

November 7, 2022

Jacob Bilbo
City of Shoreline
206.801.2358
Via email: jbilbo@shorelinewa.gov

Re: City of Shoreline Parks Bond Projects – Ridgecrest Park Preliminary Arborist Report

The Watershed Company Reference Number: 220722

Dear Jacob:

On September 9th and 16th, 2022, ISA Certified Arborists® from The Watershed Company visited Ridgecrest Park located at 108 NE 161st Street (parcels #211160-0035, -0040, -0046, -0047, and 2881700193) in Shoreline, Washington to inventory significant trees located in proximity to proposed park improvements. This report summarizes the findings of the study and provides a preliminary tree impacts assessment associated with proposed park improvements. The following documents are enclosed:

- Tree Inventory Table
- Tree Inventory Sketch

Study Area

The study area, shown on the attached Tree Inventory Sketch, includes portions of Ridgecrest Park, including recently acquired parcels, located in proximity to proposed improvements (see Figure 1).



Figure 1. City of Shoreline concept design for Ridgecrest Park (City of Shoreline, July 2019).

Project Background

Proposition 1, passed in the February 2022 special election, is a bond levy for improvements and land acquisitions at several Shoreline parks, including Ridgecrest Park. Per conceptual plans, improvements will be made centrally in the park and are anticipated to include an off-leash dog area, a new playground, soft-surface trails, and amenities such as benches, bike racks, and new plantings. Most improvements will occur within the existing playfield.

Methods

Per Shoreline Municipal Code (SMC), a significant tree is defined as “any healthy tree six inches or greater in diameter at breast height (DBH) excluding those trees that qualify for complete exemptions from Chapter 20.50 SMC, Subchapter 5, Tree Conservation, Land Clearing, and Site Grading Standards, under SMC 20.50.310(A)” (SMC 20.20.048). A round one-and-one-quarter

inch-wide, numbered aluminum tag was affixed to the trunk of all trees measuring six inches or greater located in proximity to the project area. Trees located outside of the park boundary in proximity to the project area were assigned a unique identification number but not tagged. All observation of off-site trees were made from the park property or public right-of-way; attributes of off-site trees are estimated.

The attributes collected during the field survey are described in Table 1, below. The attached Tree Inventory Table contains the data collected for each tree inventoried. General attributes documented for all inventoried trees include the unique identification number and species name. Physical attributes include number of stems, diameter at breast height (DBH), height, canopy radius, and condition.

Table 1. Attributes recorded for all inventoried trees and that are presented in the spreadsheet database.

Attribute	Description of Attribute
ID NUMBER	Unique number assigned to an assessed tree. This number corresponds to the tag number in the field.
SCIENTIFIC NAME	Formal scientific name conforming to the International Code of Nomenclature.
COMMON NAME	Name that is based on normal or common language of the Pacific Northwest.
STEMS	Number of trunks or shoots that contribute significantly to the canopy.
DBH	Diameter at Breast Height; or 4.5 feet from the ground surface.
HEIGHT	Approximate distance from the ground surface at the trunk to the highest point of the subject tree as visually estimated.
CANOPY RADIUS	Approximate average distance from the stem to the limits of the drip line, or end of branches.
CONDITION	Health rating of an assessed tree using a 6-tier system as follows: 1 – Excellent: No apparent problems with the tree. Form is exemplary for the species. 2 – Good: Few minor defects such as crossed branches, minor foliage die-back, minor trunk damage, or unbalanced canopy. 3 – Fair: Several minor problems exist. 4 – Poor: Major defects visible such as significant trunk decay, codominant leaders with included bark, significant canopy die-back, major cracks in a stem or major limbs, and/or other structural problems. Topped trees are generally considered poor. 5 – Dying: Tree is in a state of significant decline. 6 – Dead: Tree is dead.

In general, tree diameter was measured at four feet above the ground surface (diameter at breast height, or “DBH”) using a graduated metal logger’s DBH tape. Methodology for measuring and calculating the diameter of trees with multiple trunks, major leans, or on steep slopes followed those outlined in the Guide for Plant Appraisal, 10th Edition, written by the Council of Tree and Landscape Appraisers (CTLA) and published by ISA (CTLA 2020). For trees with multiple trunks the total diameter was calculated by taking the square root of the sum of each diameter squared, which allows for comparison to other single-stemmed trees and for more accurate permitting and tree retention calculations. Visual estimates of trunk diameter were used where direct access to the tree was not allowed or not feasible.

Findings

Environmental Setting

Ridgecrest Park is located in the south-central portion of the City of Shoreline (Section 17, Township 26 North, Range 04 East). Interstate 5 and light rail infrastructure, undergoing construction at the time of the site visit, is located immediately west of the park. Surrounding land use is predominantly single-family residences with limited tree canopy. The park, including newly acquired parcels, totals approximately 3.95 acres in size.

The site is characterized by a large, flat maintained lawn area located centrally and surrounded by trees and shrubs to the east and south. This area is developed with a baseball diamond, a handball court, and an unmaintained playground. A newly constructed paved parking area is located at the southwest corner of the park. Topography slopes steeply upward to the north, south, and east with an average grade of approximately 45 percent.

Tree Inventory Results

A total of 46 trees (#1082-1127) located in proximity to the project area were included in the inventory, all of which are located within the park boundaries. Two trees (#1115 and 1127) included in the inventory are not significant due to a condition rating of poor (4) or worse; a total of 44 significant trees were inventoried (SMC 20.20.048).

Inventoried trees are a mix of coniferous and deciduous species dominated by natives to the Pacific Northwest. Douglas-fir (*Pseudotsuga menziesii*), with total of 21 individuals, comprise nearly half of the significant trees inventoried. Other common species include red alder (*Alnus rubra*) and bitter cherry (*Prunus emarginata*). Remaining species inventoried include big-leaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii*), shore pine (*Pinus contorta*), and

Scouler’s willow (*Salix scouleriana*). Significant trees inventoried were generally in good (2) condition.

Overall, the average DBH of significant trees located in the study area is 14.1-inches. The largest tree inventoried (#1125) is a Douglas-fir with a DBH of 28.0-inches. Three trees (#1082, 1114, and 1125), a Pacific madrone and two Douglas-firs, measure greater than 24-inches, making them eligible for landmark tree status in the City of Shoreline. A landmark tree is defined as “Any healthy tree over 24 inches in diameter at breast height (dbh) that is worthy of long-term protection due to a unique combination of size, shape, age, location, aesthetic quality for its species or any other trait that epitomizes the character of the species, and/or has cultural, historic or ecological importance or is a regional erratic” (SMC 20.20.048). A summary of significant tree species and size is provided in Table 2 below.

Table 2. Summary of tree species and size.

Tree Name	Total Significant	Total* Landmark	Average DBH (In.)	Largest DBH (In.)
<i>Acer macrophyllum</i> (bigleaf maple)	1	-	n/a	12.9
<i>Alnus rubra</i> (red alder)	12	-	12.8	22.9
<i>Arbutus menziesii</i> (Pacific madrone)	2	1	21.1	24.1
<i>Pinus contorta</i> (shore pine)	2	-	12.3	16.5
<i>Prunus emarginata</i> (bitter cherry)	5	-	6.7	7.5
<i>Pseudotsuga menziesii</i> (Douglas-fir)	21	2	16.4	28.0
<i>Salix Scouleriana</i> (Scouler’s willow)	1	-	n/a	10.2
TOTAL	44	3	14.1	28.0

* Landmark tree based upon size criteria only.

Local Regulations

The City of Shoreline regulates public trees under Chapter 12.30 *Public Tree Management*. Public trees include those located within the public rights-of-way and city-owned public property (SMC 12.30.010). It is the tree board’s responsibility to make policy recommendations regarding the management of public trees (SMC12.30.020). Per SMC 12.30.010 “it shall be the responsibility of the parks, fleet, and facilities manager (hereafter “manager”) to manage and oversee the planting, care, maintenance, and removal of all trees on public rights-of-way and city-owned public property within the city limits.” Additionally, if critical areas and/or

associated buffers are present within, or in proximity, to the proposed park improvements, all trees located within critical areas or buffers are regulated under Chapter 20.80 *Critical Areas*.

Preliminary Tree Impacts Assessment

Based upon the conceptual plan depicting proposed improvements at Ridgecrest Park, four significant trees are anticipated to have indirect impacts resulting from activities such as demolition of existing structures, installation of new walkways, and potential grading within critical root zones. It is expected that impacts will be minor and that the tree protection measures described below can be followed and that no additional impacts are anticipated to occur to remaining significant trees. Therefore, we expect all significant trees included in the inventory to be retained. However, this impact assessment is based upon preliminary park designs and approximate location of significant trees. Further assessment of tree impacts may be needed as the conceptual plan is refined and surveyed tree points are available. A summary of anticipated tree impacts is provided in Table 3.

Table 3. Summary of anticipated tree impacts.

Tree Tag	Direct Impact	Indirect Impact	Removal Expected
1083	no	yes	no
1084	no	yes	no
1093	no	yes	no
1126	no	yes	no

Tree Protection Measures

SMC 20.50.370 *Tree protection standards* outlines the following guidelines for all trees proposed for retention:

A. *All required tree protection measures shall be shown on the tree protection and replacement plan, clearing and grading plan, or other plan submitted to meet the requirements of this subchapter. Tree protection shall remain in place for the duration of the permit unless earlier removal is addressed through construction sequencing on approved plans.*

B. *Critical root zones (tree protection zone) as defined by the International Society of Arboriculture shall be protected. No development, fill, excavation, construction materials, equipment staging, or traffic shall be allowed in the critical root zone of trees that are to be retained.*

C. *Prior to any land disturbance, temporary construction fences must be placed around the tree protection zone to be preserved. If a cluster of trees is proposed for retention, the barrier shall be placed around the edge formed by the drip lines of the trees to be retained. Tree protection shall remain in place for the duration of the permit unless earlier removal is addressed through construction sequencing on approved plans.*

D. *Tree protection barriers shall be a minimum of six feet high, constructed of chain link or similar material, subject to approval by the Director. "Tree Protection Area" signs shall be posted visibly on all sides of the fenced areas. On large or multiple-project sites, the Director may also require that signs requesting subcontractor cooperation and compliance with tree protection standards be posted at site entrances.*

E. *If any construction work needs to be performed inside either the tree drip line, critical root zone, and/or the inner critical root zone, the project arborist will be on site to supervise the work. When excavation must occur within or near the critical root zone, any found roots of three inches or greater in diameter will be cleanly cut to the edge of the trench to avoid ripping of the root.*

F. *Where tree protection zones are remote from areas of land disturbance, and where approved by the Director, alternative forms of tree protection may be used in lieu of tree protection barriers; provided, that protected trees are completely surrounded with continuous rope or flagging and are accompanied by "Tree Leave Area – Keep Out" signs.*

G. *Rock walls shall be constructed around the tree, equal to the dripline, when existing grade levels are lowered or raised by the proposed grading.*

H. *Retain small trees, bushes, and understory plants within the tree protection zone, unless the plant is identified as a regulated noxious weed, a nonregulated noxious weed, or a weed of concern by the King County Noxious Weed Control Board.*

I. *Preventative Mitigation. In addition to the above minimum tree protection measures, the applicant shall support tree protection efforts by employing, as appropriate, the following preventative measures, consistent with best management practices for maintaining the health of the tree:*

1. *Pruning of visible deadwood on trees to be protected or relocated;*
2. *Mulching with a layer of four inches to five inches of wood chips in the critical root zones of retained trees; and*

3. *Ensuring one inch of irrigation or rainfall per week during and immediately after construction and from early May through September until reliable rainfall occurs in the fall.*

Disclaimer

The findings of this report are based on the best available science and are limited to the scope, budget, and site conditions at the time of the assessment. Although the information in this report is based on sound methodology, internal physical flaws (such as cracking or root rot) or other conditions that are not visible cannot be detected with this limited basic visual screening. Trees are inherently unpredictable. Even vigorous and healthy trees can fail due to high winds, heavy snow, ice storms, rain, age, or other causes.

This report is based on the current observable conditions and may not represent future conditions of the trees. Changes in site conditions, including clearing and grading, will alter the condition of remaining trees in a way that is not predictable.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,



Roan Hohlfeld
Ecologist / ISA Certified Arborist® PN-8562A

Enclosures

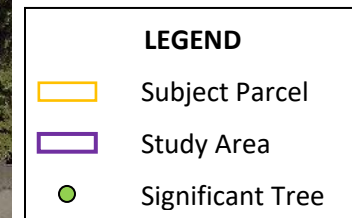
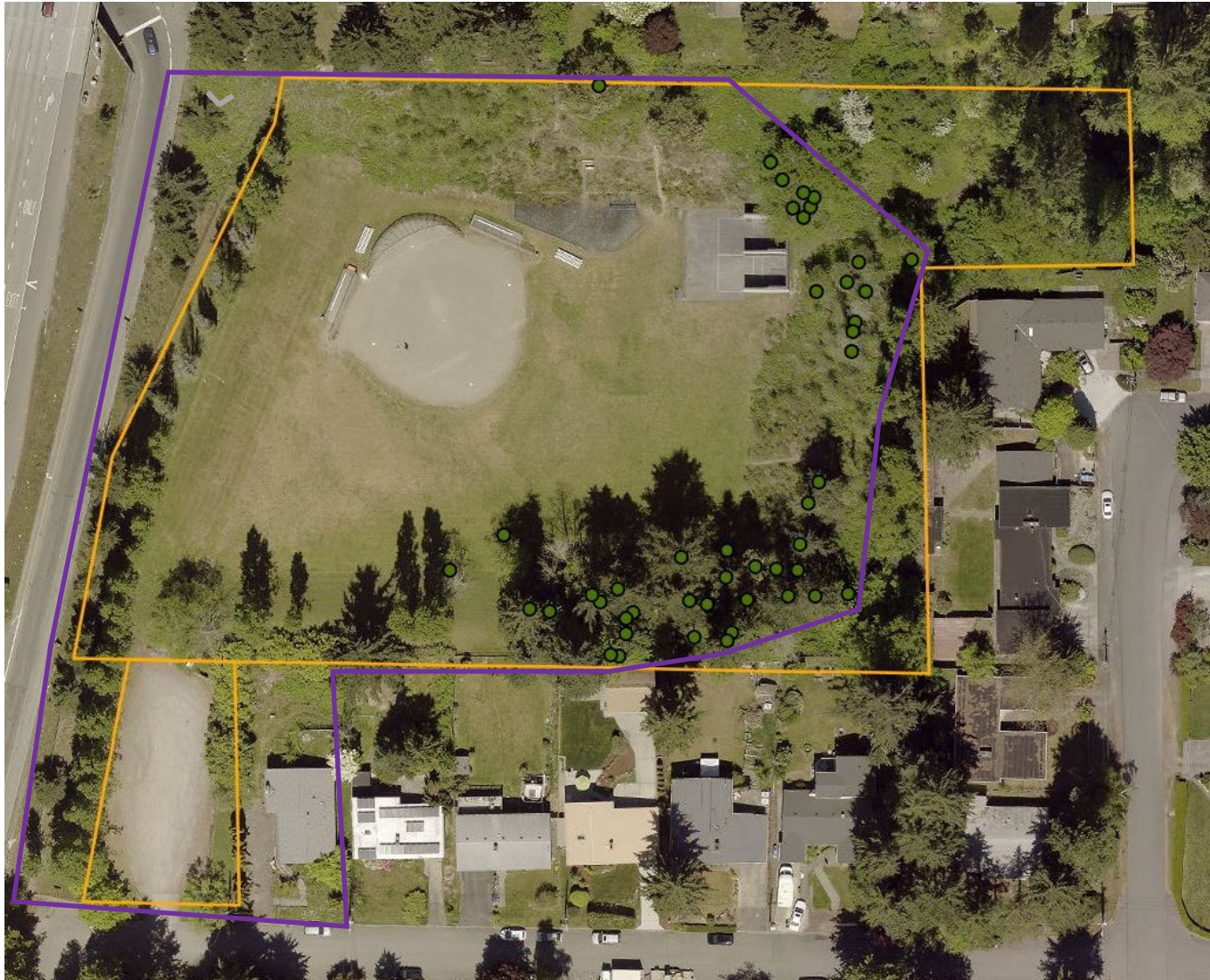
TAG #	TREE NAME	EV / DEC	# STEMS	COMB DBH (IN)	HEIGHT (FT)	RADIUS (FT)	CONDITION	SIGNIFICANT	LANDMARK
1082	Arbutus menziesii (Pacific madrone)	E	1	24.1	45	25	Excellent	yes	yes
1083	Alnus rubra (Red alder)	D	2	17.9	55	15	Good	yes	no
1084	Alnus rubra (Red alder)	D	1	12.0	55	15	Good	yes	no
1085	Alnus rubra (Red alder)	D	1	10.5	55	10	Good	yes	no
1086	Alnus rubra (Red alder)	D	4	17.1	55	15	Good	yes	no
1087	Alnus rubra (Red alder)	D	1	10.4	55	15	Good	yes	no
1088	Alnus rubra (Red alder)	D	1	12.5	40	10	Good	yes	no
1089	Alnus rubra (Red alder)	D	1	10.0	20	10	Good	yes	no
1090	Prunus emarginata (Bitter cherry)	D	1	7.5	35	10	Good	yes	no
1091	Prunus emarginata (Bitter cherry)	D	1	6.0	30	5	Good	yes	no
1092	Prunus emarginata (Bitter cherry)	D	2	7.5	30	10	Good	yes	no
1093	Salix scouleriana (Scouler's willow)	D	8	10.2	35	10	Good	yes	no
1094	Alnus rubra (Red alder)	D	2	22.9	45	15	Fair	yes	no
1095	Alnus rubra (Red alder)	D	1	6.8	45	10	Fair	yes	no
1096	Prunus emarginata (Bitter cherry)	D	1	6.0	30	5	Good	yes	no
1097	Prunus emarginata (Bitter cherry)	D	1	6.5	30	5	Good	yes	no
1098	Pseudotsuga menziesii (Douglas-fir)	E	1	15.5	55	15	Good	yes	no
1099	Pinus monticola (Western white pine)	E	1	16.5	50	15	Fair	yes	no
1100	Pseudotsuga menziesii (Douglas-fir)	E	1	14.9	55	15	Good	yes	no
1101	Acer macrophyllum (Bigleaf maple)	D	1	12.9	35	15	Good	yes	no
1102	Pseudotsuga menziesii (Douglas-fir)	E	1	17.7	55	15	Good	yes	no
1103	Pseudotsuga menziesii (Douglas-fir)	E	1	7.5	40	10	Good	yes	no
1104	Pseudotsuga menziesii (Douglas-fir)	E	1	21.0	65	15	Good	yes	no
1105	Pseudotsuga menziesii (Douglas-fir)	E	1	12.5	60	10	Good	yes	no
1106	Arbutus menziesii (Pacific madrone)	E	1	18.0	60	15	Good	yes	no
1107	Pseudotsuga menziesii (Douglas-fir)	E	1	21.5	85	15	Good	yes	no
1108	Pseudotsuga menziesii (Douglas-fir)	E	1	11.5	50	10	Good	yes	no
1109	Pseudotsuga menziesii (Douglas-fir)	E	1	21.0	55	15	Good	yes	no
1110	Pseudotsuga menziesii (Douglas-fir)	E	1	10.5	40	10	Good	yes	no
1111	Pseudotsuga menziesii (Douglas-fir)	E	1	14.5	65	10	Good	yes	no
1112	Pseudotsuga menziesii (Douglas-fir)	E	1	9.7	45	10	Good	yes	no
1113	Pseudotsuga menziesii (Douglas-fir)	E	1	18.0	80	15	Good	yes	no
1114	Pseudotsuga menziesii (Douglas-fir)	E	1	27.0	85	20	Good	yes	yes
1115	Betula pendula (European white birch)	D	1	8.5	25	5	Very Poor	no	no
1116	Pseudotsuga menziesii (Douglas-fir)	E	1	15.1	50	10	Good	yes	no
1117	Alnus rubra (Red alder)	D	1	12.1	40	15	Good	yes	no
1118	Alnus rubra (Red alder)	D	1	6.3	35	5	Good	yes	no
1119	Pseudotsuga menziesii (Douglas-fir)	E	1	19.2	75	20	Good	yes	no
1120	Pseudotsuga menziesii (Douglas-fir)	E	1	8.0	60	10	Good	yes	no

TAG #	TREE NAME	EV / DEC	# STEMS	COMB DBH (IN)	HEIGHT (FT)	RADIUS (FT)	CONDITION	SIGNIFICANT	LANDMARK
1121	Pseudotsuga menziesii (Douglas-fir)	E	1	14.9	90	10	Good	yes	no
1122	Pseudotsuga menziesii (Douglas-fir)	E	1	15.4	60	10	Good	yes	no
1123	Pseudotsuga menziesii (Douglas-fir)	E	1	21.0	90	20	Good	yes	no
1124	Pinus monticola (Western white pine)	E	1	8.0	65	5	Good	yes	no
1125	Pseudotsuga menziesii (Douglas-fir)	E	1	28.0	90	20	Good	yes	yes
1126	Alnus rubra (Red alder)	D	1	15.0	40	15	Good	yes	no
1127	Alnus rubra (Red alder)	D	1	12.7	15	5	Very Poor	no	no

Tree Inventory Sketch – Ridgecrest Park

Site Address: 108 NE 161st Street; Shoreline, WA
Parcel Number: 211160-0035, -0040, -0046, -0047, and 2881700193
Site Visit Date: September 9 and 16, 2022

Prepared for: City of Shoreline
TWC Ref. No.: 220722



Note: Field sketch only.
Features depicted are approximate and not to scale. All observations were made from within the subject parcel; adjoining private properties were not entered. Significant trees are marked with 1-1/4 inch round aluminum tags with a unique identification number (#1082-1127) permanently affixed to the tree trunk.