734	100%	**$7,700**
405	*Populus trichocarpa*	34	d		174.00	3	$ 72.00	881.94	7	875	63000	63,174	40	25,270	66	16677.936	85	30	40	52	$8,673	100%	**$8,700**
406	*Populus trichocarpa*	36	d		174.00	3	$ 72.00	973.64	7	967	69624	69,798	40	27,919	66	18426.672	85	30	40	52	$9,582	100%	**$9,600**
407	*Alnus rubra*	**12.1**	d	9,8	174.00	3	$ 72.00	114.93	7	108	7776	7,950	45	3,578	66	2361.15	85	20	40	48	$1,133	100%	**$1,130**
408	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	63	477.981	85	10	40	45	$215	100%	**$220**
409	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	56	824.04	85	10	40	45	$371	100%	**$370**
410	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	56	424.872	85	10	40	45	$191	100%	**$190**
411	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	38	288.306	85	10	40	45	$130	100%	**$130**
412	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	25	189.675	85	10	40	45	$85	100%	**$90**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
413	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	56	424.872	85	10	40	45	$191	100%	**$190**
414	*Alnus rubra*	4	d		174.00	3	$ 72.00	12.56	7	5	360	534	45	240	0	0	85	0	0	28	$0	100%	**$0**
415	*Alnus rubra*	7	d		174.00	3	$ 72.00	38.47	7	31	2232	2,406	45	1,083	50	541.35	85	10	40	45	$244	100%	**$240**
416	*Alnus rubra*	4	d		174.00	3	$ 72.00	12.56	7	5	.360	534	45	240	38	91.314	85	10	40	45	$41	100%	**$40**
417	*Alnus rubra*	4	d		174.00	3	$ 72.00	12.56	7	5	360	534	45	240	25	60.075	85	10	40	45	$27	100%	**$30**
418	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	69	1015.335	85	10	40	45	$457	100%	**$460**
419	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	25	189.675	85	10	40	45	$85	100%	**$90**
420	*Platanus acerifolia*	18	d		174.00	3	$ 72.00	254.34	7	247	17784	17,958	70	12,571	72	9050.832	85	40	50	58	$5,249	100%	**$5,200**
421	*Platanus acerifolia*	19.3	d		174.00	3	$ 72.00	292.40	7	285	20520	20,694	70	14,486	72	10429.776	70	40	50	53	$5,528	100%	**$5,500**
422	*Platanus acerifolia*	20.3	d		174.00	3	$ 72.00	323.49	7	316	22752	22,926	70	16,048	66	10591.812	70	40	50	53	$5,614	100%	**$5,600**
423	*Pseudotsuga menziesii*	36	c		139.00	3	$ 57.00	973.64	7	967	55119	55,258	75	41,444	56	23208.36	70	60	40	57	$13,229	100%	**$13,200**
424	*Thuja plicata*	31	c		139.00	3	$ 57.00	739.37	7	732	41724	41,863	75	31,397	69	21664.103	70	60	40	57	$12,349	100%	**$12,300**
425	*Platanus acerifolia*	20.4	d		174.00	3	$ 72.00	326.69	7	320	23040	23,214	70	16,250	69	11212.362	70	60	30	53	$5,943	100%	**$5,900**
426	*Platanus acerifolia*	17.4	d		174.00	3	$ 72.00	237.67	7	231	16632	16,806	70	11,764	69	8117.298	70	60	30	53	$4,302	100%	**$4,300**
427	*Platanus acerifolia*	28.9	d		174.00	3	$ 72.00	655.64	7	649	46728	46,902	70	32,831	72	23638.608	70	60	30	53	$12,528	100%	**$12,500**
428	*Platanus acerifolia*	22	d		174.00	3	$ 72.00	379.94	7	373	26856	27,030	70	18,921	72	13623.12	70	60	30	53	$7,220	100%	**$7,200**
429	*Platanus acerifolia*	18	d		174.00	3	$ 72.00	254.34	7	247	17784	17,958	70	12,571	72	9050.832	70	60	30	53	$4,797	100%	**$4,800**
430	*Platanus acerifolia*	15.8	d		174.00	3	$ 72.00	195.97	7	189	13608	13,782	70	9,647	69	6656.706	70	60	30	53	$3,528	100%	**$3,530**
431	*Platanus acerifolia*	18.7	d		174.00	3	$ 72.00	274.51	7	267	19224	19,398	70	13,579	72	9776.592	70	60	30	53	$5,182	100%	**$5,200**
432	*Quercus palustris*	14.7	d		174.00	3	$ 72.00	169.63	7	163	11736	11,910	85	10,124	75	7592.625	70	60	60	63	$4,783	100%	**$4,780**
433	*Quercus palustris*	15	d		174.00	3	$ 72.00	176.63	7	170	12240	12,414	85	10,552	72	7597.368	85	60	60	68	$5,166	100%	**$5,200**
434	*Populus tremuloides*	10.5	d		174.00	3	$ 72.00	86.55	7	79	5688	5,862	40	2,345	72	1688.256	85	40	40	55	$929	100%	**$930**
435	*Populus tremuloides*	10.7	d		174.00	3	$ 72.00	89.87	7	83	5976	6,150	40	2,460	69	1697.4	85	40	40	55	$934	100%	**$930**
436	*Pseudotsuga menziesii*	20	c		139.00	3	$ 57.00	314.00	7	307	17499	17,638	75	13,229	72	9524.52	85	40	60	62	$5,905	100%	**$5,900**
437	*Cornus kousa*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	90	1,517	75	1138.05	85	30	60	58	$660	100%	**$660**
438	*Platanus acerifolia*	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	70	3,700	72	2664.144	85	40	60	62	$1,652	100%	**$1,650**
439	*Platanus acerifolia*	14	d		174.00	3	$ 72.00	153.86	7	147	10584	10,758	70	7,531	72	5422.032	85	40	50	58	$3,145	100%	**$3,140**
440	*Platanus acerifolia*	20	d		174.00	3	$ 72.00	314.00	7	307	22104	22,278	70	15,595	72	11228.112	85	40	50	58	$6,512	100%	**$6,500**
441	*Quercus coccinea*	12.4	d		174.00	3	$ 72.00	120.70	7	114	8208	8,382	95	7,963	72	5733.288	85	60	50	65	$3,727	100%	**$3,730**
442	*Pseudotsuga menziesii*	27.2	c		139.00	3	$ 57.00	580.77	7	574	32718	32,857	75	24,643	72	17742.78	85	60	60	68	$12,065	100%	**$12,100**
443	*Liquidambar styraciflua*	11.2	d		174.00	3	$ 72.00	98.47	7	91	6552	6,726	65	4,372	69	3016.611	85	40	60	62	$1,870	100%	**$1,870**
444	*Pseudotsuga menziesii*	30.4	c		139.00	3	$ 57.00	710.13	7	703	40071	40,210	75	30,158	72	21713.4	85	60	50	65	$14,114	100%	**$14,100**
445	*Acer rubrum*	9.4	d		174.00	3	$ 72.00	69.36	7	62	4464	4,638	60	2,783	63	1753.164	85	50	50	62	$1,087	100%	**$1,090**
446	*Acer rubrum*	15.8	d		174.00	3	$ 72.00	195.97	7	189	13608	13,782	60	8,269	72	5953.824	85	50	50	62	$3,691	100%	**$3,690**
447	*Acer rubrum*	11.2	d		174.00	3	$ 72.00	98.47	7	91	6552	6,726	60	4,036	72	2905.632	85	50	50	62	$1,801	100%	**$1,800**
448	*Acer rubrum*	15.3	d		174.00	3	$ 72.00	183.76	7	177	12744	12,918	60	7,751	72	5580.576	85	50	50	62	$3,460	100%	**$3,460**
449	*Acer rubrum*	13	d		174.00	3	$ 72.00	132.67	7	126	9072	9,246	60	5,548	72	3994.272	85	50	50	62	$2,476	100%	**$2,480**
450	*Sequoiadendron giganteum*	11	c		139.00	3	$ 57.00	94.99	7	88	5016	5,155	95	4,897	75	3672.9375	85	60	60	68	$2,498	100%	**$2,500**
664	Cedrus deodara	23	c		139.00	3	$ 57.00	415.27	7	408	23256	23,395	80	18,716	75	14037	85	70	70	75	$10,528	100%	**$10,500**
755	Acer platanoides(norway maple)	10	d		174.00	3	$ 72.00	78.50	7	71	5112	5,286	75	3,965	69	2735.505	85	40	70	65	$1,778	100%	**$1,780**
867	Pyrus calleryana	2.3	d		174.00	3	$ 72.00	4.15	7	-3	-216	-	50	-	71	0	85	20	40	48	$0	100%	**$0**
868	Pyrus calleryana	2.6	d		174.00	3	$ 72.00	5.31	7	-2	-144	30	50	15	71	10.65	85	20	40	48	$5	100%	**$10**
921	Acer platanoides(norway maple)	10.9	d		174.00	3	$ 72.00	93.27	7	86	6192	6,366	75	4,775	66	3151.17	85	50	50	62	$1,954	100%	**$1,950**
933	Liquidambar styraciflua(American	15.7	d		174.00	3	$ 72.00	193.49	7	186	13392	13,566	65	8,818	72	6348.888	85	50	60	65	$4,127	100%	**$4,130**

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replacement tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replacement Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Condition Rating	Adjusted value for condition rating	Site Rating (%)	Contribution Rating (%)	Placement Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
934	Liquidambar styraciflua(American	11.2	d		174.00	3	$ 72.00	98.47	7	91	6552	6,726	95	6,390	75	4792.275	85	50	60	65	$3,115	100%	$3,110
944	Platanus acerifolia	16.8	d		174.00	3	$ 72.00	221.56	7	214	15408	15,582	70	10,907	72	7853.328	80	60	50	63	$4,948	100%	$4,950
945	Platanus acerifolia	12.5	d		174.00	3	$ 72.00	122.66	7	116	8352	8,526	70	5,968	72	4297.104	80	60	50	63	$2,707	100%	$2,710
946	Platanus acerifolia	14.7	d		174.00	3	$ 72.00	169.63	7	163	11736	11,910	70	8,337	72	6002.64	80	60	50	63	$3,782	100%	$3,780
969	Populus tremuloides	11	d		174.00	3	$ 72.00	94.99	7	88	6336	6,510	75	4,883	75	3661.875	80	60	70	70	$2,563	100%	$2,560
971	Populus tremuloides	8.9	d		174.00	3	$ 72.00	62.18	7	55	3960	4,134	75	3,101	75	2325.375	80	60	70	70	$1,628	100%	$1,630
972	Cedrus deodara	17.5	c		139.00	3	$ 57.00	240.41	7	233	13281	13,420	80	10,736	75	8052	80	60	70	70	$5,636	100%	$5,600
973	Cedrus deodara	23.7	c	14.5, 18.8	139.00	3	$ 57.00	440.93	7	434	24738	24,877	80	19,902	72	14329.152	80	60	70	70	$10,030	100%	$10,000
1112	Pyrus calleryana	11.4	d		174.00	3	$ 72.00	102.02	7	95	6840	7,014	50	3,507	75	2630.25	85	60	50	65	$1,710	100%	$1,710
1113	Pyrus calleryana	11	d		174.00	3	$ 72.00	94.99	7	88	6336	6,510	50	3,255	75	2441.25	85	60	50	65	$1,587	100%	$1,590
1137	Quercus rubra(red oak)	17	d		174.00	3	$ 72.00	226.87	7	220	15840	16,014	90	14,413	75	10809.45	85	50	40	58	$6,269	100%	$6,300
1138	Quercus rubra(red oak)	16.4	d		174.00	3	$ 72.00	211.13	7	204	14688	14,862	90	13,376	75	10031.85	85	50	40	58	$5,818	100%	$5,800
3001	Quercus palustris(pin oak)	17.2	d		174.00	3	$ 72.00	232.23	7	225	16200	16,374	70	11,462	72	8252.496	85	40	50	58	$4,786	100%	$4,790
3003	Quercus palustris(pin oak)	15	d		174.00	3	$ 72.00	176.63	7	170	12240	12,414	70	8,690	75	6517.35	85	40	50	58	$3,780	100%	$3,780
3004	Quercus palustris(pin oak)	15.4	d		174.00	3	$ 72.00	186.17	7	179	12888	13,062	70	9,143	72	6583.248	85	40	50	58	$3,818	100%	$3,820
3007	Pseudotsuga menziesii(Douglas fi	28.6	c		139.00	3	$ 57.00	642.10	7	635	36195	36,334	75	27,251	69	18802.845	85	60	60	68	$12,786	100%	$12,800
3014	Liquidambar styraciflua(American	14.4	d		174.00	3	$ 72.00	162.78	7	156	11232	11,406	65	7,414	72	5338.008	85	40	60	62	$3,310	100%	$3,310
3076	Liquidambar styraciflua(American	14.5	d		174.00	3	$ 72.00	165.05	7	158	11376	11,550	65	7,508	75	5630.625	85	40	60	62	$3,491	100%	$3,490
3083	Fagus sylvatica(green beech)	13.2	d		174.00	3	$ 72.00	136.78	7	130	9360	9,534	60	5,720	75	4290.3	85	50	60	65	$2,789	100%	$2,790
3901	Acer platanoides(norway maple)	10.4	d		174.00	3	$ 72.00	84.91	7	78	5616	5,790	75	4,343	66	2866.05	85	50	50	62	$1,777	100%	$1,780
4197	Pyrus calleryana	2.5	d		174.00	3	$ 72.00	4.91	7	-2	-144	30	50	15	71	10.65	85	20	40	48	$5	100%	$10
4260	Quercus rubra(red oak)	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	90	7,025	75	5269.05	85	50	40	58	$3,056	100%	$3,060
4261	Quercus rubra(red oak)	13.6	d		174.00	3	$ 72.00	145.19	7	138	9936	10,110	90	9,099	75	6824.25	85	50	40	58	$3,958	100%	$3,960
5429	Sequoiadendron giganteum(giant	16	c		139.00	3	$ 57.00	200.96	7	194	11058	11,197	95	10,637	75	7977.8625	85	40	50	58	$4,627	100%	$4,630
5487	Quercus palustris(pin oak)	14.4	d		174.00	3	$ 72.00	162.78	7	156	11232	11,406	70	7,984	75	5988.15	85	40	50	58	$3,473	100%	$3,470
5491	Quercus palustris(pin oak)	14.6	d		174.00	3	$ 72.00	167.33	7	160	11520	11,694	70	8,186	72	5893.776	85	40	50	58	$3,418	100%	$3,420
10485	Sequoiadendron giganteum(giant	40	c		139.00	3	$ 57.00	1149.00	7	1142	65094	65,233	95	61,971	75	46478.513	85	60	60	68	$31,605	100%	$31,600
##	Scouler's Willow; no number on su	5.5	d		174.00	3	$ 72.00	23.75	7	17	1224	1,398	30	419	25	104.85	85	30	40	52	$55	100%	$50
##	Scouler's Willow; no number on su	7.9	d		174.00	3	$ 72.00	48.99	7	42	3024	3,198	30	959	66	633.204	85	30	40	52	$329	100%	$330
##	Scouler's Willow; no number on su	14.3	d	9.2, 11	174.00	3	$ 72.00	160.52	7	153	11016	11,190	30	3,357	66	2215.62	85	30	40	52	$1,152	100%	$1,150
C3	*Salix lucida*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	40	3,122	28	874.272	85	10	40	45	$393	0%	$0
D3	*Alnus rubra*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	45	3,513	56	1967.112	85	20	40	48	$944	10%	$90
E1	*Pseudotsuga menziesii*	29.8	c		139.00	3	$ 57.00	697.11	7	690	39330	39,469	75	29,602	75	22201.313	85	60	60	68	$15,097	10%	$1,510
E2	*Alnus rubra*	6.5	d		174.00	3	$ 72.00	33.17	7	26	1872	2,046	45	921	72	662.904	85	20	60	55	$365	20%	$70
E3	*Alnus rubra*	16	d		174.00	3	$ 72.00	200.96	7	194	13968	14,142	45	6,364	69	4391.091	85	20	40	48	$2,108	100%	$2,110
F1	*Pseudotsuga menziesii*	20.8	c		139.00	3	$ 57.00	339.62	7	333	18981	19,120	75	14,340	59	8460.6	85	40	10	45	$3,807	100%	$3,810
F2	*Alnus rubra*	6.5	d		174.00	3	$ 72.00	33.17	7	26	1872	2,046	45	921	72	662.904	85	20	60	55	$365	20%	$70
F3	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	25	367.875	85	10	40	45	$166	0%	$0
G1	*Pseudotsuga menziesii*	23.9	c		139.00	3	$ 57.00	448.40	7	441	25137	25,276	75	18,957	66	12511.62	85	40	40	55	$6,881	20%	$1,380
G3	*Alnus rubra*	12	d		174.00	3	$ 72.00	113.04	7	106	7632	7,806	45	3,513	56	1967.112	85	10	40	45	$885	100%	$890
H2	*Alnus rubra*	8	d		174.00	3	$ 72.00	50.24	7	43	3096	3,270	45	1,472	69	1015.335	85	20	60	55	$558	30%	$170
H3	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	56	424.872	85	10	40	45	$191	25%	$50
I3	*Alnus rubra*	6	d		174.00	3	$ 72.00	28.26	7	21	1512	1,686	45	759	50	379.35	85	10	40	45	$171	100%	$170
J3	*Alnus rubra*	4	d		174.00	3	$ 72.00	12.56	7	5	360	534	45	240	38	91.314	85	10	40	45	$41	100%	$40
K3	*Alnus rubra*	4	d		174.00	3	$ 72.00	12.56	7	5	360	534	45	240	25	60.075	85	0	0	28	$17	0%	$0
L3	*Thuja plicata*	28	c		139.00	3	$ 57.00	615.44	7	608	34656	34,795	90	31,316	72	22547.16	85	40	40	55	$12,401	100%	$12,400
M3	*Platanus acerifolia*	20	d		174.00	3	$ 72.00	314.00	7	307	22104	22,278	70	15,595	72	11228.112	85	40	50	58	$6,512	100%	$6,500
N2	*Picea abies*	14.7	c		139.00	3	$ 57.00	169.63	7	163	9291	9,430	60	5,658	72	4073.76	80	50	50	60	$2,444	100%	$2,440
N3	*Quercus palustris*	14.3	d		174.00	3	$ 72.00	160.52	7	153	11016	11,190	85	9,512	72	6848.28	85	60	60	68	$4,657	100%	$4,660
O2	*Picea abies*	15.8	c		139.00	3	$ 57.00	195.97	7	189	10773	10,912	60	6,547	72	4713.984	80	50	50	60	$2,828	100%	$2,830
O3	*Cedrus deodara*	12.8	c		139.00	3	$ 57.00	128.61	7	122	6954	7,093	80	5,674	69	3915.336	85	40	60	62	$2,428	100%	$2,430
P2	*Picea abies*	16.6	c		139.00	3	$ 57.00	216.31	7	209	11913	12,052	60	7,231	69	4989.528	80	50	50	60	$2,994	100%	$2,990

Trunk Formula Method Appraisal

Tree #	Species	Trunk Diameter (inches)	Deciduous or Conifer	Multi-stem diameters	Replacement Cost	diameter of replace-ment tree (in)	Basic Price of replacement tree	Appraised Trunk Area	Replace-ment Trunk Area	Trunk Difference	Trunk Price Difference (basic price x trunk difference)	Basic Value (replacement cost + adjusted differences)	Species Rating	Adjusted value for species rating	Conditio n Rating	Adjusted value for condition rating	Site Rating (%)	Contrib ution Rating (%)	Placem ent Rating (%)	Calculated Location Rating (%)	Adjusted Location Value ($)	Percent Loss	Appraised Value
P3	*Pseudotsuga menziesii*	22	c		139.00	3	$ 57.00	379.94	7	373	21261	21,400	75	16,050	75	12037.5	85	60	60	68	$8,186	100%	**$8,200**
Q3	*Pseudotsuga menziesii*	20.5	c		139.00	3	$ 57.00	329.90	7	323	18411	18,550	75	13,913	75	10434.375	85	60	60	68	$7,095	100%	**$7,100**

Appraisal is rounded tc

$856,740

ISA Trunk Formula Method Spreadsheet

Date: //2012		Notes
Tree ID: 1		
Location:		
Appraiser:		
1. Species	Pyrus Calleryana	
2. Condition Rating (%)	81%	
Foliage & twigs (rating 1-4)	4	
Scaffold branches (rating 1-4)	3	
Trunk (rating 1-4)	3	
Roots (rating 1-4)	3	
3. DBH (Diameter at Breast Height in inches)	6	
4. Location = (Site % + Contribution % + Placement %)/3	50%	
Site (%)	50%	
Contribution(%)	50%	
Placement(%)	50%	
5. Species Rating (%)	65%	
6. Replacement Tree Size (diameter in inches)	3	
7. Replacement Tree Cost ($)	$ 174.00	
8. Installation Cost ($)	$ 306.00	
9. Installed Tree Cost ($380 - confier, $480 deciduous)	$ 480.00	
10. Unit Tree Cost ($72/in² Deciduous, $60/in² Conifer)	$ 72.00	
11. Appraised Trunk Area = d² (#3) x 0.785	$ 28.26	
12. Appraised Trunk Area Increase = (#11) - [d² (#6) x 0.785]	$ 21.20	
13. Basic Tree Cost = (#12) x (#10) + (#9)	$ 2,006.04	
14. Appraised Value = (#13) x (#5) x (#2) x (#4)	$ 529.72	
15. Appraised Value	**$ 530**	

Attachment C

TREE EVALUATION ASSESSMENT

TREE EVALUATION ASSESSMENT

A. Methods of Assessment - Value:

Many of the benefits and services provided by urban street trees are not easily assigned a dollar value. However, it was still imperative that dollar figure for the trees lost be determined to help assess the impacts of this proposal on the community. Therefore, PSE, the Parks Department and an independent, third-party consultant evaluated the trees.

PSE contracted Sound Urban Forestry, LLC (SFU) to perform an inventory, evaluation and value appraisal of the trees impacted by the proposed alignment. This evaluation identified 133 trees to be removed, with a value of $218,200.00. The methodology of this value is contained in the appraisal letter attached is available for public viewing in the project file.

At the same time, Parks Department staff performed their own tree evaluation based on early site plans. The staff evaluation, prepared by Melissa Brown, Street Tree Program Forester, and dated June 17, 2011 evaluated the cost of the trees to be approximately $1,238,000. It should be noted that this evaluation included removal of more trees than were finally proposed with the current alignment.

Because the Parks Department evaluation was so high and the PSE evaluation was so low, and because tree removal will be the major impact of this proposal, the City exercised the necessity for independent review per LUC 20.20.255.H and with approval by PSE, contracted an independent, third party evaluator to review PSE's initial evaluation and to independently inventory, evaluate and appraise the tree loss. Using the alignment and tree removal maps submitted by the applicant for these permits and updated 6-5-12, Tree Solutions, Inc (TSI) identified 295 trees to be removed on City-owned and managed property, which includes not only the right-of-way but Resource Management and Utilities-owned property. Tree Solutions Inc walked the alignment multiple times and their assessment methodology can be found in their Appraisal Report and Spreadsheet, Attachment B to the staff report. TSI used the industry-standard Trunk Formula Method to appraise the monetary value of trees considered too large to be replaced with nursery or field grown stock. The Trunk Formula Method takes into account the following: basic tree costs, species rating, condition factor, location factor, contribution factor (which includes the functional and aesthetic benefits and amenities the plants provide), and the placement factor. Initial assessment of the trees was completed in July, 2012 and was revised in the report in July, 2013 due to the following factors:

- Slight adjustments to the alignment and identification of trees that were not originally identified by PSE
- The right-of-way was staked to ensure that trees counted were either in the right-of-way, out of the right-of-way but on city-owned property, or were city-owned and planted trees on private property where the right-of-way, public easements, and private property overlapped.
- Removal of the SE 16th segment of the project from the overall totals. These trees will be re-evaluated when this segment of the line is designed along with proposed Transportation projects on that street.

As a result of the latest evaluation and appraisal, TSI appraised the value of the trees to be removed at $ $878,940. However, after further deliberation between PSE and the City, and based on the fact that the Trunk Formula Method includes in the formula for each tree a dollar amount for the installation of a replacement tree, it was determined that the

installation cost should be removed from the overall evaluation total. This is based on the fact that PSE will be responsible for the installation of all of the mitigation and restoration work. It was reasonable not to make PSE pay twice for installation. The installation cost (labor cost) for all 295 trees was valued at $22,200 (see revised spreadsheet in Attachment B to the staff report). Thus, the total value of the trees removed, minus the replacement installation cost, is **$856,740**.

Based partially on the fact that the Trunk Formula Method also includes an amount for the replacement cost of the tree, it was further determined that PSE will be able to this money for all materials required for the mitigation/restoration work, including plants, soil, irrigation materials, etc. **Refer to Conditions of Approval regarding fee in lieu in Section XI of the staff report.**

The difference between the SUF evaluation and the TSI evaluation is due partially to the following factors:

- SUF omitted the trees outside of the right-of-way, but still on city-owned property
- The SUF analysis was completed early in the review process and does not take into account changes to the route since their appraisal was completed.
- SUF consistently assess tree conditions lower than TSI:
  - The SUF average condition rating is 46%
  - The TSI average condition rating is 63%
  - A rating below 50% implies that the trees have major to extreme issues in all five factors – roots, trunk, branches, twigs and foliage. The city has a policy of replacing street trees with major problems in general, so it is difficult to believe that most trees in the right-of-way and on city-owned land would have scores below 50%.
- Location values are assessed significantly lower in the SUF appraisal:
  - The SUF average location rating is 41%
  - TSI's average location rating is 55%
  - SUG does not identify how the three factors that create this rating are calculated (site, contribution, and placements), but it is felt that they have rated the site portion of this calculation significantly lower than TSI. The right-of-way is significantly different from adjacent property. Site rating can be tricky and experience valuing trees in rights-of-way locations is essential. Due to its scarcity, right-of-way sites are much more valuable than adjacent property, as there is intense competition for land se within this limited zone.

Although the final value was less than originally determined by City staff, the City endorses the methodology and independent conclusions from TSI and will use this analysis and final value to determine mitigation and compensation for the environmental and visual impacts resulting from the loss of mature City property (trees) that will result from this project.

It has been determined through the conditional use process and via a mitigated SEPA review that PSE enter into an agreement with the City of Bellevue whereby PSE will pay the City of Bellevue $856,740, which will then be put into a fund to pay for materials only, including plants and irrigation (note that this figure does not include trees on the SE 16th Street segment) to be used for the restoration and mitigation landscaping. PSE will be responsible for the production of the final landscape and irrigation plans, which will be reviewed under the Clearing and Grading Permit, and installation of all restoration and mitigation work. **Refer to Conditions of Approval regarding the final landscape and irrigation plans and the fee in lieu in Section XI of the staff report.**

B. Mitigation Plan:

1. Background:

Prior to PSE's development of a mitigation plan for this proposal during permit review, the City's Urban Boulevards Initiative entire 148th Street corridor from SE 28th Street to Bel Red Road – also group contracted with the design firm OTAK to perform an assessment of the including the segments of the transmission route on NE 8th Street and SE 16th Street – to help identify areas that would be most impacted by the proposal and identify opportunities for mitigation as well as enhancement. OTAK produced the 148th Avenue Urban Boulevard Concept Plan – Opportunities & Challenges Analysis[1] (referred to in this report as the 148th Avenue Concept Plan). This document identified opportunities and challenges occurring all along the corridors (primarily 148th Avenue) and paid careful attention to those areas that would be impacted by the PSE project. The master plan provided a long term vision and recommendations for streetscape enhancements throughout the corridor to enhance its overall vision as one of the City's urban boulevards and to ensure that future enhancements were not piecemeal and were consistent with the existing character. The vision for Bellevue's urban boulevards and intersections calls for a cohesive network of scenic streetscapes, greenways, and gateways that strongly communicates a sense of arrival and place, while also reinforcing the City's Northwest character and image as a "City in a Park."

The 148th Avenue is a corridor emblematic of Bellevue as "City in a Park." It is a heavily treed parkway with a rich mix of mature evergreens and deciduous trees, wide medians, and frontage plantings that serve to protect the adjacent neighborhoods from the high volumes of traffic on the road, as well as to present a beautiful travel experience and attractive pedestrian environment. There are many pleasant segments of the corridor for walking that provide access between neighborhoods, parks, schools, shopping areas, and other destinations.

New landscaping will need to be phased and leveraged with adjacent development as it occurs. Ensuring a cohesive approach to the streetscape and avoiding a patchwork of smaller projects will be important.

The design concepts presented in the 148th Avenue Concept Plan not only helped to guide PSE's proposed mitigation for this transmission line project, but will also help to guide all future planning, design, construction, and maintenance of streetscape improvements along 148th Avenue in a cohesive manner.

Recommendations for streetscape plantings and treatments that are consistent with the community's vision for 148th Avenue, as well as the City's long-term goals and objectives for urban boulevards, were provided.

2. Focus of PSE Project Mitigation:

The mitigation for the PSE project will enhance the 148th urban boulevard character consistent with the Concept Plan. The landscape mitigation proposed by PSE will be focused in specific areas where the transmission line will most greatly affect existing trees and landscaping. The level of landscaping proposed is influenced by:

- The proposed location of transmission lines on one side of the street and not both sides (except at crossing points); and

[1] 148th Avenue Urban Boulevard Concept Plan, prepared by OTAK, dated August, 2012

- Areas of tree removal and trimming as a basis for determining the level of mitigation to be provided (see methodology below).

3. **Methodology for Determining Mitigation Levels along the Project Alignment:** Based on the proposed 115 KV transmission line route, pole location, and effects related to tree removal and aesthetics, treatments levels of low intensity, medium intensity, and high intensity were assigned to the entire length of the proposed installation. In the high intensity treatments areas, the landscape design reflects the guiding principles of the Enhanced Rights-of-Way and Urban Boulevards Program and the City's Urban Boulevard Street Planting/Category 4 Streetscape[2].

The following factors were considered in determining mitigation intensity levels for planting treatments:

- ***Neighborhood Character***—Does the tree or group of trees to be removed contribute significantly to the character of the roadside and neighborhood? Would the trees be characterized as benefiting the "City in a Park" theme? Are there very large exceptional trees that help define the neighborhood?

- ***Screening***—Are the trees to be removed functioning as a visual screen or buffer especially for views from adjacent residences to the roadways? Are the trees screening views of buildings as viewed from the roadways? Will the visual character of the roadway be diminished because buildings become noticeable where trees once screened those views?

- ***Specimen Quality/Rarity***—Is the tree to be removed a unique species and distinctive specimen which would leave a noticeable gap in the streetscape (high to medium intensity level)? Or is the tree a native tree such as a cottonwood, willow or alder that is viewed against the backdrop of a forested or heavily treed area and would not be noticed if removed (low intensity level)?

Based on these factors, and in-the-field analysis of existing aesthetic conditions along the corridor, as well as available public space in the right-of-way for landscaping, high, medium, and low intensity levels were assigned to the project area. These assignments are reflected in the C and D series of maps of this package.

Areas adjacent to wetland buffers were classified separately. These areas will receive a medium level of treatment in the space directly surrounding poles and beneath the transmission lines, but without the trees proposed in the medium level.

4. **Treatment Level Characteristics and Cost Calculations:** Landscape concept plans have been developed to illustrate the characteristics of the landscape proposed for each treatment level in plan, section, and perspective views (B series pages in this package). Proposed planting areas along the alignment have been defined and mapped for each treatment level (C series pages in the Conceptual Mitigation Plan). Based on local industry costs (including materials and labor) for landscaping, cost estimates were developed for each treatment level. Assumptions are described below and on the concept plans. This cost analysis was requested by the City to ensure that the monetary compensation required for the removal of the

[2] Environmental Best Management Practices and Design Standards Manual 2012, Chapter 8, Bellevue Parks and Community Services

trees would "buy" adequate levels of mitigation to compensate for the removal of 295 public trees.

High Level Mitigation—$10.00 to $12.00 per Square Foot

- Proposed landscaping is focused directly beneath transmission lines
- Existing lawn and groundcover removed and replaced
- Soil improvement/amendment
- Staggered, double row of low-growing trees (approx. 20' on center)
- Two shrub layers/mass plantings (30" height or less)
- Groundcover plants
- Irrigation retrofit work

Medium Level of Mitigation—$7.00 to $9.00 per Square Foot

- Proposed landscaping is focused directly beneath transmission lines
- Existing lawn and groundcover removed and replaced
- Soil improvement/amendment
- Low-growing trees (single row approx. 20' on center)
- Single shrub layer/mass planting (30" height or less)
- Groundcover plants
- Irrigation retrofit work

Low Level of Mitigation—$3.00 to $6.00 per Square Foot

- Proposed landscaping is focused directly beneath transmission lines
- Existing lawn and groundcover removed and replaced
- Soil improvement/amendment
- Low-growing trees (single row approx. 20' on center)
- No shrubs
- Groundcover plants or grass replacement
- Irrigation retrofit work

Wetland Buffer Mitigation--$6.00 to $8.00 per Square Foot

- Proposed landscaping is focused directly beneath transmission lines
- Existing lawn and groundcover removed and replaced
- Soil improvement/amendment
- Staggered mix of native shrubs, tall, medium, and low growing
- Irrigation retrofit work; could consider temporary irrigation system until plant establishment

Cost calculations for the planting areas in these treatment categories are summarized on the table on the on page A-3 of the Mitigation Plan and on the individual maps in the C series pages. However, actual costs will be based on the final landscape plans that will be reviewed by the City during Clearing and Grading Permit review.

PSE will be required to pay the City $856,740 for materials only (plants, soil, irrigation, etc.). If there is money left over after all of the required mitigation work has been installed, this money may be used by the City to install additional landscaping in the right-of-way along the route, post-construction of the line.

In addition, the mitigation money paid to the City will ***not*** be used for landscape enhancement along the proposed Se 16th Street alignment from 148th Avenue SE to 156th Avenue SE and the Phantom Lake Substation. When the SE 16th Street portion of the transmission line is implemented, PSE will be required to compensate the City

for the removal of any trees along this portion of the line. **Refer to Condition of Approval regarding payment for tree removal in Section XI of the staff report.**

5. **Site Disturbance around New Poles**
The amount of disturbance around the individual poles will be approximately 25 square feet around the wooden poles and up to 100 square feet around the glu-lam/steel poles. None of the poles will be located within critical areas or critical area buffers. PSE will be required to restore any areas of disturbance due to the construction of the transmission poles. **Refer to Condition of Approval regarding restoration of sites around poles in Section XI of the staff report.**

6. **Planting Palette**
The plant species for the identified treatment areas should be selected from the recommended planting palette (E series of pages) in the Conceptual Mitigation Plan and as directed by the Parks Department. This palette was developed as a product of the 148th Urban Boulevard Concept Plan. As the applicant develops the final landscape and irrigation plans for the Clearing and Grading permit, they will be required to work with the Parks Department to further refine the plant palette and accommodate all of the conditions of approval contained in this report. **Refer to Condition of Approval regarding the final landscape and irrigation plans in Section XI of the staff report.**

Attachment D

SEPA CHECKLIST

Sally Nichols Oct. 23, 2014

City of Bellevue Submittal Requirements | **27a**

ENVIRONMENTAL CHECKLIST

12/29/2011

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call Development Services (425-452-6800) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service). .

BACKGROUND INFORMATION

Received DEC 30 2011 Permit Processing

Property Owner: Puget Sound Energy (franchise holder) ✓

Proponent: Puget Sound Energy ✓

Contact Person: Jeff McMeekin, Land Planner ✓
Puget Sound Energy
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: PO Box 97034, PSE 9N ✓
Bellevue, Washington 98034-9734

Phone: 425-462-3824

Approval of line down SE 16th. But then Mitigated SEPA, cannot be on S. side of street

Proposal Title: Lake Hills – Phantom Lake 115 kV Loop ✓

Proposal Location: SE 16th Street, 148th Avenue NE, and NE 8th Street public rights-of-way and private property between Phantom Lake Substation at 15457 SE 16th Street (Parcel #0224059137) and Lake Hills Substation at 16325 NE 8th Street (Parcel #3316500006). ✓
(Street address and nearest cross street or intersection) Provide a legal description if available. ✓
Phantom Lake Substation: N 230 FT of E 230 FT of NE ¼ OF SW ¼ LESS CO RDS TCO 17-747
Lake Hills Substation: HILL-SIRE ADD LESS ST – TCO 17-1193

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: ✓

PSE is proposing to establish a new 115 kV overhead transmission line corridor between Phantom Lake Substation and Lake Hills Substation to accommodate the installation of a new 115 kV overhead transmission line. The purpose of the Lake Hills to Phantom Lake 115 kV Transmission Line Project is to improve reliability and allow for better use of existing capacity at the community and local level.

Construction of a new transmission line to connect the Lake Hills and Phantom Lake Substations will create a "loop," which means each substation will be fed by two transmission lines. If one transmission line goes out, the other line will still feed the substation and customers. In addition, with the new line, PSE will be able to use each of the substations to its designed capacity. The new transmission line will allow PSE to better use the existing capacity of the substations without additional substation expansion. In addition, the College Substation and its service area (located immediately to the west of the Phantom Lake service area) will indirectly benefit from the new transmission line.

The proposed route would begin at the Lake Hills Substation; extend westerly along the south side of NE 8th Street, to the west side of the intersection with ✓

SN

ENVIRONMENTAL CHECKLIST

12/29/2011

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call Development Services (425-452-6800) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service).

BACKGROUND INFORMATION

Property Owner: Puget Sound Energy (transmission holder)

Proponent: Puget Sound Energy

Contact Person: Jeff McMeekin, Lead Planner
Puget Sound Energy
(if different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: PO Box 97034, PSE 8N
Bellevue, Washington 98009-9734

Phone: 425-462-3824

Proposal Title: Lake Hills – Phantom Lake 115 kV Loop

Proposal Location: SE 16th Street, 148th Avenue NE, and NE 8th Street public right-of-way and private property between Phantom Lake Substation at 15457 SE 16th Street (Parcel 0322049017) and Lake Hills Substation at 15325 NE 8th Street (Parcel #3318500008).

(Street address and nearest cross street or intersection) Provide a legal description if available.
Phantom Lake Substation: N 223 FT of E 230 FT of NE ¼ OF SW ¼ LESS CO RDS TOG 17-74
Lake Hills Substation: HILL SHRE ADD LESS ST – TOG 17-1193

Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description:

PSE is proposing to establish a new 115 kV overhead transmission line corridor between Phantom Lake Substation and Lake Hills Substation to accommodate the installation of a new 115 kV overhead transmission line. The purpose of the Lake Hills to Phantom Lake 115 kV Transmission Line Project is to improve reliability and allow for better use of existing capacity at the community and local level.

Construction of a new transmission line to connect the Lake Hills and Phantom Lake Substations will create a "loop," which means each substation will be fed by two transmission lines. If one transmission line goes out, the other line will still feed the substation and customers. In addition, with the new line, PSE will be able to use each of the substations to its designed capacity. The new transmission line will allow PSE to better use the existing capacity of the substations without additional substation expansion. In addition, the Cottage Substation and its service area (located immediately to the west of the Phantom Lake service area) will indirectly benefit from the new transmission line.

The proposed route would begin at the Lake Hills Substation, extend westerly along the south side of NE 8th Street, to the west side of the intersection with

Received
DEC 30 2011
Permit Processing

Approved as to form: Deputy City Attorney
Date: 3-30-12

156th Avenue NE. West of 156th Avenue NE, the line would cross to the north side of NE 8th Street. The line would then extend along the north side of NE 8th Street, passing condominium developments and wetlands associated with Kelsey Creek to and across 148th Avenue NE. From the northwest corner of NE 8th St. and 148th Avenue (adjacent to a small wetland area), the line would extend southerly along the west side of 148th Avenue past the commercial area and continue to a point north of NE 3rd Street, where it would cross to the east side of 148th Avenue (south of the existing residences near right-of-way edge). The line would remain along the east side of 148th until Main Street, where it would then cross back to the west to avoid proposed east side frontage improvements. The line would then remain on the west side, and extend south to SE 16th Street, along the edge of a residential area. At SE 16th Street, the line would cross 148th and continue east on the south side of SE 16th Street, through a residential area, to the Phantom Lake Substation.

This segment runs on SE 16th, where there is already a transmission line (with distrib. lines) on the north side of the street. The impacts to a residential neighborhood are too great to be mitigated via codes and regs. Mitigated SEPA will ~~require~~ prohibit line on south side of street. Must be colocated on north side, undergrounded, etc. so no trees lost on S. side.

The new transmission line will be supported on single wooden, steel poles, or weathered steel, with typical heights of 70 to 80 feet above ground. Additional project activities include stringing conductor wire between installed poles; and vegetation management activities (tree removal or trimming) to meet transmission line clearance requirements as needed.

Work within the Lake Hills and Phantom Lake Substations will occur in order to accommodate the new transmission line; new foundations will be installed to accommodate steel termination poles, bus supports, and switch gear. This work will be within the confines of the existing substation yards. The fences around each substation will be replaced due to aging and deterioration. A second driveway will be added to Lake Hills Substation.

Landscaping modifications will also occur at the substation sites. ✓ upgrades must be per requirements in LUC 20.20.255.F incl. site obscuring fence

2. Acreage of site: Phantom Lake Substation: 40,000 square feet (0.92 acres)
Lake Hills Substation: 72,817 square feet (1.67 acres) ✓
Public right-of-way alignment: 2.9 miles

3. Number of dwelling units/buildings to be demolished: none ✓

4. Number of dwelling units/buildings to be constructed: none ✓

5. Square footage of buildings to be demolished: none ✓

6. Square footage of buildings to be constructed: none ✓

7. Quantity of earth movement (in cubic yards): Approximately 477 cubic yards (total) will be removed for along entire alignment the pole installations. ✓

8. Proposed land use: Transmission line corridor for 115 kV electrical transmission line ✓ Electrical Facility LUC 20.20.255 ✓

9. Design features, including building height, number of stories and proposed exterior materials: The transmission poles will be made of wood, steel, or weathered steel and will typically be 70 -80 feet in height. majority wood poles w/ wood davit arms

Substation fencing will include the replacement of like kind materials. Lake Hills Substation includes a wooden fence to be replaced with a similar wooden fence. ✓

site obscuring per LUC 20.20.255.F for both substations

10. Other

SN

15th Avenue NE. West of 15th Avenue NE, the line would cross to the north side of NE 8th Street. The line would then extend along the north side of NE 8th Street, passing condominium developments and wetlands associated with Kelsey Creek to and across 148th Avenue NE. From the northwest corner of NE 8th St. and 148th Avenue (adjacent to a small wetland area), the line would extend southerly along the west side of 148th Avenue past the commercial area and continue to a point north of NE 3rd Street, where it would cross to the east side of 148th Avenue (south of the existing residences near right-of-way edge). The line would remain along the east side of 148th until Main Street, where it would then cross back to the west to avoid proposed east side frontage improvements. The line would then remain on the west side, and extend south to SE 16th Street, along the edge of a residential area. At SE 16th Street, the line would cross 148th and continue east on the south side of SE 16th Street, through a residential area, to the Phantom Lake Substation.

The new transmission line will be supported on single wooden, steel poles, or weathered steel, with typical heights of 70 to 80 feet above ground. Additional project activities include stringing conductor wire between installed poles; and vegetation management activities (tree removal or trimming) to meet transmission line clearance requirements as needed.

Work within the Lake Hills and Phantom Lake Substations will occur in order to accommodate the new transmission line; new foundations will be installed to accommodate steel termination poles, bus supports, and switch gear. This work will be within the confines of the existing substation yards. The fences around each substation will be replaced due to aging and deterioration. A second driveway will be added to Lake Hills Substation.

Landscaping modifications will also occur at the substation sites.

2. Acreage of site: Phantom Lake Substation: 40,000 square feet (0.92 acres)
Lake Hills Substation: 72,817 square feet (1.67 acres)
Public right-of-way alignment: 2.9 miles

3. Number of dwelling units/buildings to be demolished: none

4. Number of dwelling units/buildings to be constructed: none

5. Square footage of buildings to be demolished: none

6. Square footage of buildings to be constructed: none

7. Quantity of earth movement (in cubic yards): Approximately 477 cubic yards (total) will be removed for the pole installations.

8. Proposed land use: Transmission line corridor for 115 kV electrical transmission line

9. Design features, including building height, number of stories and proposed exterior materials: The transmission poles will be made of wood, steel, or weathered steel and will typically be 70 -80 feet in height.

Substation fencing will include the replacement of like kind materials. Lake Hills Substation includes a wooden fence to be replaced with a similar wooden fence.

10. Other

Estimated date of completion of the proposal or timing of phasing:
The construction is expected to begin early ~~2013~~ 2015. The duration of the project is expected to be between six to nine months.

(includes mitigation)

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
There are no future additions or expansions related to this proposal.

proposal "fixes" gap where substations only fed by one line

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Critical Area Report: Lake Hills – Phantom Lake 115 kV Transmission Line Project, GeoEngineers, December 2011. Revised 8/2/2012
Conditional Use Permit Application and Alternative Siting Analysis. December 29, 2011.
~~Alternative Siting Analysis prepared by PSE dated 12/29/2011~~ Conceptual Mitigation Plan by OTAK, dated 2/13/13

referred to as C.A. Assessment in staff report

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No other applications are pending.
11-131125-LO - critical areas land use permit
12-127693-WA - substantial shoreline development
11-131124-WG - shoreline conditional use

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

PSE plans in late 2012 to seek coverage under the Construction Stormwater General Permit (NPDES) issued by the Department of Ecology.
City of Bellevue administered permits and approvals are as follows:

- Alternative Siting Analysis req'd for LB - LUC 20.20.255.D
- Conditional Use Permit 11-131123-LB
- Shoreline Substantial Development Permit ~~12-131~~ 12-127693-WA
- Shoreline Conditional Use Permit 11-131124-WG
- Critical Areas Land Use Permit 11-131125-LO
- SEPA Threshold Determination
- Clearing and Grading Permit
  - Construction Stormwater Pollution Prevention Plan
  - Temporary Erosion and Sediment Control Plan
- Building Permit (Substation Fences)

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

X Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☐ Building Permit (or Design Review)
Site plan
Clearing & grading plan

SN

Estimated date of completion of the proposal or timing of phasing:
The construction is expected to begin early 2013. The duration of the project is expected to be between six to nine months.

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain:
There are no future additions or expansions related to this proposal.

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal:
Critical Area Report, Lake Hills – Phantom Lake 115 kV Transmission Line Project, Geoengineers, December 2011
Conditional Use Permit Application and Alternative Siting Analysis, December 23, 2011
Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known:
No other applications are pending.

List any governmental approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known:

PSE plans in late 2012 to seek coverage under the Construction Stormwater General Permit (NPDES) issued by the Department of Ecology.
City of Bellevue administered permits and approvals are as follows:

- Alternative Siting Analysis
- Conditional Use Permit
- Shoreline Substantial Development Permit
- Shoreline Conditional Use Permit
- Critical Areas Land Use Permit
- SEPA Threshold Determination
- Clearing and Grading Permit
  - Construction Stormwater Pollution Prevention Plan
  - Temporary Erosion and Sediment Control Plan
- Building Permit (Substation Fences)

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal).

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

X Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☐ Building Permit (or Design Review)
Site plan
Clearing & grading plan

X Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: X Flat ☐ Rolling ☐ Hilly ☐ Steep slopes ☐ Mountains ☐ Other

b. What is the steepest slope on the site (approximate percent slope)?

LUC 20.25H – site visit determined did not qualify as steep slope – but still needs restoration

GeoEngineers (Critical Areas Report, December 2011) observed two areas along the proposed corridor that potentially meet the definition of steep slopes regulated under LUC 20.25H.120. A potential steep slope (Steep Slope 1) is located immediately north of NE 8th Street approximately 1,000 feet east of 148th Avenue NE. Steep Slope 1 is inclined approximately 45 percent and has a vertical relief of approximately 10 to 20 feet.

A second potential steep slope (Steep Slope 2) is on the west side of 148th Avenue NE, approximately 600 feet south of NE 8th Street. The top of Steep Slope 2 is estimated to be 25 feet above the elevation of 148th Avenue and is completely vegetated by English ivy. An approximately 8-foot tall rockery is located at the toe of the slope and abuts the sidewalk.

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soil types vary throughout the project area depending upon location. Based on the Natural Resource Conservation Services Web Soil Survey, a majority of the project area contains Arents, Alderwood material (AmC) and Alderwood gravelly sandy loam (AgC). There are areas of Seattle Muck (Sk) due to the presence of wetlands along the route.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are no known surface indications or history of unstable soils in the immediate vicinity of the project area. The two steep slope areas identified above do not display the geomorphic characteristics that define Landslide Hazards under LUC 20.25H.120(A)(1) per GeoEngineers (Critical Areas Report, December 2011). Both steep slopes appear to be engineered and are stable.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Grading activities will be limited to excavation for pole installation. There are approximately 50 proposed poles along the route. Typically, poles are installed by augering a hole (generally 3 feet in diameter and 8-12 feet deep). The pole is placed in the hole and the hole is backfilled with gravel. The soil spoils are either spread around the base of the pole with a mulch covering or hauled off site to an approved disposal site.

Glu-lam preferred over steel no guying for both

For poles in areas that require additional stability such as soft soils, a caisson will be placed vertically in the ground. The soil will then be removed from inside the caisson. The pole will then be held in place while gravel is backfilled inside the caisson. steel poles – cons. glu-lam caisson

Total excavation work associated with the pole installation will include approximately 477 cubic yards. Excavation for the new foundations at the substations will include approximately 400 cubic yards of material.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

BCC ~~LUC~~ 23.76 – clearing and grading code

SN

X Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: X Flat ☐ Rolling ☐ Hilly ☐ Steep slopes ☐ Mountains ☐ Other

b. What is the steepest slope on the site (approximate percent slope)?

GeoEngineers (Critical Areas Report, December 2011) observed two areas along the proposed corridor that potentially meet the definition of steep slopes regulated under LUC 20.25H.120. A potential steep slope (Steep Slope 1) is located immediately north of NE 8th Street approximately 1,000 feet east of 148th Avenue NE. Steep Slope 1 is indicated approximately 45 percent and has a vertical relief of approximately 10 to 20 feet.

A second potential steep slope (Steep Slope 2) is on the west side of 148th Avenue NE, approximately 800 feet south of NE 8th Street. The top of Steep Slope 2 is estimated to be 25 feet above the elevation of 148th Avenue and is completely vegetated by English ivy. An approximately 6-foot tall rockery is located at the top of the slope and abuts the sidewalk.

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soil types vary throughout the project area depending upon location. Based on the Natural Resources Conservation Services Web Soil Survey, a majority of the project area contains Alderwood material (AmC) and Alderwood gravelly sandy loam (AgC). There are areas of Seattle Muck (Sk) due to the presence of wetlands along the route.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are no known surface indications or history of unstable soils in the immediate vicinity of the project area. The two steep slope areas identified above do not display the geomorphic characteristics that define Landslide Hazards under LUC 20.25H.120(A)(1) per GeoEngineers (Critical Areas Report, December 2011). Both steep slopes appear to be engineered and are stable.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Grading activities will be limited to excavation for pole installation. There are approximately 50 proposed poles along the route. Typically, poles are installed by augering a hole (generally 3 feet in diameter and 8-12 feet deep). The pole is placed in the hole and the hole is backfilled with gravel. The soil spoils are either spread around the base of the pole with a mulch covering or hauled off site to an approved disposal site.

For poles in areas that require additional stability such as soft soils, a caisson will be placed vertically in the ground. The soil will then be removed from inside the caisson. The pole will then be held in place while gravel is backfilled inside the caisson.

Total excavation work associated with the pole installation will include approximately 477 cubic yards. Excavation for the new foundations at the substations will include approximately 100 cubic yards of material.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

See 20.25H - determine that steep slope does not exist but still needs clearing and grading permit

See Lower Preliminary Report for path

See 20.25H for clearing and grading code

During construction, temporary measures (best management practices [BMPs]) will be implemented to reduce the potential for soil erosion. However, significant erosion is very unlikely at the substation, as the site is essentially flat and site disturbances will be kept to a minimum.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

50 x 10 SF per pole (maybe less after mt. since no concrete around poles wood gravel backfill so not 100% impervious)

Along the 2.9 mile long proposed corridor, approximately 500 square feet additional impervious surface will be added outside the substation yards as a result of this project.

g. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Appropriate BMPs will be used to reduce and/or minimize the potential for erosion and sedimentation. Disturbed areas will be revegetated where possible to provide long-term stabilization to the project area. A Construction Stormwater Pollution Prevention Plan will be produced and adhered to as a requirement under the City of Bellevue Clearing and Grading requirements.

BCC 23.76 clearing & grading

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Short-term emissions will result during construction from minor dust and exhaust from construction equipment. Soil will be exposed during brief periods of time during pole placement [and construction associated with substations]. Soil exposed during construction around the substations will be landscaped per the Final Approved Landscape Plans.

construction dust suppression per BCC 23.76

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions or odor that will affect this proposal. ✓

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

Standard emission control devices, in conformance with federal and state air quality standards, will be used during construction. Dust control BMPs, including wetting of exposed soil surfaces, will be implemented as needed by PSE's contractor to limit dust-generating sources. Efficient construction practices and timely restoration of areas of temporary disturbance will further reduce dust-generating sources. ✓

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. ✓

As shown in the attached Critical Areas Report, the following water bodies are located in the immediate vicinity of the site:

Kelsey Creek – Type F
Kelsey Creek Tributary – Type N
Larsen Lake Tributary – Type F

Critical Areas Report, prepared by GeoEngineers, Rev. Aug 2, 2012 in project file

SN

During construction, temporary measures (best management practices [BMPs]) will be implemented to reduce the potential for soil erosion. However, significant erosion is very unlikely at the substation, as the site is essentially flat and site disturbances will be kept to a minimum.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Along the 2.9 mile long proposed corridor, approximately 800 square feet additional impervious surface will be added outside the substation yards as a result of this project.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Appropriate BMPs will be used to reduce and/or minimize the potential for erosion and sedimentation. Disturbed areas will be revegetated where possible to provide long-term stabilization to the project area. A Construction Stormwater Pollution Prevention Plan will be produced and adhered to as a requirement under the City of Bellevue Clearing and Grading requirements.

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Short-term emissions will result during construction from minor dust and exhaust from construction equipment. Soil will be exposed during brief periods of time during pole placement (and construction associated with substations). Soil exposed during construction around the substations will be landscaped per the Final Approved Landscape Plans.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions or odor that will affect this proposal.

c. Proposed measures to reduce or control emissions or other impacts to the air, if any:

Standard emission control devices, in conformance with federal and state air quality standards, will be used during construction. Dust control BMPs, including watering of exposed soil surfaces, will be implemented as needed by PSE's contractor to limit dust-generating sources. Efficient construction practices and timely restoration of areas of temporary disturbance will further reduce dust-generating sources.

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

As shown in the attached Critical Areas Report, the following water bodies are located in the immediate vicinity of the site:

Kelsey Creek – Type F
Kelsey Creek Tributary – Type N
Larsen Lake Tributary – Type F

Wetland A – Category I
Wetland B – Category II
Wetland C – Category I
Wetland D – Category III

Refer to Critical Areas Report in project file dated 12/2011 prepared by GeoEngineers

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

The Phantom Lake Substation is located across 156th Avenue SE and SE 16th Street from the Lower Kelsey Creek wetlands. There is a small wetland (Wetland D) adjacent to the substation property on the southwest corner of SE 16th Street and 156th Avenue SE. No work is proposed within this wetland area. Some work may occur in the wetland buffer, which is currently substation landscaping.

The transmission route will run along the west side of 148th Avenue SE. Wetland C is included as part of the Lake Hills Greenbelt south of Main Street. Based upon field verification by GeoEngineers, the transmission poles will not be located within Wetland C, but will be located within the buffer adjacent to 148th Avenue SE. Kelsey Creek Tributary crosses under 148th Avenue SE going east – west along the northern portion of Wetland C. Larsen Lake Tributary also crosses under 148th Avenue SE within a culvert originating in Wetland C.

See Critical Areas Report and conceptual mitigation plan in project file.

The transmission line route crosses 148th Avenue NE from the west side to the east side of the right-of-way just north of Main Street. There is an unnamed wetland east of 148th Avenue NE along this segment of the route. New poles are proposed within the wetland buffer.

The route also runs along the north side of NE 8th Street east of 148th Avenue NE adjacent to Wetland A. The poles will not be located within the wetland, but will be located in the buffer adjacent to NE 8th Street as field verified by GeoEngineers. Kelsey Creek runs underneath NE 8th Street via a culvert and crosses through Wetland A.

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No dredging or filling is proposed within surface water bodies or wetlands as a result of this project.

only trees removed, stumps remain 12" or greater will be wildlife snags

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The proposal will not require any surface water withdrawals or diversions.

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The proposed transmission line crosses through the Larsen Lake and Kelsey Creek floodplains within the street right of way.
The Critical Areas Report attached identifies the floodplains associated with the project.

Lake Hills Greenbelt – Shoreline Jurisdiction

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposed project does not involve any discharges of waste materials to surface waters.

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general

SN

Wetland A – Category I
Wetland B – Category II
Wetland C – Category I
Wetland D – Category III

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described wetland? If Yes, please describe and attach available plans.

The Phinney Lake Substation is located across 156th Avenue SE and SE 16th Street from the Lower Kelsey Creek wetlands. There is a small wetland (Wetland D) adjacent to the substation property on the southwest corner of SE 16th Street and 156th Avenue SE. No work is proposed within this wetland area. Some work may occur in the wetland buffer, which is currently substation landscaping.

The transmission route will run along the west side of 148th Avenue SE. Wetland C is included as part of the Lake Hills Greenbelt south of Main Street. Based upon field verification by GeoEngineers, the transmission poles will not be located within Wetland C, but will be located within the buffer adjacent to 148th Avenue SE. Kelsey Creek Tributary crosses under 148th Avenue SE going east – west along the northern portion of Wetland C. Larsen Lake Tributary also crosses under 148th Avenue SE within a culvert originating in Wetland C.

The transmission line route crosses 148th Avenue NE from the west side to the east side of the right of way just north of Main Street. There is an unnamed wetland east of 148th Avenue NE along this segment of the route. New poles are proposed within the wetland buffer.

The route also runs along the north side of NE 8th Street east of 148th Avenue NE adjacent to Wetland A. The poles will not be located within the wetland, but will be located in the buffer adjacent to NE 8th Street as field verified by GeoEngineers. Kelsey Creek runs underneath NE 8th Street via a culvert and crosses through Wetland A.

(3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No dredging or filling is proposed within surface water bodies or wetlands as a result of this project.

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The proposal will not require any surface water withdrawals or diversions.

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The proposed transmission line crosses through the Larsen Lake and Kelsey Creek floodplains within the street right of way.
The Critical Areas Report attached identifies the floodplains associated with the project.

(6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposed project does not involve any discharges of waste materials to surface waters.

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general

description.

Ground water will not be withdrawing and water will not be discharged to ground water as a result of this project.

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources as a result of this project.

c. Water Runoff (Including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Runoff from the proposed project will be associated with stormwater that could originate during construction activities. Work within the substation will be relatively minor; therefore, containment of stormwater will be managed on site using appropriate BMPs.

(2) Could waste materials enter ground or surface waters? If so, generally describe.

Waste materials will not enter the ground or surface waters.

clearing and grading permit per BCC 23.76 - erosion control

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Vegetation removal and soil disturbance will be minimized to the extent possible. Areas that are disturbed will be controlled using appropriate BMPs.

Utilities Dept determined no stormwater impacts.

4. Plants

a. Check or circle types of vegetation found on the site:

x deciduous tree: alder, maple, aspen, other

x evergreen tree: fir, cedar, pine, other

x shrubs

x grass

☐ pasture

☐ crop or grain

x wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other

includes street trees and trees within COB open space include utilities property and Lake Hills Greenbelt - 295 city-owned trees total See tree inventory/assessment by Tree Solutions Inc in project file. (3rd party evaluator)

SN

description.

Ground water will not be withdrawing and water will not be discharged to ground water as a result of this project.

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural, etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources as a result of this project.

c. Water Runoff (including storm water)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Runoff from the proposed project will be associated with stormwater that could originate during construction activities. Work within the substation will be relatively minor; therefore, containment of stormwater will be managed on site using appropriate BMPs.

(2) Could waste materials enter ground or surface waters? If so, generally describe.

Waste materials will not enter the ground or surface waters.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Vegetation removal and soil disturbance will be minimized to the extent possible. Areas that are disturbed will be controlled using appropriate BMPs.

4. Plants

a. Check or circle types of vegetation found on the site:

x deciduous tree: alder, maple, aspen, other

x evergreen tree: fir, cedar, pine, other

x shrubs

x grass

□ pasture

□ crop or grain

x wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other

Ground water
Ground water
per SEC 23.76
Western Control

Utilities Dept
Determined no
stormwater
impacts

includes and trees
street trees open space include
within CSO open space take 1115
utilities property and take 1115
Greenbelt - 295 city-owned trees total
Tree Inventory / assessment by
Tree Solutions Inc w/ project fully
(Brd party evaluator)

45

☐ water plants: water lily, eelgrass, milfoil, other

☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

meet NERC standards. loss of trees compensated by fee in lieu and c/ mitigation landscaping. Refer to conceptual mitigation plan by OTAK in project file

In order to keep its obligation to provide safe and reliable service to its customers, PSE must establish and then maintain its utility corridors. A major part of the maintenance includes vegetation management which reduces tree caused outages. To prevent mature tree and transmission line conflicts, trees along the proposed route have been identified for removal and trimming. A majority of the trees to be removed are within the public right-of-way. Vegetation removal at the substation sites will be minimal. Removal of the trees is necessary as they will be in conflict with the new transmission lines. The transmission line will be above ground, thereby minimizing ground disturbances.

* remove 295 city-owned trees. Add'l trees to be removed on private property not part of this decision.

Transmission line corridor vegetation management will include the removal and/or trimming of approximately ~~490~~ * 295 trees, primarily composed of Douglas fir, big-leaf maple, red alder, Western red cedar, Western hemlock, black cottonwood, cherry, and flowering pears. A replanting effort will be defined through the permitting process.

conceptual mitigation plan by OTAK and tree evaluation by Tree Solutions Inc updated 10/16/13. 2/13/13

c. List threatened or endangered species known to be on or near the site. ✓

No known threatened or endangered species are on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: ✓

Vegetation enhancements along the transmission line corridor will be determined in coordination with the City of Bellevue.

Plant types in r.o.w will be coordinated w/ Parks, who will have maint. responsibility after 5 yr. maint/ monitoring is up. Plants identified in conceptual mit. plan

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site: ✓

merlins & pileated woodpeck habitat along SE 16th.

x Birds: hawk, heron, eagle, songbirds, other:

☐ Mammals: deer, bear, elk, beaver, other:

☐ Fish: bass, salmon, trout, herring, shellfish, other:

* due to this impact and other impacts of tree removal by running trans. line down both sides of SE 16th, PSE will not be allowed to run 2nd line down southside of street, thereby elim. need to destroy bird habitat. WAC 197-11-350 (MDNS)

b. List any threatened or endangered species known to be on or near the site. ✓

There are no known threatened or endangered species on or the near the site.

c. Is the site part of a migration route? If so, explain. ✓

The site, like much of western Washington is located within the Pacific Flyway. ✓

d. Proposed measures to preserve or enhance wildlife, if any:

Critical Areas mitigation may be consolidated with other vegetation enhancements and will be determined during the permitting process, in coordination with the City of Bellevue.

6. Energy and Natural Resources

Enhanced landscaping per conceptual Mitigation Plan

SN

☐ water plants: water lily, eelgrass, milfoil, other

☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

In order to keep its obligation to provide safe and reliable service to its customers, PSE must establish and then maintain its utility corridors. A major part of the maintenance includes vegetation management which reduces tree caused outages. To prevent mature tree and transmission line conflicts, trees along the proposed route have been identified for removal and trimming. A majority of the trees to be removed are within the public right-of-way. Vegetation removal at the substation sites will be minimal. Removal of the trees is necessary as they will be in conflict with the new transmission lines. The transmission line will be above ground, thereby minimizing ground disturbances.

Transmission line corridor vegetation management will include the removal and/or trimming of approximately 225 trees, primarily composed of Douglas fir, big-leaf maple, red alder, Western red cedar, Western hemlock, black cottonwood, cherry, and flowering pears. A replanting effort will be defined through the permitting process.

c. List threatened or endangered species known to be on or near the site.

No known threatened or endangered species are on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Vegetation enhancements along the transmission line corridor will be determined in coordination with the City of Bellevue.

3. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

x Birds: hawk, heron, eagle, songbirds, other:

☐ Mammals: deer, bear, elk, beaver, other:

☐ Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

There are no known threatened or endangered species on or the near the site.

c. Is the site part of a migration route? If so, explain.

The site, like much of western Washington is located within the Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

Critical Areas mitigation may be consolidated with other vegetation enhancements and will be determined during the permitting process, in coordination with the City of Bellevue.

4. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

The project is an electrical transmission line project and will not require additional energy.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The project will not affect the potential use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any:

PSE provides a broad array of services and programs to encourage energy conservation and efficient use of energy.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Electrical transmission lines, distribution lines, and substations create electric and magnetic fields (EMF). EMF also exists in nature and around all types of electrical devices and appliances. Electric fields are produced by the presence of electrical charges (voltage); the movement of charges (current) produces magnetic fields. The electrical and magnetic fields around electrical appliances and utility facilities such as electrical power lines are referred to as extremely low frequency EMF. Extremely low frequency EMF does not have sufficient energy to break molecular bonds or damage DNA.

Magnetic fields are generated by transmission and distribution lines. Magnetic field strength from power lines depends on many factors including the design of the line, the amount of current the line carries, and the distance away from the line. EMF data collected by BPA for a large number of transmission lines in the Pacific Northwest found 29.7 milligauss (mG) to be the mean magnetic field reading at ground level underneath under 115 kV lines. The strength of a magnetic field drops off exponentially - the magnetic field decreases with the square of the distance. As such, ground level readings taken at a distance of 50 feet horizontally from the transmission line were found to be approximately 6.5 mG.

PSE relies on the independent scientific research community for information regarding EMF and potential health effects. The consensus of the scientific community is described in a number of reports that have been released by respected independent scientific groups representing a variety of disciplines including physics, epidemiology, and cellular biology. A review of these sources has found no causal relationship between exposure to extremely low frequency EMF associated with 60 Hertz (Hz) electrical facilities and adverse effects to human health. Currently the EPA or any other health agency of the state or federal government does not regulate electric and magnetic fields. This is consistent with the consensus of the scientific community that there is no basis from which to conclude the exposures to EMF cause adverse health effects.

Draft Status of Health Research on electric and Magnetic Fields & Implications for Public policy - by Exponent dated 2007 for CoB. in project file.

2008

EMF was addressed in conjunction with the most recent update to the Utilities Element of the City of Bellevue Comprehensive Plan. The City concluded that the existing policies contained in the Utilities Element are still adequate and that after reviewing planning for existing and proposed transmission lines within Bellevue, that "...the existing transmission lines or even those proposed as far out into the future as 2030 would not be expected to produce field levels approaching ICNIRP or ICES guidelines for public exposure."

Exposure limits. Neither the U.S. government nor the State of Washington has established exposure standards for public exposure to power frequency EMF. Two international organizations, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the Institute of Electrical and Electronic Engineers (IEEE), have developed exposure guidelines. For power frequency (60 Hz) magnetic fields ICNIRP recommends public exposures not exceed 2,000 milliGauss (mG) and the IEEE recommends a maximum of 9,040 mG.

SN

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The project is an electrical transmission line project and will not require additional energy.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The project will not affect the potential use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any.

PSE provides a broad array of services and programs to encourage energy conservation and efficient use of energy.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Electrical transmission lines, distribution lines, and substations create electric and magnetic fields (EMF). EMF also exists in nature and around all types of electrical devices and appliances. Electric fields are produced by the presence of electrical charges (voltage); the movement of charges (current) produces magnetic fields. The electrical and magnetic fields around electrical appliances and utility facilities such as electrical power lines are referred to as extremely low frequency EMF. Extremely low frequency EMF does not have sufficient energy to break molecular bonds or damage DNA.

Magnetic fields are generated by transmission and distribution lines. Magnetic field strength from power lines depends on many factors including the design of the line, the amount of current the line carries, and the distance away from the line. EMF data collected by BPA for a large number of transmission lines in the Pacific Northwest found 29.7 milligauss (mG) to be the mean magnetic field reading at ground level underneath under 115 kV lines. The strength of a magnetic field drops off exponentially - the magnetic field decreases with the square of the distance. As such, ground level readings taken at a distance of 50 feet horizontally from the transmission line were found to be approximately 0.5 mG.

PSE relies on the independent scientific research community for information regarding EMF and potential health effects. The consensus of the scientific community is described in a number of reports that have been released by respected independent scientific groups representing a variety of disciplines including physics, epidemiology, and cellular biology. A review of these sources has found no causal relationship between exposure to extremely low frequency EMF associated with 60 Hertz (Hz) electrical facilities and adverse effects to human health. Currently the EPA or any other health agency of the state or federal government does not regulate electric and magnetic fields. This is consistent with the consensus of the scientific community that there is no basis from which to conclude the exposures to EMF cause adverse health effects.

EMF was addressed in conjunction with the most recent update to the Utilities Element of the City of Bellevue's Comprehensive Plan. The City concluded that the existing policies contained in the Utilities Element are still adequate and that after reviewing planning for existing and proposed transmission lines within Bellevue, that "...the existing transmission lines or even those proposed as far out into the future as 2030 would not be expected to produce field levels approaching ICNIRP or IEEE guidelines for public exposure."

Exposure limits. Neither the U.S. government nor the State of Washington has established exposure standards for public exposure to power frequency EMF. Two international organizations, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the Institute of Electrical and Electronic Engineers (IEEE), have developed exposure guidelines. For power frequency (60 Hz) magnetic fields ICNIRP recommends public exposures not exceed 2,000 milligauss (mG) and the IEEE recommends a maximum of 9,040 mG.

Grant County Public Utility District
Transmission Line Project
Bellevue - Vantage 230 kV
Project No. 2009

(1) Describe special emergency services that might be required.

No special emergency services are anticipated to be required for this project.

(2) Proposed measures to reduce or control environmental health hazards, if any.

No such measures are required.

FCC regulations certification by PSE engineer Carol Jaeger in project file

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

Noise within the area consists of generally traffic noise and will not affect the project.

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short-term noise impacts will result from equipment during construction. Construction activity will be confined to hours permitted under the Noise Code in BCC 9.18.020(C); 7:00 am – 6:00 pm during the week and 9:00 am – 6:00 pm on Saturdays (if weekend work is necessary). The transmission line will not generate long-term noise impacts. Noise from the new transmission line will not be audibly noticeable to adjacent property users.

(3) Proposed measures to reduce or control noise impacts, if any:

Short-term noise impacts will be limited to construction hours outlined in BCC 9.18.

Regulated by BCC 9.18 noise & construction hours.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The project begins and ends at electrical distribution substations. The transmission line corridor passes by single-family residential, multi-family residential, parks, office, and commercial uses.

b. Has the site been used for agriculture? If so, describe.

The proposed alignment is currently public right-of-way. The city- owned Larson Lake Blueberry Farm is located on the opposite (east) side of 148th Avenue SE from the transmission corridor. .

c. Describe any structures on the site.

The site includes two fenced substations and associated equipment. Will remain and be upgraded

d. Will any structures be demolished? If so, what?

No structures will be demolished as part of this project.

e. What is the current zoning classification of the site?

Substations allowed use - reg. by 20.20.255

The Phantom Lake Substation site is zoned Single-Family Residential, 1.8 units/acre (R-1.8) and the Lake Hills Substation site is zoned Office (O). Zoning district along the proposed transmission line alignment

SW

(1) Describe special emergency services that might be required.

No special emergency services are anticipated to be required for this project.

(2) Proposed measures to reduce or control environmental health hazards, if any.

No such measures are required.

b. Noise

(1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

Noise within the area consists of generally traffic noise and will not affect the project.

(2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short-term noise impacts will result from equipment during construction. Construction activity will be confined to hours permitted under the Noise Code in BCC 9.18.020(C); 7:00 am – 6:00 pm during the week and 9:00 am – 6:00 pm on Saturdays (if weekend work is necessary). The transmission line will not generate long-term noise impacts. Noise from the new transmission line will not be audibly noticeable to adjacent property users.

(3) Proposed measures to reduce or control noise impacts, if any.

Short-term noise impacts will be limited to construction hours outlined in BCC 9.18.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The project begins and ends at electrical distribution substations. The transmission line corridor passes by single-family residential, multi-family residential, parks, office, and commercial uses.

b. Has the site been used for agriculture? If so, describe.

The proposed alignment is currently public right-of-way. The city-owned Larson Lake Blueberry Farm is located on the opposite (east) side of 146th Avenue SE from the transmission corridor.

c. Describe any structures on the site.

The site includes two fenced substations and associated equipment.

d. Will any structures be demolished? If so, what?

No structures will be demolished as part of this project.

e. What is the current zoning classification of the site?

The Phantom Lake Substation site is zoned Single-Family Residential, 1.8 units/acre (R-1.8) and the Lake Hills Substation site is zoned Office (O). Zoning district along the proposed transmission line alignment

include: Single-Family Residential (R-1, R-1.8, R-3.5, R-5), Multi-family Residential (R-10, R-20), Office (O), Neighborhood Business (NB), and Community Business (CB).

f. What is the current comprehensive plan designation of the site?

The Comprehensive Plan designation for the Phantom Lake Substation site is Single-Family Low Density (R-1, R-1.8) and the designation for the Lake Hills Substation is Office (O). Comprehensive Plan designations along the route include: Single-Family Low Density (R-1, R-1.8), Single-Family Medium Density (R-2.5, R-3.5), Single-Family High Density (R-4, R-5), Multi-Family Low Density (R-10), Multi-Family Medium Density (R-15, R-20), Multi-Family High Density (R-30), Office (O), Community Business (CB), Professional Office (O), and Neighborhood Business (NB).

g. If applicable, what is the current shoreline master program designation of the site?

A portion of the corridor is located on the west side of 148th Ave and within the Shoreline Overlay District.

Wetland 'C' in critical Areas Report

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

The following environmentally sensitive areas can be found along the proposed transmission line corridor:

1. Streams and Riparian Areas
   - Kelsey Creek: Type F stream located on the north side of NE 8th Street, approximately 140 feet east of 148th Avenue NE.
   - Kelsey Creek Tributary: Type N stream located on the west side of 148th Avenue SE, approximately 700 feet south of Main Street.
   - Larsen Lake Tributary: Type F stream located within mapped culverts under 148th Avenue SE, west of Larsen Lake.

no poles in streams - in stream and/or wetland buffer as illustrated in Critical Areas Report - per definition in LUC 20.25H

2. Wetlands
   - Wetland A: Category I wetland associated with Kelsey Creek located on the north side of NE 8th Street, east of 148th Avenue NE.
   - Wetland B: Category II wetland located on the north side of NE 8th Street, immediately west of 148th Avenue NE.
   - Wetland C: Category I wetland located west of 148th Avenue SE near Larson Lake.
   - Wetland D: Category III wetland located immediately east of the Phantom Lake Substation on the southwest corner of SE 16th Street and 156th Avenue SE.

w/in shoreline jurisdiction

3. Habitats of Species of Local Importance
   - Merlin: Merlins are found in urban areas within the Puget Sound lowlands during winter and migration. Nests are primarily constructed in conifers between 18 and 36 feet high or in old crows' nests (Bell and Kennedy, 2006). These habitats occur throughout the proposed alignment, predominantly along SE 16th Street.
   - Pileated woodpecker: Habitat areas can be found were there are trees large enough to roost and nest (typically western hemlock and western red cedar), generally found in city parks. These habitats occur primarily within the vicinity of the proposed alignment along SE 16th Street.

Per MDNS overhead line will not run down south side of SE 16th, thus trees & habitat will remain

4. Geological Hazard Areas
   - Steep Slope #1: Located on the west side of 148th Avenue NE, approximately 600 feet south of NE 8th Street. The top of the slope is approximately 25 feet from the grade of 148th Avenue SE

include: Single-Family Residential (R-1, R-1.8, R-3.6, R-5), Multi-family Residential (R-10, R-20), Office (O), Neighborhood Business (NB), and Community Business (CB).

f. What is the current comprehensive plan designation of the site?

The Comprehensive Plan designation for the Phantom Lake Substation site is Single-Family Low Density (R-1, R-1.8) and the designation for the Lake Hills Substation is Office (O). Comprehensive Plan designations along the route include: Single-Family Low Density (R-1, R-1.8), Single-Family Medium Density (R-2.5, R-3.6), Single-Family High Density (R-4, R-5), Multi-Family Low Density (R-10), Multi-Family Medium Density (R-15, R-20), Multi-Family High Density (R-30), Office (O), Community Business (CB), Professional Office (O), and Neighborhood Business (NB).

g. If applicable, what is the current shoreline master program designation of the site?

A portion of the corridor is located on the west side of 145th Ave and within the Shoreline Overlay District.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

The following environmentally sensitive areas can be found along the proposed transmission line corridor:

Streams and Riparian Areas

- Kelsey Creek: Type F stream located on the north side of NE 8th Street, approximately 140 feet east of 148th Avenue NE.
- Kelsey Creek Tributary: Type N stream located on the west side of 148th Avenue SE approximately 700 feet south of Main Street.
- Larsen Lake Tributary: Type F stream located within mapped culverts under 148th Avenue SE, west of Larsen Lake.

2. Wetlands

- Wetland A: Category I wetland associated with Kelsey Creek located on the north side of NE 8th Street, east of 145th Avenue NE.
- Wetland B: Category II wetland located on the north side of NE 8th Street, immediately west of 148th Avenue NE.
- Wetland C: Category I wetland located west of 148th Avenue SE near Larsen Lake.
- Wetland D: Category III wetland located immediately east of the Phantom Lake Substation on the southwest corner of SE 16th Street and 156th Avenue SE.

3. Habitats of Species of Local Importance

- Merlins: Merlins are found in urban areas within the Puget Sound lowlands during winter and migration. Nests are primarily constructed in conifers between 16 and 35 feet high or in old crows' nests (Bell and Kennedy, 2006). These habitats occur throughout the proposed alignment, predominantly along SE 16th Street.
- Pileated woodpecker: Habitat areas can be found were there are trees large enough to roost and nest (typically western hemlock and western red cedar), generally found in city parks. These habitats occur primarily within the vicinity of the proposed alignment along SE 16th Street.

4. Geological Hazard Areas

- Steep Slope #1: Located on the west side of 145th Avenue NE, approximately 500 feet south of NE 8th Street. The top of the slope is approximately 25 feet from the grade of 148th Avenue SE.

Site visit by SN. determined not crit. area per LUC 20.25H. no poles - only tree removal/trim.

and it is completely vegetated with English ivy. An 8-foot rockery is located at the toe of the slope and abuts the sidewalk.

- Steep Slope #2: Located east of the intersection of NE 3rd Street and 148th Avenue NE. Extends approximately 15 feet down from 148th Avenue NE and is completely vegetated with Himalayan blackberry.

5. Areas of Special Flood Hazard

The mapped flood hazard areas along the proposed alignment roughly coincide with the areas of Wetland A and C.

6. Shorelines

only wk in shoreline by wet. C where trees including cottonwoods to be removed

- Wetland C is an associated wetland to Phantom Lake, and therefore falls within shoreline jurisdiction.
- Kelsey Creek: Type F stream located on the north side of NE 8th Street, approximately 140 feet east of 148th Avenue NE.
- Kelsey Creek Tributary: Type N stream located on the west side of 148th Avenue SE, approximately 700 feet south of Main Street.

I. Approximately how many people would reside or work in the completed project?

Maintenance workers will visit the completed project on a periodic basis. No personnel will work fulltime at the substations or along the transmission route.

j. Approximately how many people would the completed project displace?

The completed project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No measures are proposed, as there will be no displacement impacts.

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Portions of Lakes Hills and Phantom Lake substation landscaping will be enhanced. Tree replacement will occur in the project vicinity at a yet to be determined location.

Refer to Conceptual Mitigation Plan by OTAK in project file. Fee-in-lieu used for plant materials/irrigation Labor by PSE.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

Alternative Siting Analysis - Route chosen had least # direct impacts (pole in front yd./# of residences) of 3 alt. routes. Siting Analysis req'd by LUC 20.20.255D and in project file

There will be no impacts on housing, therefore no measures are proposed to reduce or control impacts.

SN

and it is completely vegetated with English Ivy. An 8-foot rockery is located at the toe of the slope and abuts the sidewalk.

- Steep Slope #2: Located east of the intersection of NE 3rd Street and 144th Avenue NE. Extends approximately 15 feet down from 144th Avenue NE and is completely vegetated with Himalayan blackberry.

5. Areas of Special Flood Hazard

The mapped flood hazard areas along the proposed alignment roughly coincide with the areas of Wetland A and C.

6. Shorelines

- Wetland C is an associated wetland to Phantom Lake, and therefore falls within shorelines jurisdiction.
- Kelsey Creek: Type F stream located on the north side of NE 8th Street, approximately 140 feet east of 144th Avenue NE.
- Kelsey Creek Tributary: Type N stream located on the west side of 148th Avenue SE, approximately 730 feet south of Main Street.

j. Approximately how many people would reside or work in the completed project?

Maintenance workers will visit the completed project on a periodic basis. No personnel will work full-time at the substations or along the transmission route.

j. Approximately how many people would the completed project displace?

The completed project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No measures are proposed, as there will be no displacement impacts.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Portions of Lake Hills and Phantom Lake substation landscaping will be enhanced. Tree replacement will occur in the project vicinity at a yet to be determined location.

8. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

There will be no impacts on housing, therefore no measures are proposed to reduce or control impacts.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The proposed transmission poles will be approximately 70 -80 feet in height. Most of the poles will be wood, some will be ~~steel or weathered steel.~~

glu lam – steel only via approval by Land Use Conditional Approval

b. What views in the immediate vicinity would be altered or obstructed?

PSE has designed the proposed transmission line corridor to reduce impacts to views. However, in order to keep its obligation to provide safe and reliable service to its customers, PSE must establish and maintains its utility corridors. A major part of the maintenance includes vegetation management which reduces tree caused outages.
Photo simulations that illustrate the proposed alterations are available.

photo sims do not include restoration/mitigation. Route chosen in part because had least impacts on views in Lake Hills Greenbelt.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Pole locations have been optimized to help reduce view impacts; however, it is anticipated that all impacts cannot be avoided. Vegetation enhancement as mitigation will improve aesthetics in the project vicinity.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The proposal will not produce light or glare.

c. Could light or glare from the finished project be a safety hazard or interfere with views?

Additional light or glare will not be a result of the finished project.

d. What existing off-site sources of light or glare may affect your proposal?

Off-site light or glare will not affect the project.

d. Proposed measures to reduce or control light or glare impacts, if any:

There are no proposed measures.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

not impacted by project

Recreational opportunities in the vicinity of the project include the Lake Hills Greenbelt and associated trails and the Crossroads Park and Community Center.

b. Would the proposed project displace any existing recreational uses? If so, describe.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas, and what is the principal exterior building material(s) proposed?

The proposed transmission poles will be approximately 70 -80 feet in height. Most of the poles will be wood, some will be steel or weathering steel.

b. What views in the immediate vicinity would be altered or obstructed?

PSE has designed the proposed transmission line corridor to reduce impacts to views. However, in order to keep its obligation to provide safe and reliable service to its customers, PSE must establish and maintains its utility corridors. A major part of the maintenance includes vegetation management which reduces tree caused outages.

Photo simulations that illustrate the proposed alternations are available.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Pole locations have been optimized to help reduce view impacts, however, it is anticipated that all impacts cannot be avoided. Vegetation enhancement as mitigation will improve aesthetics in the project vicinity.

11. Light and Glare

a. What type of light or glare will the proposal produce? When time of day would it mainly occur?

The proposal will not produce light or glare.

c. Could light or glare from the finished project be a safety hazard or interfere with views?

Additional light or glare will not be a result of the finished project.

d. What existing off-site sources of light or glare may affect your proposal?

Off-site light or glare will not affect the project.

d. Proposed measures to reduce or control light or glare impacts, if any:

There are no proposed measures.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Recreational opportunities in the vicinity of the project include the Lake Hills Greenbelt and associated trails and the Crossroads Park and Community Center.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposal will not displace any existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

There are no proposed measures.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no known places or objects listed on, or proposed for, national, state, or local preservation registers on or next to the substation properties or proposed transmission route.

d. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

Larson Lake Blueberry Farm within the Lake Hills Greenbelt was identified as part of the City of Bellevue's 1992 Historic and Cultural Resources Survey.

c. Proposed measures to reduce or control impacts, if any:

There are no proposed measures.

alignment will not run on side of 148th closest to Farm (east side) will run down west side where more overgrown mature veg. & fewer visual impacts

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The proposed project will be accessed by the existing street system. An additional driveway to 164th Avenue NE will be be added to at the Lake Hills Substation. .

NE 8th / 148th Ave - arterials
SE 16th - collector arterial
no line on local streets

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Public transit is not applicable to the proposal.

c. How many parking spaces would be completed project have? How many would the project eliminate?

The proposal does not include additional parking.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not Including driveways? If so, generally describe (indicate whether public or private).

The Lake Hills Substation will install a new driveway which will result in the relocation of the existing King County Metro bus shelter. The shelter will be moved south.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project will not use water, rail or air transportation.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

none

SN

The proposal will not displace any existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

There are no proposed measures.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no known places or objects listed on, or proposed for, national, state, or local preservation registers on or next to the substation properties or proposed transmission route.

d. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

Larson Lake Blueberry Farm within the Lake Hills Greenbelt was identified as part of the City of Bellevue's 1982 Historic and Cultural Resources Survey.

c. Proposed measures to reduce or control impacts, if any:

There are no proposed measures.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The proposed project will be accessed by the existing street system. An additional driveway to 164th Avenue NE will be added to at the Lake Hills Substation.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Public transit is not applicable to the proposal.

c. How many parking spaces would be completed project have? How many would the project eliminate?

The proposal does not include additional parking.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The Lake Hills Substation will install a new driveway which will result in the relocation of the existing King County Metro bus shelter. The shelter will be moved south.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project will not use water, rail or air transportation.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The finished project will not result in additional vehicular trips per day.

g. Proposed measures to reduce or control transportation impacts, if any:

There are no proposed measures.

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

There will not be an increased need for public services as a result of the project.

b. Proposed measures to reduce or control direct impacts on public services, if any.

There are no proposed measures.

PGE must pothole & do utilities locates to avoid conflicts w/ exist underground utilities

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Electricity is currently available at the site.

Project provides reliability by creating redundancy in system

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

The project will strengthen the existing electrical system by adding redundancy. The new transmission line will increase the reliability of the electrical system for customers in the Crossroads, Robinswood, Lake Hills and Phantom Lake neighborhoods, as well as those neighborhoods served by the College Substation.

Utilities code BCC Title 24

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature.....

Date Submitted.....12-30-2011.....

SN

The finished project will not result in additional vehicular trips per day.

g. Proposed measures to reduce or control transportation impacts, if any.

There are no proposed measures.

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

There will not be an increased need for public services as a result of the project.

b. Proposed measures to reduce or control direct impacts on public services, if any.

There are no proposed measures.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Electricity is currently available at the site.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

The project will strengthen the existing electrical system by adding redundancy. The new transmission line will increase the reliability of the electrical system for customers in the Crossroads, Robinswood, Lake Hills and Phantom Lake neighborhoods, as well as those neighborhoods served by the College Substation.

PPE must pothole & do arch with tics locates to assist underground conflicts w/ exist utilities

Project provides reliability by creating redundancy in system

Utilities code BCC Title 24

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature .....

Date Submitted 12-30-2011

Attachment E

COMPREHENSIVE PLAN POLICY ANALYSIS

COMPREHENSIVE PLAN – POLICY ANALYSIS

UTILITIES ELEMENT – Non City-Managed Electrical Facilities		
Several new system facilities including transmission lines and substations will need to be constructed to meet the projected increased demand for electrical service and to enhance reliability. Bellevue's knowledge-based economy is part of a community lifestyle that requires and expects sufficient and highly reliable electrical service.		
Utilities Policies Addressing Electrical Reliability		
UTILITIES ELEMENT POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY UT-5	Design, construct, and maintain facilities to minimize their impact on surrounding neighborhoods.	By running the proposed transmission line down major arterials, the proposal avoids running through established single family neighborhoods. Mitigation will restore the visual quality of the streets where trees are proposed to be removed and/or trimmed.
POLICY UT-48	Encourage cooperation with other jurisdictions in the planning and implementation of multi-jurisdictional utility facility additions and improvements. Decisions made regarding utility facilities shall be made in a manner consistent with, and complementary to, regional demand and resources, and shall reinforce an interconnected regional distribution network.	The proposed transmission line is one part of a larger interconnected electrical distribution network service the greater Eastside.
POLICY UT-50	Encourage system practices intended to minimize the number and duration of interruptions to customer service.	The proposed Lake Hills to Phantom Lake transmission line is designed to add reliability to a section of Bellevue that is currently underserved because both the Lake Hills and Phantom Lake substations are currently serviced by only one transmission line. Adding a second line and creating a loop in the system will add redundancy and therefore reliability to the Crossroads, Wilburton and Southeast Bellevue Subarea neighborhoods.

POLICY UT-75	Work with and encourage Puget Sound Energy to plan, site, build and maintain an electrical system that meets the needs of existing and future development, and provides highly reliable service for Bellevue customers. *Discussion: Providing highly reliable service is a critical expectation for the service provider, given the importance of reliable and uninterrupted electrical service for public safety and health, as well as convenience. Highly reliable service means there are few and infrequent outages, and when an unavoidable outage occurs it is of short duration and customers are frequently updated as to when power is likely to be restored. A highly reliable system will be designed, operated and maintained to keep pace with the expectations and needs of residents and businesses as well as evolving technologies and operating standards as they advance over time.*	The proposed Lake Hills to Phantom Lake Transmission Line project is proposed meet today's needs for a reliability in a part of the system that is currently underserved with only one transmission line servicing each substation. However, this project will also help meet the needs of the future by allowing each substation to expand and operate at full capacity. Refer to City of Bellevue Electrical Reliability Study, Phase 2 Report, prepared by Exponent, dated November 21, 2011 for more information regarding the City's Electrical needs. The report is available for public viewing in the project file.
Utilities Policies Addressing Siting Analysis		
POLICY UT-51	Prior to seeking city approval for facilities, encourage utilities service providers to solicit community input on the siting of proposed facilities which may have a significant adverse impact on the surrounding community.	Prior to submitting for Land Use Permits, PSE went through an extensive public outreach effort, including holding four public meetings. This effort and the conclusions are documented in the Alternative Siting Analysis. This Analysis is available for public viewing in the project file. The proposed route down 148th Avenue was identified in the Alternative Siting Analysis as the preferred alternative alignment.
POLICY UT-73	Require siting analysis through the development review process for new facilities, and expanded facilities at sensitive sites, including a consideration of alternative sites. *Discussion: Sensitive facility sites are those new facilities and existing facilities proposed to be expanded where located in or in close proximity to residentially-zoned districts such that there is*	The proposed transmission line is considered a sensitive site in the Comprehensive Plan per Figure UT.5a. PSE engaged in a lengthy siting analysis process. The Alternative Siting Analysis and application of the City's codes and polices resulted in the selection of the proposed alignment. The actual alignment of the poles and wires were then reviewed and adjusted where possible to minimize visual impacts. PSE

POLICY UT-73 (Cont'd)	*potential for visual impacts absent appropriate siting and mitigation. The city will update Figure UT.5a to the extent needed to stay current with changes in PSE's system planning.*	has also submitted a Conceptual Mitigation Plan that addresses replacement vegetation as mitigation for the loss of 295 trees. The Conceptual Mitigation Plan is available for public viewing in the project file.
Utilities Policies Addressing Impacts		
POLICY UT-40	Require the reasonable screening and/or architecturally compatible integration of all new above ground utility facilities.	Pole Design: PSE has proposed to use wooden poles with davit arms to provide a less utilitarian look to the facility and greater compatibility with the natural surroundings along the route. Substations: Upgrades to the substations will include new site-obscuring fencing and landscaping to provide reasonable screening while still providing a safer facility for PSE and the surrounding neighbors. Upgrades must meet the requirements of LUC 20.20.255.F.
POLICY UT-43	Encourage consolidation on existing facilities where reasonably feasible and where such consolidation leads to fewer impacts than would construction of separate facilities. *Discussion: Examples of facilities which could be shared are towers, electrical, telephone and light poles, antenna, substation sites, trenches, and easements.*	The impacts of running a second transmission line down the south side of SE 16th Street were addressed during the SEPA review, where it was determined that the impacts of two lines far exceeded any mitigation that could be required via application of existing codes and regulations. Therefore, through the application of this Policy and the authority of a Mitigated SEPA determination, PSE will not be allowed to run a second overhead line down the south side of SE 16th Street.
POLICY UT-45	Avoid, when reasonably possible, locating overhead lines in greenbelt and open spaces as identified in the Parks, Recreation, and Open Space Plan.	All of the routes considered to connect the Lake Hills and Phantom Lake substations required running overhead lines through the Lake Hills Greenbelt. Prior to permit submittal, PSE provided a photo-simulation showing the visual impact of the line if it crossed the Greenbelt along SE 16th Street, heading east to 164th Avenue SE and what it would look like running along the western side of 148th Avenue SE. Running the line along the heavily-vegetated Greenbelt along the western side of 148th Avenue SE would be less considerably less visually intrusive than running it along the SE 16th Street to 164th Avenue SE alignment. **Refer to photo simulations in Attachments F and G.**

POLICY UT-51	Prior to seeking city approval for facilities, encourage utilities service providers to solicit community input on the siting of proposed facilities which may have a significant adverse impact on the surrounding community.	Refer to Section VII of the staff report for information regarding public outreach and comment.
POLICY UT-53	Require all utility equipment support facilities to be aesthetically compatible with the area in which they are placed by using landscape screening and/or architecturally compatible details and integration.	The existing substations are being updated to reduce the interference from mature trees and to open up the area around the stations to discourage transients. The equipment will still be screened with site-obscuring fencing and new landscaping. For the majority of the route, PSE is being required to use wooden poles with decorative wooden davit arms to provide a more residential look and to avoid the harsh, industrial look of steel poles. At points where the line turns, PSE is directed to use wooden glu-lam poles before considering steel.
POLICY UT-71	Require in the planning, siting, and construction of all electrical facilities, systems, lines, and substations that the electrical utility strike a reasonable balance between potential health effects and the cost and impacts of mitigating those effects by taking reasonable cost-effective steps.	The applicant has avoided, as much as possible, potential health impact mitigation costs to residents by avoiding running the line through existing residential neighborhoods and instead siting it along existing arterial streets (NE 8th Street and 148th Avenue NE and SE).
POLICY UT-72	Work with Puget Sound Energy to implement the electrical service system serving Bellevue in such a manner that new and expanded transmission and substation facilities are compatible and consistent with the land use pattern established in the Comprehensive Plan. *Discussion: Where feasible, electrical facilities should be sited within the area requiring additional service. Electrical facilities primarily serving commercial and mixed use areas should be located in commercial and mixed use areas, and not in should incorporate measures to mitigate the visual impact on nearby residential areas. These*	The proposed transmission line runs within the area requiring updated reliable service. It is also located on a route that runs through a mix of residential and commercial land uses. Other routes considered ran exclusively through residential neighborhoods. In addition, by running the alignment along major arterial streets, if the line has to run by residential building, it will run along the rear or side yards.

POLICY UT-72 (Cont'd)	*considerations must be balanced with the community's need to have an adequate and reliable power supply.*	
POLICY UT-74	Avoid, minimize and mitigate the impacts of new or expanded electrical facilities through the use of land use regulations and performance standards that address siting considerations, architectural design, site screening, landscaping, maintenance, available technologies, and other appropriate measures.	Where possible, PSE has routed the proposed transmission line to avoid specific trees, homes, Fire Station 3, Crossroads Park, open space, etc. Where avoidance is not possible, the applicant has prepared the Conceptual Mitigation Plan that addresses the visual impacts associated with the removal of 295 trees on public land and rights-of-way. **Refer to Section IV of the Staff Report regarding the application of City regulations and performance standards for this proposal.**
URBAN DESIGN ELEMENT		
As Bellevue becomes more urban, existing vegetation and new landscaping are important contributors to Bellevue's image of a "City in a Park." Urban Design policies direct development to provide environments for people that are stimulating and showcase high quality design.		
URBAN DESIGN ELEMENT POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY UD-16	Exemplify the Pacific Northwest character through the retention of existing vegetation.	Wherever possible, PSE has avoided removing trees, including moving the line from one side of the street to the other to avoid significant stands of existing trees. However, 295 City-owned trees still proposed to be removed. Where significant Northwest trees must be removed, they will be replaced with native and/or semi-native vegetation that complements the Northwest character of the street corridors.
POLICY UD-18	Preserve significant trees and mature vegetation, with special consideration given to the protection of groups of trees and associated undergrowth, specimen trees, and evergreen trees.	Refer to discussion of Policy UD-16 above. A condition of the Mitigated Determination of Non-Significance (MDNS) will prohibit the construction of a new overhead line along the southern side of SE 16th street, where impacts from tree removal (including visual impacts and loss of bird habitat) cannot be adequately mitigated using current codes and regulations.

POLICY UD-19	Preserve trees as a component of the skyline to retain the image of a "City in a Park."	New trees will be a major component of the mitigation landscaping required for this proposal. In many cases, along the alignment and behind the right-of-way, there are large areas of open space (City of Bellevue Utilities property and Lake Hills Greenbelt) with significant stands of trees. These trees will remain and will form a vegetated backdrop that will minimize the impact of tree removal to the skyline. Other alignment options had greater impacts on the skyline as they ran across open spaces that did not have existing tall, mature trees.
POLICY UD-41	Design vehicular and pedestrian routes to be visually appealing connections between different parts of Bellevue.	Over the years, the Parks Department has spent considerable time and money enhancing the arterial roadways – particularly 148th Avenue and NE 8th to 156th Avenue NE. Through the Urban Boulevards Initiative, the City contracted a design firm to evaluate these arterials and make suggestions how the mitigation for the transmission line could be consistent and in some cases enhance the existing visual condition of these roadways. This document then informed PSE's Conceptual Mitigation Plan. New trees, shrubs and groundcover will be planted in selected areas along the route to replant the right of way in those areas most affected by tree removal required by the new line. Where possible, the line has been placed to have the least impact on the visual quality of the arterials.
POLICY UD 42	Design boulevards to reinforce the image of Bellevue as a "City in a Park."	Although trees will be removed along the alignment, new plantings with new trees, as described in the Conceptual Mitigation Plan, will reinforce the image of Bellevue as a 'City in a Park.'
POLICY UD-61	Encourage the green and wooded character of existing neighborhoods.	Mitigation for removal of 295 city-owned trees will include a significant replanting of height-appropriate trees and understory to help restore the wooded character of the corridors.

POLICY UD-63	Maintain vegetation along major neighborhood arterials.	Where possible, PSE has realigned the proposed transmission line to avoid removing mature trees. However, PSE has also adopted stricter vegetation management requirements to reduce the number of vegetation-related outages. Thus, by running the line along arterials as preferred under the siting hierarchy in LUC 20.20.255.D.d, the tradeoff is removal of trees. The Conceptual Mitigation Plan, using the 148th Avenue Urban Boulevard Concept Plan as a guide, proposes significant new plantings along the route, particularly in the areas with the greatest tree removal and/or impacts. The Conceptual Plan will respect the new transmission line vegetation requirements while still enhancing the existing right-of-way. In some cases, the mitigation will improve the visual condition of the existing right-of-way in locations where currently there is very little vegetation or where there are noxious or undesirable plantings (English Ivy, lawn in small patches, etc.) Mitigation landscaping will include trees, shrubs and and/or groundcover.
EMNVIRONMENTAL ELEMENT		
The goal of the Environmental Element is to integrate the natural and developed environments to create a sustainable urban habitat with clean air and water, habitat for fish and wildlife, and comfortable and secure places for people to live and work.		
ENVIRONMENTAL ELEMENT POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY EN-26	Require mitigation proportional to any adverse environmental impacts from development or redevelopment in the Protection Zone (critical area buffers).	PSE will be required to install mitigation, as proposed in the Conceptual Mitigation Plan, for removal of 295 city-owned trees. Replacement landscaping will include trees, shrubs and groundcover.
POLICY EN-64	Preserve and enhance native vegetation in the Protection Zone and integrate suitable native plants in urban landscape development.	Where trees are removed in any riparian zone, replacement mitigation landscaping will be required to provide enhancement with an equal or enhanced level of protection of the critical area or critical area buffer.

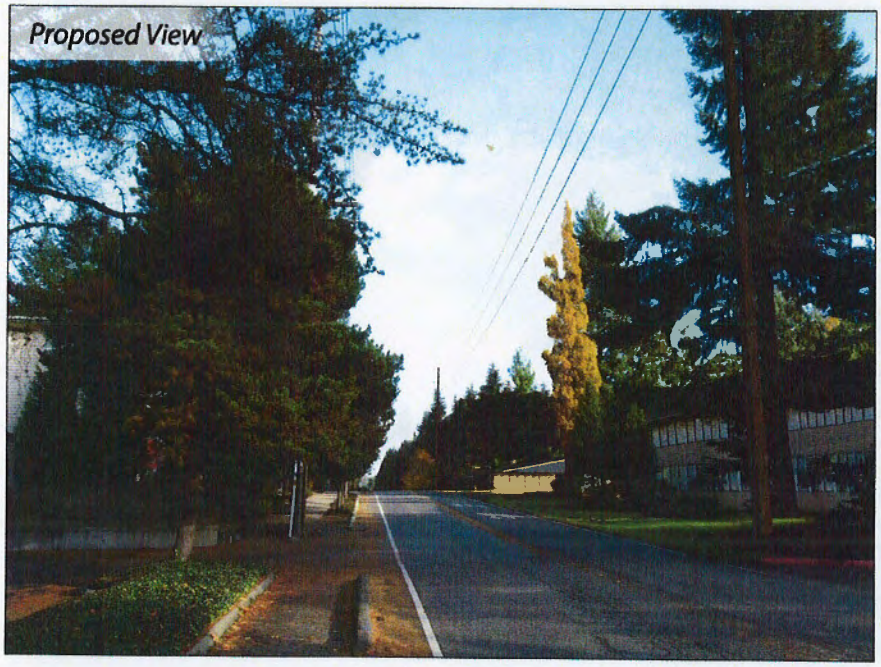
POLICY EN-67	Preserve proportion of the significant trees throughout the city in order to sustain fish and wildlife habitat.	The application of existing codes and requirements and through MDNS process, this proposal will be required to provide robust landscaping to mitigate the impacts of the new transmission line.
CROSSROADS SUBAREA		
The Crossroads Subarea is seen as a "city within a city". There is a large diversity among residents and a wide mix of uses. The portions of the transmission line route that are within the Crossroads Subarea are the following: 1) Segment running west from the Lake Hills substation to 148th Avenue NE, and 2) segment running south along 148th Avenue NE to Main Street.		
CROSSROADS SUBAREA POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY S-CR-49	Retain and enhance existing vegetation along major arterials to screen residential uses from vehicular traffic and to preserve the wooded character of this area.	See Policy UD-63 above.
WILBURTON SUBAREA		
The segment of the alignment that fall within the Wilburton Subarea is along the west side of 148th Avenue NE from NE 8th Street to Main Street.		
WILBURTON SUBAREA POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY S-WI-42	Develop street tree plans for arterial streets and non-residential areas. Investigate ways to encourage property owners to implement the City's street tree plan.	The City contracted OTAK to develop a 148th Avenue Urban Boulevard Concept Plan. This plan is available for public viewing in the project file. Through this plan, future landscape development could provide a consistent design throughout the corridor. The required mitigation and restoration landscaping, as identified in the Conceptual Mitigation Plan, used the 148th Avenue Concept Plan as a guide such that the design and work proposed will restore the lost tree canopy as well as, over time, enhance the vegetated character of the entire corridor in a manner consistent with the vision in the 148th Avenue Concept Plan.
POLICY S-WI-44	Utilities should be provided to serve the present and future needs of the Subarea in a way that enhances the visual quality of the community (where practical).	PSE plans to provide a transmission line that provides reliability to areas currently served by only one transmission line. Along with substation upgrades, the future service needs of the service area will be met.

POLICY S-WI-44 (Cont'd)		The proposed Conceptual Mitigation Plan proposes landscape enhancements to the rights of way most affected by tree removal along 148th Avenue and NE 8th Street. In some cases, particularly along NE 8th Street from 156th Avenue NE to 164th Avenue NE, new plantings will provide a sense of cohesiveness to NE 8th Street where there is little or no vegetation currently. Through the MDNS process, PSE will not be allowed to run a second overhead line along the south side of SE 16th Street, because the impacts to that street, which already has transmission and distribution lines running on the north side, could not be mitigated through mitigation plantings.
SOUTHEAST BELLEVUE SUBAREA		
The goal of the policies within the southeast Bellevue Subarea Plan is to protect and enhance the single-family residential character of the area. The plan does not provide specific policy recommendations for utility development.		
CROSSROADS SUBAREA POLICIES	**POLICY DESCRIPTION**	**ANALYSIS**
POLICY S-SE-13	Encourage owners of adjacent public and private properties to develop in a manner which complements and enhances the area.	See Policy UT-45 above.

POLICY 3-NE-4A (Cont'd)		The proposed Conceptual Mitigation Plan proposes landscape enhancements to the rights of way most affected by tree removal along 148th Avenue and NE 8th Street. In some cases, particularly along NE 8th Street from 156th Avenue NE to 164th Avenue NE, new plantings will provide a sense of cohesiveness to NE 8th Street where there is little or no vegetation currently. Through the MONS process, PSE will not be allowed to run a second overhead line along the south side of SE 16th Street, because the impacts to that street, which already has transmission and distribution lines running on the north side, could not be mitigated through mitigation plantings.
SOUTHEAST BELLEVUE SUBAREA		
The goal of the policies within the southeast Bellevue Subarea Plan is to protect and enhance the single-family residential character of the area. The plan does not provide specific policy – recommendations for utility development.		
CROSSROADS SUBAREA POLICIES	POLICY DESCRIPTION	ANALYSIS
POLICY S-SE-13	Encourage owners of adjacent public and private properties to develop in a manner which complements and enhances the area.	See Policy UT-4B above.

Attachment F

PHOTO SIMULATIONS I



Received
DEC 30 2011
Permit Processing

VIEWPOINT 1

SE 16th Street Looking East

Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.

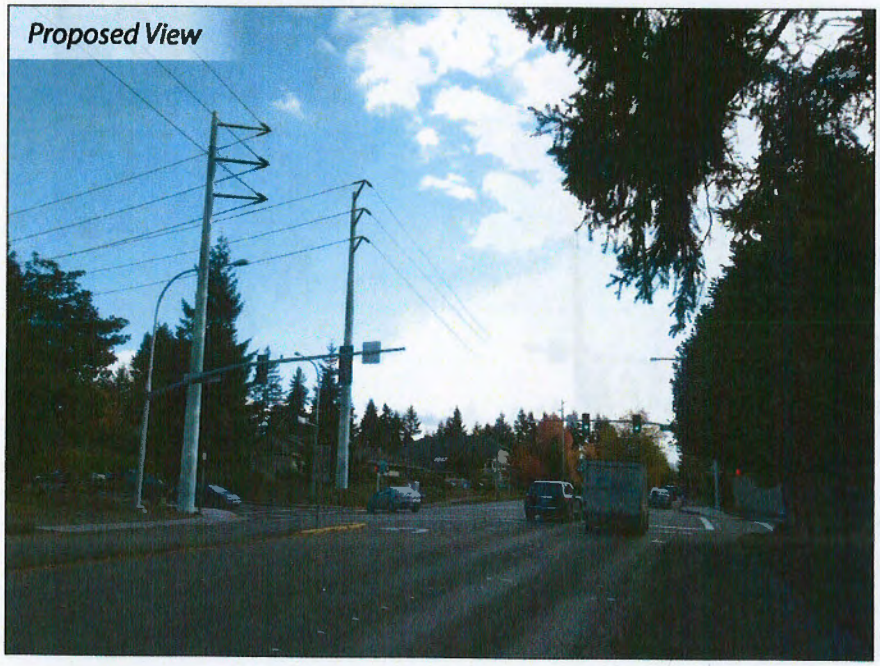
VIEWPOINT 2

Intersection at SE 16th Street and 148th Avenue SE Looking South

Lake Hills-Phantom Lake 115 kV Transmission Line

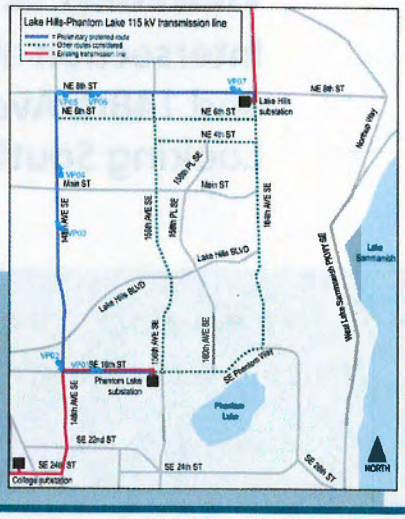
PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.



VIEWPOINT 2B

Intersection at SE 16th Street and 148th Avenue SE Looking South



Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.

VIEWPOINT 2C

Intersection at SE 16th Street and 148th Avenue SE Looking South

Lake Hills-Phantom Lake 115 kV Transmission Line

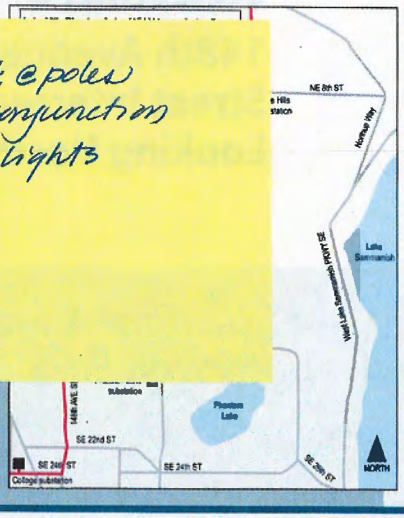
PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.

VIEWPOINT 3

148th Avenue SE Near Larson Lake Looking North

look @ poles
in conjunction
w/ lights



Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.

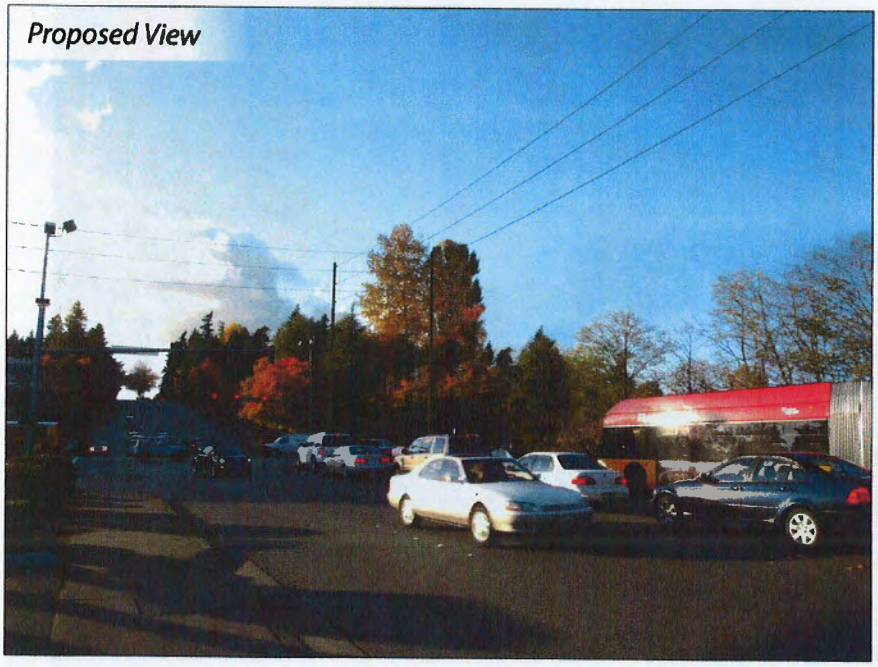
VIEWPOINT 4

148th Avenue NE Near Main Street Intersection Looking North

Lake Hills-Phantom Lake 115 kV Transmission Line

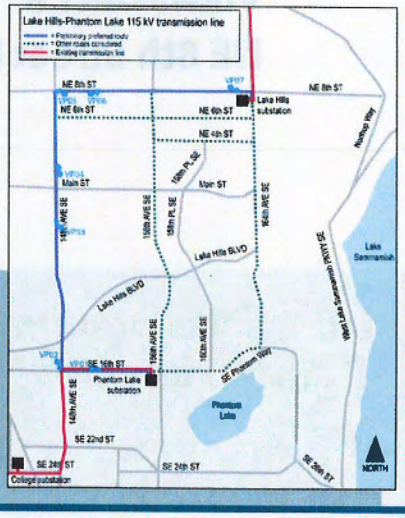
PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.



VIEWPOINT 5

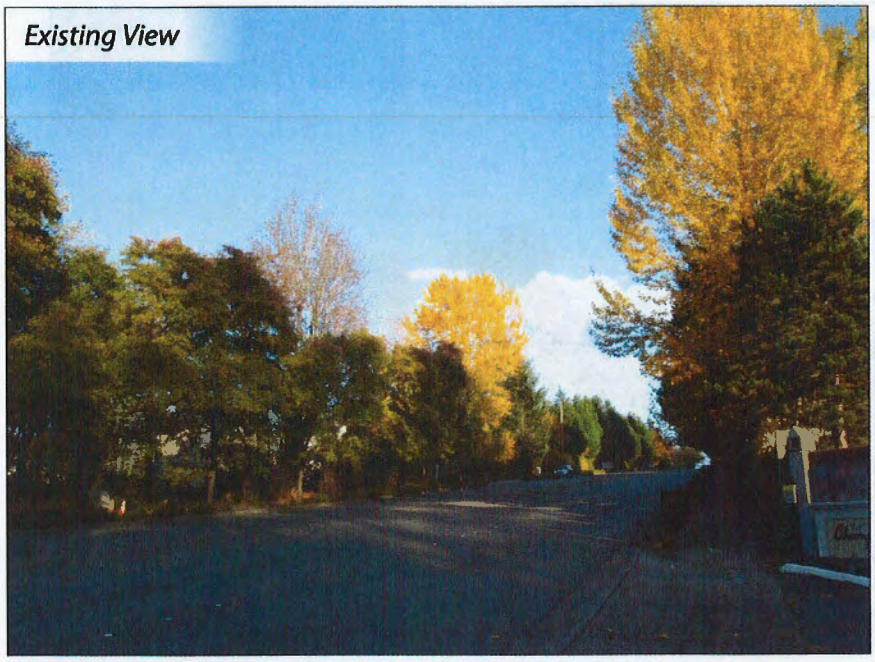
Intersection at 148th Avenue SE and NE 8th Street Looking West

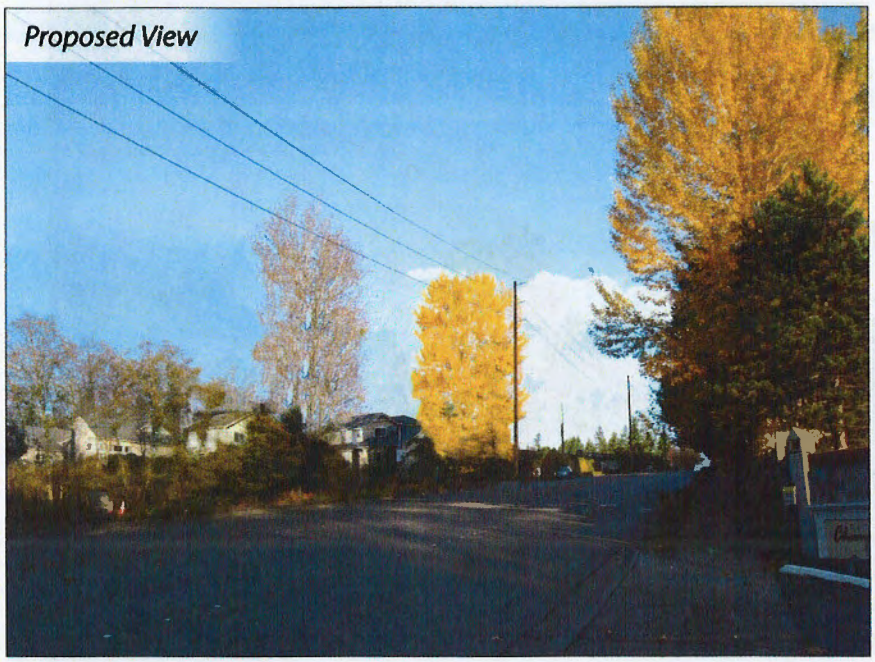


Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

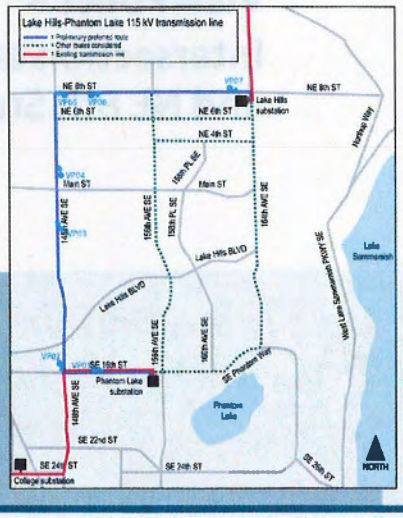
DAVID EVANS AND ASSOCIATES INC.





VIEWPOINT 6

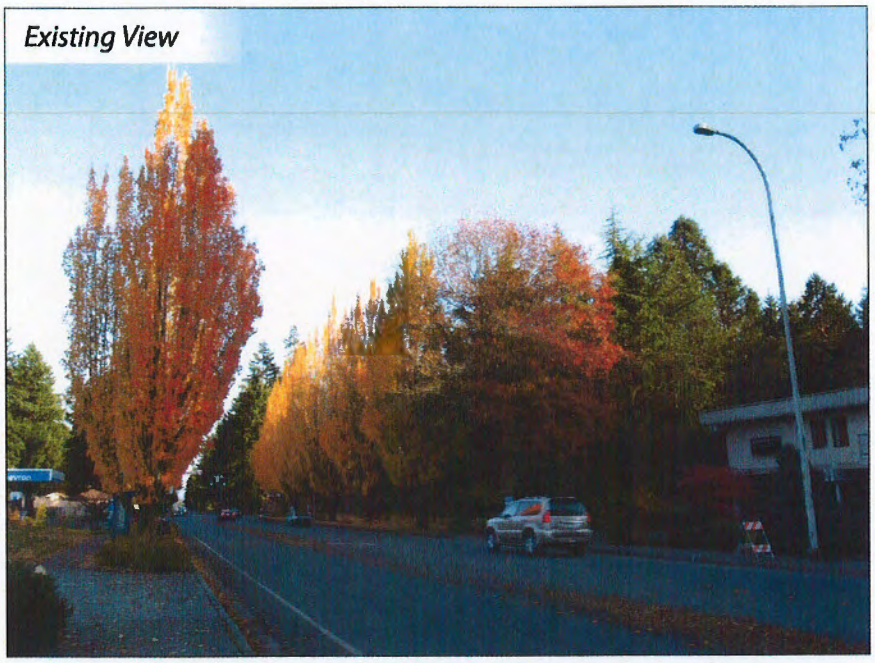
NE 8th Street Looking East

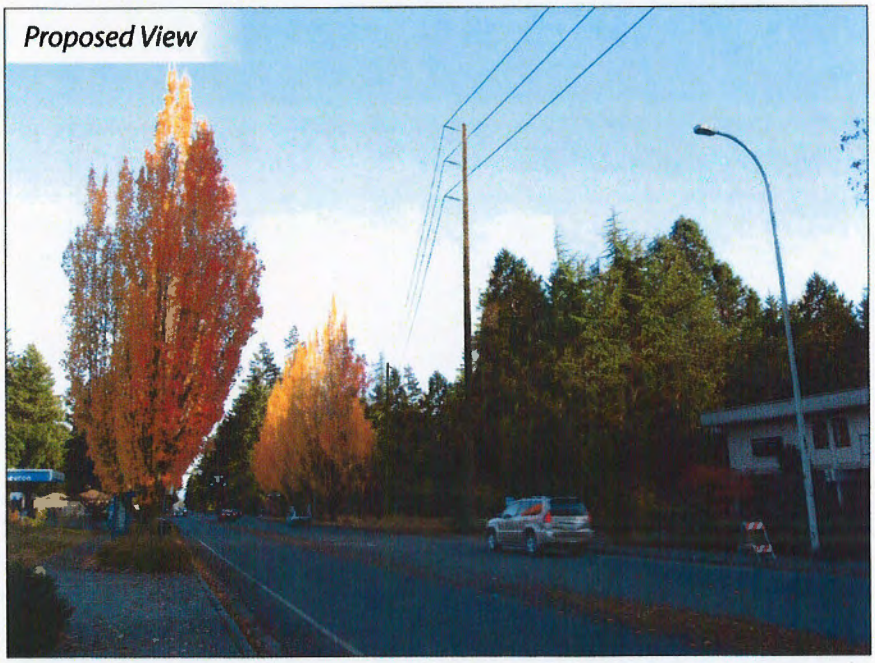


Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.





VIEWPOINT 7

NE 8th Street Near 164th Avenue SE Intersection Looking East

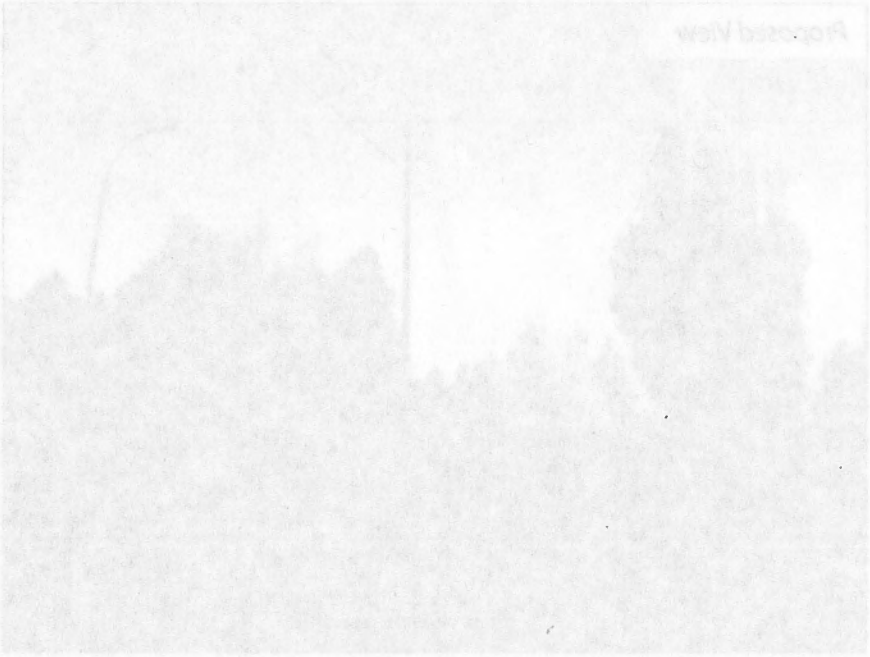
Lake Hills-Phantom Lake 115 kV Transmission Line

PSE PUGET SOUND ENERGY

DAVID EVANS AND ASSOCIATES INC.

Existing View

Proposed View



VIEWPOINT 7

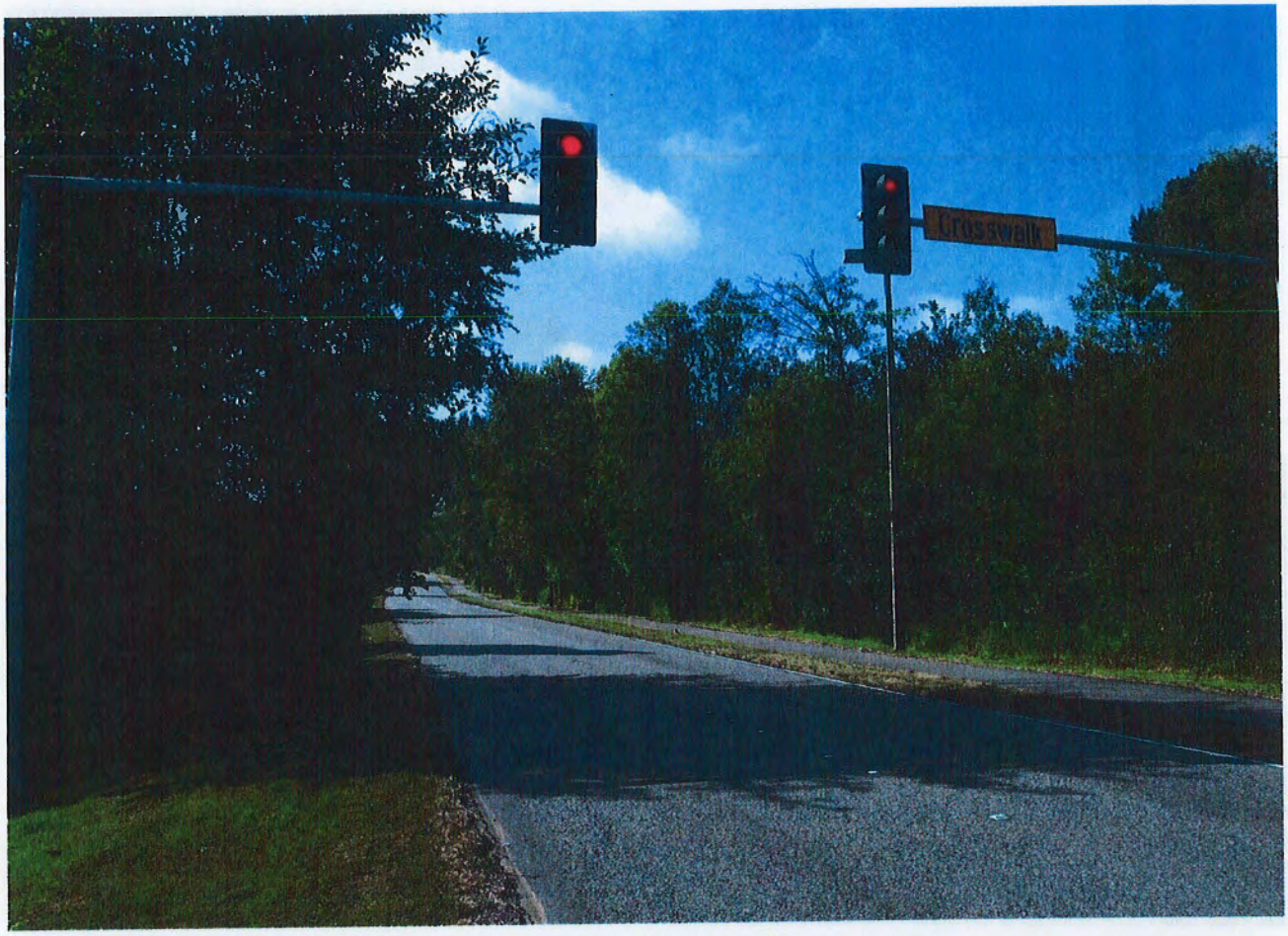
NE 8th Street Near 164th Avenue SE Intersection Looking East

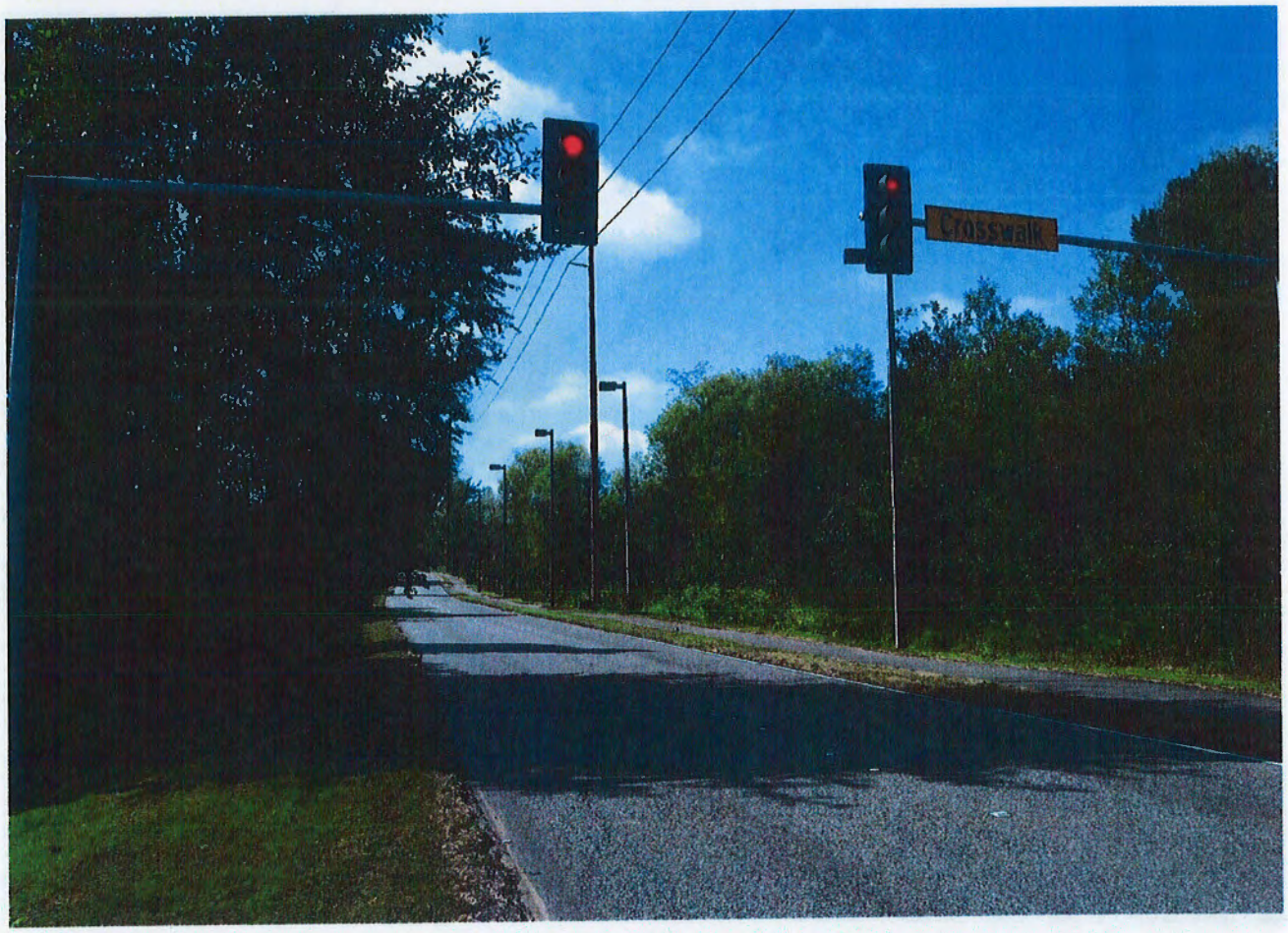
Attachment G

PHOTO SIMULATIONS II

Existing SE 16th Street looking west

NOTE: This set of photo simulations does not show the poles with the wooden davit arms, as will be required, and does not show any mitigation/restoration landscaping.


Crosswalk


Crosswalk

SPEED
LIMIT
30

SPEED
LIMIT
30

Attachment H

MEDIAN ALIGNMENT ASSESSMENT

MEDIAN PROPOSAL – CITY REVIEW ANALYSIS

Transportation Department:

1. It is generally recommended not to install fixed objects in the clear zone. The clear zone along 148th Avenue is 10 feet from the edge of a traveled way and the medians are not wide enough to provide this required clear zone. Therefore, Transportation would require a guardrail system on both sides of each pole located within the median. The proposed side-running alignment of the transmission line would not pose any potential hazards to vehicles traveling down the corridor and would not require any guardrails.
2. The new guardrail system would need to be maintained and repaired if struck by a vehicle. This in turn will be a cost to the City.
3. There would need to be a sight-distance evaluation done for each pole location.
4. Installation of large poles in close proximity to the travel way will affect drivers' behavior, potentially reducing street capacity. The 148th Avenue corridor has been designed as a major arterial with boulevard roadway sections in mind. The median, with rich landscapes, provides for traffic calming and traffic separation that defines this very important corridor operation. Any major alteration to the original design will change drivers' behavior.
5. The City is currently working on three intersection projects on 148th Avenue. The scope of the projects is to reconstruct signalized intersections. One of the goals for each project is to remove the signal poles located in the median as they have been struck by vehicles in the past.

Parks Department:

1. Aesthetic impact to the rural character of the Lake Hills Greenbelt and Larsen Lake Farm: The Larsen Lake farm is a regional attraction that serves the wider community, not just the residents on 148th Avenue. Power lines in the median will impact the user experience of this area, and are best mitigated by locating the line on the west side of the road where trees and open space behind the lines can help to diffuse and screen their visual impact.

2. Compatible Uses:
   - The wetland area on the west side of the roadway is most compatible with transmission line restrictions, as there are few large trees that grow in this ecosystem.
   - The median areas have upland sections that can and should support large tree growth that defines the character of the boulevard as a whole and complements the character of the Larsen Lake area.
3. Maintenance Needs:
   - Landscape maintenance will be necessary to keep weeds and landscapes safe and clean. This would not only require additional resources, but would also require closing down lanes of traffic to access the medians around the poles.
   - Additional maintenance funding may be required to keep vegetation around the guardrails trimmed and out of the roadway.
   - Guardrails may require lane closures for maintenance staff to work around the poles and guard rails safely per L&I regulations – particularly in the very narrow medians south of SE 8th Street.

4. Impact on Boulevard Continuity:
   - The 148th corridor serves thousands of residents each day and the experience has been purposely design to be an 'Olmstead-like' boulevard. Medians with trees increase traffic safety, reduce stress, and improve both the driver and pedestrian experience. As such, significant trees in medians are very desirable and should be protected whenever possible.
   - Trees in the median are much more visible to drivers than trees on the sides of the roadway.
   - New trees planted in the median will take years to create the effect currently realized in the median with the existence of large trees – particularly conifers, which will not be able to be planted under transmission lines.
   - Transmission lines in the medians will be very noticeable since this is a long, linear arterial roadway with a distinct character. Disruption of that character will be more noticeable with a median alignment.

5. Miscellaneous/Additional Issues to be Considered:
   - The median is also a stormwater facility. For example, there is a bio-swale from Main Street to SE 8th Street.
   - Additionally, drainage structures within the median around Main Street and to the north most likely will be negatively impacted, and would have to be redesigned and/or replaced if transmission poles were to be placed there.
   - The median was not designed to include major utility structures.

Utilities Department:

It was difficult for the Utilities Department to comment on the specifics of the median alignment without construction drawings. However, echoing the comments made above by the Parks Department, the median on 148th Avenue serves an important stormwater function and any interruption/disruption of this function would have to be successfully mitigated.

Land Use:

The following findings have led Development Services to conclude that the poles along the *side* of the roadway in the right-of- way would avoid greater impacts than a transmission line alignment in the 148th Avenue median.

1. Number of poles: While the median alignment conceptually would allow the poles to be further apart, the nature of the adjacent streets and curb cuts along 148th Avenue resulted in only three fewer poles along this entire stretch of road from NE 8th Street to SE 16th Street.

2. Wood versus Steel Poles: the median alignment would result in more steel poles. It had already been determined that wooden poles would be best for the alignment because they have a 'softer' look, feel more residential, and look less industrial.

3. Trees Removed: Approximately 24 fewer trees would need to be removed in a median versus side running alignment. In addition, removal of trees in the median would be more visible from the corridor and replacement vegetation could never replicate the green boulevard treatment that currently exists. Therefore, it was felt that the trade-off between tree removal (and replacement via mitigation) versus the increased visibility of the poles,

which cannot be screened, and tree removal in the highly-visible median was not worth the trees saved.

4. Residences Affected: The area where residents had concerns was in a stretch of 148th Avenue NE between SE 8th Street and SE 16th Street. However, this is where the median is the narrowest at approximately eight feet wide. Because this median is so narrow, there was a strong chance the Transportation Department would not allow the poles in this location at all. If allowed, the narrowness of the median would mean that there would be virtually no opportunity for plantings in the median to soften the look of the guardrails and the negative visual impact of the poles on the corridor would be significant.

5. Visual Impacts: Land Use felt that running the line down the center of 148th Avenue and losing the trees within the median would have a greater visual impact on the 148th Avenue NE boulevard than running the line down the side of the street, where this is dense vegetation (including in many cases additional trees) behind the street trees. Presently, the plantings in the median – especially the tall evergreen trees – provide pleasant, effective screening of the north-bound lanes of traffic from the south-bound lanes and vice versa. This creates a corridor character that contributes significantly to Bellevue's image as a "City in a Park."

   In addition, placement of the guardrails along the base of the poles adds extra visual clutter within the landscaped median. This condition would be further exacerbated because many of the poles would be steel, with wider bases than the traditional wood poles. Difficulty in maintaining landscaping at the base of the pole could also result in weeds and an unkempt condition in the corridor.

SIDE VS MEDIAN PROPOSAL

	SIDE Side/Med	MEDIAN Side/Med	SIDE Trees Removed	MEDIAN Trees Removed	SIDE Adjacent to Rear Yd and Side Yards	MEDIAN Adjacent to Rear Yd and Side Yards	SIDE Wood Pole	SIDE Steel Pole	MEDIAN Wood Pole	MEDIAN Steel Pole	SIDE Stormwater Conflict	MEDIAN Stormwater Conflict	SIDE Double-sided Guardrail - Below clearzone	MEDIAN Double-sided Guardrail - Below clearzone	SIDE Enhanced Maintenance Parks & Trans.	MEDIAN Enhanced Maintenance Parks & Trans.	SIDE Increased Visibility	MEDIAN Increased Visibility
																All		
NE 8th Street to Main			50*	26*														
Pole 1/16	S	S						*		NA			NA	NA				
Pole 1/16A	S	na						*		NA								
Pole 1/15	S	S					*			*			NA	NA				
Pole 1/14	S	S			Rear - 1 Apt.		*			*			NA	NA				
Pole 1/13	S	S			Rear - 3 SF homes	Rear - 1 Apt. Bld.	*		*				NA	NA				
Pole 1/12	S	M					*		*				NA	*				
Pole 1/11	S	M					*			*			NA	*				
Pole 1/10	S	M					*			*			NA	*				
Pole 1/09	S	M					*		both	both			NA	*				
Pole 1/08	S	M					*			*			NA	*				
Main Street to SE 8th St.			68**	68**														
Pole 1/7	S	M					*		*				NA	*				*
Pole 1/6	S	M					*		*				NA	*				*
Pole 1/5	S	M					*		*				NA	*				*
Pole 1/4	S	M					*		*				NA	*				*
Pole 1/3	S	M					*			*				*				*
Pole 1/2	S	M					*		both	both				*				*
Pole 1/1	S	M					*		both	both			both	na				*
Pole 0/19	S	na			Side - 1 Apt.		*		NA				NA	*				*
Pole 0/18	S	M					*			*								*
SE 8th Street to Lk Hills Blvd			35***	20														
Pole 0/17	S	na			Side - 1 SF home		*			na			NA	*				
Pole 0/16	S	M			Rear - 5 SF homes		*			*			NA	*				
Pole 0/15	S	M			Rear -5 SF homes	Rear - 3 SF homes	*			*			NA	*				
Pole 0/14	S	M							*				NA	NA				
Lk Hills Blvd to SE 16th			11*	11*														
Pole 0/13	S	M					*			*			NA	NA				
Pole 0/12	S	M			Rear - 1 SF home	Rear - 1 SF home	*			*			NA	NA				
Pole 0/11	S	M						*		*			NA	NA				
	26	23	15 more on priv. prop. 24 more in row		15 SF/2 Apts	4 SF/1 Apt.												

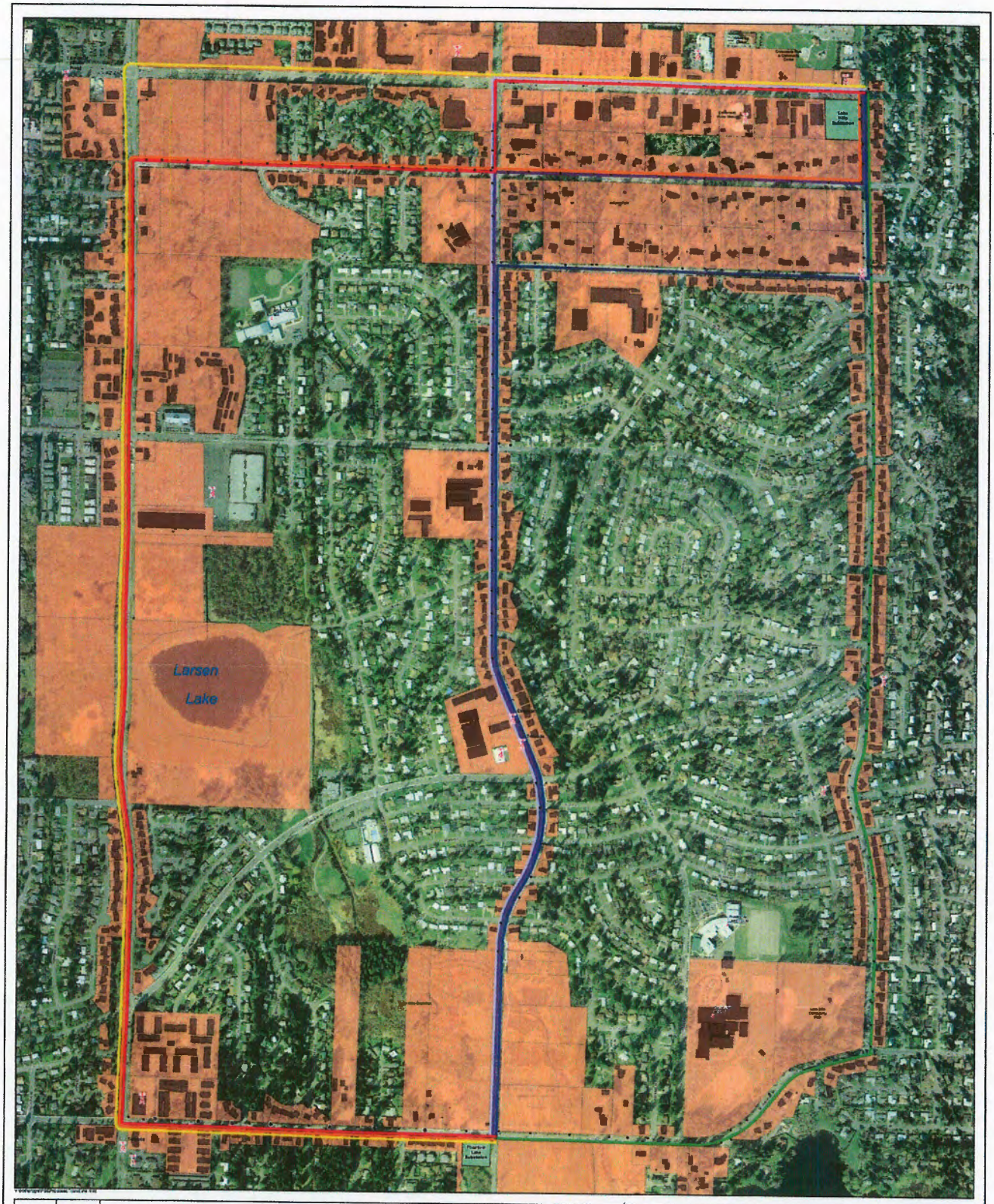
* 1 on private property
**2 on private property
***10 on private property

NOTES:
1. According to Transportation, all poles in median will require guardrails on both sides.
2. PSE's 'solution' to maintenance for Parks is to put asphalt patch around guardrails
3. Might be able to save more trees in median with taller poles - no confirmation of which trees
4. Only 3 fewer poles.
5. Running on west side of 148th by Kelsey Creek would require Shoreline CU to remove cottonwoods
6. No homes and/or apts. have line running in front - only in row along rear or side yards.
7. More visual clutter with beefier poles and guardrails

Attachment I

PROPOSED ALTERNATIVE ROUTES

* Affected Parcels Map
* Zoning Map



NORTH

= 225 feet

City of Bellevue
IT Department
GIS Services

Plot Date: 7/9/2009

PSE Proposed Transmission Line

Proposed Alignments

Legend

- PSE Distribution Pole
- PSE Transmission Pole
- PSE Substations
- Wireless Tower
- Affected Buildings
- Affected Parcels

194th Ave SE - Route Option 1

- 1 147 Affected Parcels

156th Ave SE - Route Option 2

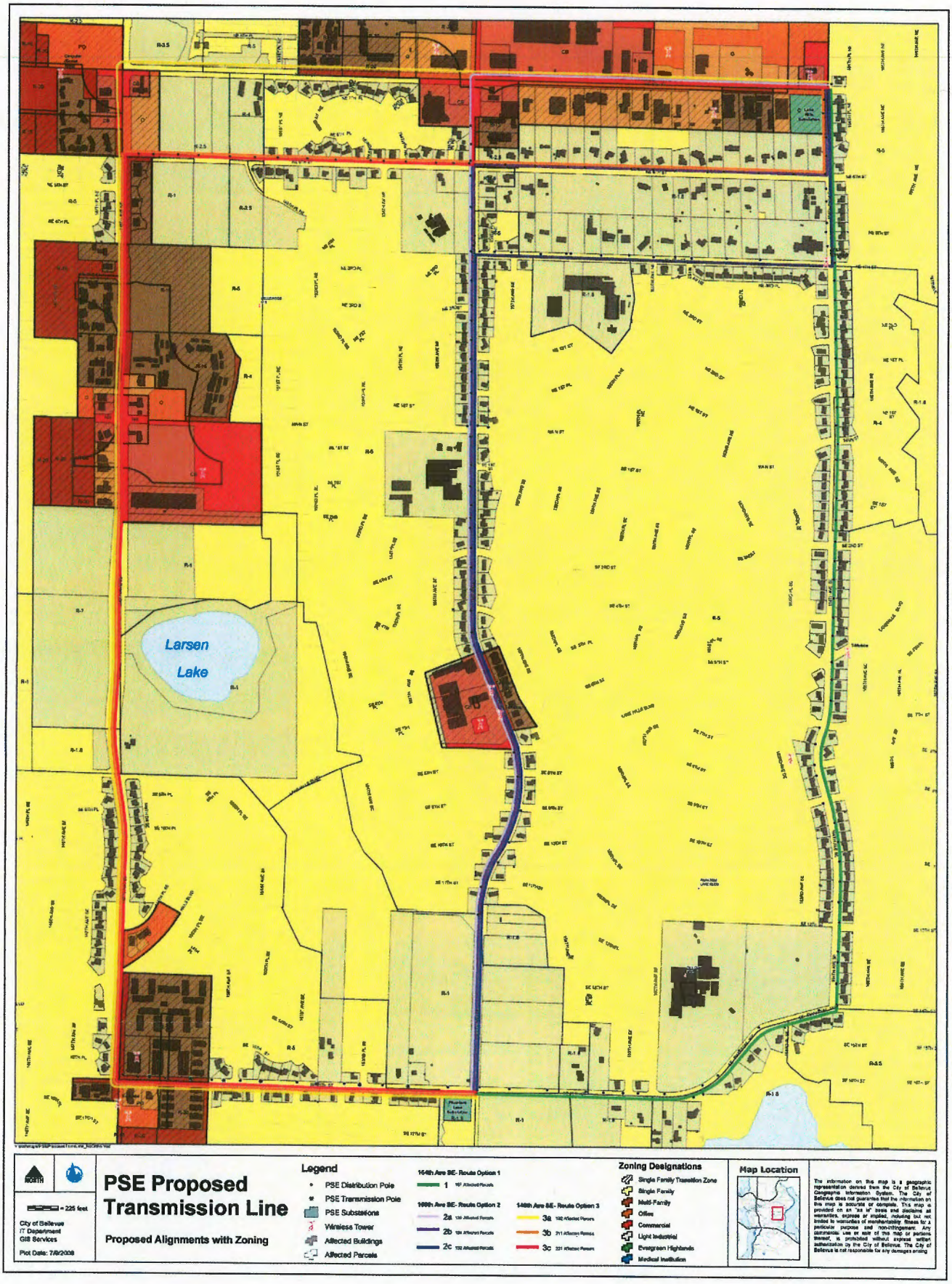
- 2a 128 Affected Parcels
- 2b 181 Affected Parcels
- 2c 182 Affected Parcels

148th Ave SE - Route Option 3

- 3a 181 Affected Parcels
- 3b 251 Affected Parcels
- 3c 321 Affected Parcels

Map Location

The information on this map is a geographic representation derived from the City of Bellevue Geographic Information System. The City of Bellevue does not guarantee that the information on this map is accurate or complete. This map is provided on an "as is" basis and disclaims all warranties, express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose and non-infringement. Any commercial use or sale of this map or portions thereof is prohibited without express written authorization by the City of Bellevue. The City of Bellevue is not responsible for any damages arising


Larsen Lake
NORTH
= 225 feet
City of Bellevue
IT Department
GIS Services
Plot Date: 7/8/2008
PSE Proposed Transmission Line
Proposed Alignments with Zoning
Legend
PSE Distribution Pole
PSE Transmission Pole
PSE Substations
Wireless Tower
Affected Buildings
Affected Parcels
164th Ave SE- Route Option 1
1
189th Ave SE- Route Option 2
2a
2b
2c
148th Ave SE- Route Option 3
3a
3b
3c
Zoning Designations
Single Family Transition Zone
Single Family
Multi-Family
Office
Commercial
Light Industrial
Evergreen Highlands
Medical Institution
Map Location
The information on this map is a geographic representation derived from the City of Bellevue Geographic Information System. The City of Bellevue does not guarantee that the information on this map is accurate or complete. This map is provided on an "as is" basis and disclaims all warranties, express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose and non-infringement. Any commercial use or sale of this map or portions thereof, is prohibited without express written authorization by the City of Bellevue. The City of Bellevue is not responsible for any damages arising