

November 7, 2022

Jacob Bilbo  
City of Shoreline  
206.801.2358  
Via email: [jbilbo@shorelinewa.gov](mailto:jbilbo@shorelinewa.gov)

## Re: City of Shoreline Parks Bond Projects – Richmond Highlands Park Preliminary Arborist Report

The Watershed Company Reference Number: 220722

Dear Jacob:

On September 1<sup>st</sup> and 8<sup>th</sup>, 2022, ISA Certified Arborists® from The Watershed Company visited Richmond Highlands Park located at 16554 Fremont Avenue N (parcel #0726049153) 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
- Off-site Tree Inventory Table
- Tree Inventory Sketch

### Study Area

The study area, shown on the attached Tree Inventory Sketch, includes the entirety of Ridgcrest Park, including offsite trees located in proximity to proposed improvements (see Figure 1).



Figure 1. City of Shoreline concept design for Richmond Highlands 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 Richmond Highlands Park. Per conceptual plans, improvements will be made throughout the park with main features including streetscape improvements, a multi-sport court, playground, picnic shelter, new walkways, and playfield improvements. Additional amenities such as parking lot lighting, seating walls, picnic tables, benches, bike racks, and new plantings are also proposed.

## 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 and Off-site Tree Inventory Table contain 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       | <p>Health rating of an assessed tree using a 6-tier system as follows:</p> <ul style="list-style-type: none"> <li>1 – Excellent: No apparent problems with the tree. Form is exemplary for the species.</li> <li>2 – Good: Few minor defects such as crossed branches, minor foliage die-back, minor trunk damage, or unbalanced canopy.</li> <li>3 – Fair: Several minor problems exist.</li> <li>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.</li> </ul> |

| Attribute | Description of Attribute   |
|-----------|--|
|           | 5 – Dying: Tree is in a state of significant decline.<br>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

Richmond Highlands Park is located centrally in the City of Shoreline (Section 07, Township 26 North, Range 04 East). Surrounding land use is predominantly single-family residences with limited tree canopy. The park totals approximately 4.26 acres in size.

The eastern portion of the site is characterized by a large, flat maintained lawn area functioning as a soccer playfield with two baseball diamonds; restroom facilities are located north of the playfield. The west portion of the park is developed with a community center building, play structure, basketball court, and paved parking area sited at the parcel’s highest elevation. Conifers, some very large in size, are concentrated in the southwest and northeast portions of the park.

### Tree Inventory Results

A total of 36 significant trees (#1001-1036) located within the park boundaries were included in the inventory. All inventoried trees located within park boundaries are coniferous species native to the Pacific Northwest. Western red cedar (*Thuja plicata*) and Douglas-fir (*Pseudotsuga menziesii*) comprise 97-percent of the significant trees in the park, with 22 and 13 individuals, respectively. Significant trees were generally in good condition.

Overall, the average DBH of significant trees is 23.79-inches. Two trees, a western white pine (#1112) and a Douglas-fir (#1136), measured as the largest trees inventoried, each with a DBH of

47.1-inches. Seven trees (#1002, 1007, 1009, 1010, 1012, 1029, and 1036), nearly 20-percent of those inventoried in the park, have a DBH greater than 40-inches.

Thirteen Douglas-firs and one shore pine measure greater than 24-inches DBH, 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>Pinus monticola</i> (western white pine) | 1                 | 1               | n/a               | 47.1              |
| <i>Pseudotsuga menziesii</i> (Douglas-fir)  | 13                | 13              | 37.7              | 47.1              |
| <i>Thuja plicata</i> (western red cedar)    | 22                | -               | 14.5              | 22.7              |
| <b>TOTAL</b>                                | <b>36</b>         | <b>14</b>       | <b>23.79</b>      | <b>47.1</b>       |

\* Landmark tree based upon size criteria only.

### Off-site Tree Inventory Results

A total of 21 trees (#1-21) located off-site, but in proximity to the proposed project area, were included in the inventory. One tree (#21) included in the inventory is not significant due to a condition rating of poor (4) or worse; a total of 20 significant trees were inventoried (SMC 20.20.048). A mix of coniferous and deciduous trees representing twelve different species of native and non-native trees were identified.

Douglas-fir (*Pseudotsuga menziesii*) is the most common off-site tree species, with eight individuals. The average size of off-site trees is estimated to be 18-inches DBH, with trees ranging from approximately 6-inches to 40-inches in diameter. Six significant trees (#5, 9, 10, 14, 16, and 18) are estimated to meet size requirements for landmark tree status.

### 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 buffer 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 conceptual plans depicting proposed improvements, seven significant trees in Richmond Highlands Park and two off-site trees are expected to have indirect impacts, primarily from potential grading, that are minor enough to allow for retention. Seventeen significant trees are anticipated to have indirect impacts associated with streetscape improvements that will likely require removal. Nine significant trees will be directly impacted by streetscape improvements and playground construction and removal will be necessary. Of the 26 expected tree removals, four trees (#1008, 1009, 1012, and 1029) meet size requirements for landmark trees.

No additional impacts are expected to occur to remaining significant trees. 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 |
|----------|---------------|-----------------|------------------|
| 18       | no            | yes             | no               |
| 19       | no            | yes             | no               |
| 1001     | no            | yes             | no               |
| 1002     | no            | yes             | no               |
| 1003     | no            | yes             | no               |
| 1005     | no            | yes             | no               |
| 1006     | no            | yes             | no               |
| 1008     | yes           | n/a             | yes              |

|      |     |     |     |
|------|-----|-----|-----|
| 1009 | yes | n/a | yes |
| 1011 | no  | yes | no  |
| 1012 | yes | n/a | yes |
| 1013 | yes | n/a | yes |
| 1014 | yes | n/a | yes |
| 1015 | yes | n/a | yes |
| 1016 | yes | n/a | yes |
| 1017 | yes | n/a | yes |
| 1018 | yes | n/a | yes |
| 1019 | no  | yes | yes |
| 1020 | no  | yes | yes |
| 1021 | no  | yes | yes |
| 1022 | no  | yes | yes |
| 1023 | no  | yes | yes |
| 1024 | no  | yes | yes |
| 1025 | no  | yes | yes |
| 1026 | no  | yes | yes |
| 1027 | no  | yes | yes |
| 1028 | no  | yes | yes |
| 1029 | no  | yes | yes |
| 1030 | no  | yes | yes |
| 1031 | no  | yes | yes |
| 1032 | no  | yes | yes |
| 1033 | no  | yes | yes |
| 1034 | no  | yes | yes |
| 1035 | no  | yes | yes |
| 1036 | 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,



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

Enclosures

| TAG # | TREE NAME                            | EV / DEC | # STEMS | COMB DBH (IN) | HEIGHT (FT) | RADIUS (FT) | CONDITION | SIGNIFICANT | LANDMARK |
|-------|--------------------------------------|----------|---------|---------------|-------------|-------------|-----------|-------------|----------|
| 1001  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 32.9          | 100         | 22          | Excellent | yes         | yes      |
| 1002  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 42.9          | 120         | 21          | Good      | yes         | yes      |
| 1003  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 36.3          | 110         | 23          | Good      | yes         | yes      |
| 1004  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 30.8          | 110         | 16          | Good      | yes         | yes      |
| 1005  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 37.5          | 110         | 19          | Good      | yes         | yes      |
| 1006  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 31.3          | 110         | 15          | Good      | yes         | yes      |
| 1007  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 41.4          | 120         | 18          | Good      | yes         | yes      |
| 1008  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 24.7          | 110         | 14          | Good      | yes         | yes      |
| 1009  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 40.9          | 120         | 24          | Good      | yes         | yes      |
| 1010  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 40.7          | 120         | 20          | Fair      | yes         | yes      |
| 1011  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 37.4          | 120         | 21          | Fair      | yes         | yes      |
| 1012  | Pinus monticola (Western white pine) | E        | 1       | 47.1          | 95          | 33          | Good      | yes         | yes      |
| 1013  | Thuja plicata (Western red cedar)    | E        | 1       | 12.0          | 40          | 10          | Fair      | yes         | no       |
| 1014  | Thuja plicata (Western red cedar)    | E        | 1       | 12.9          | 25          | 10          | Fair      | yes         | no       |
| 1015  | Thuja plicata (Western red cedar)    | E        | 1       | 7.4           | 20          | 5           | Fair      | yes         | no       |
| 1016  | Thuja plicata (Western red cedar)    | E        | 1       | 11.5          | 30          | 10          | Good      | yes         | no       |
| 1017  | Thuja plicata (Western red cedar)    | E        | 1       | 8.9           | 35          | 5           | Good      | yes         | no       |
| 1018  | Thuja plicata (Western red cedar)    | E        | 1       | 15.7          | 30          | 15          | Good      | yes         | no       |
| 1019  | Thuja plicata (Western red cedar)    | E        | 1       | 14.7          | 35          | 15          | Good      | yes         | no       |
| 1020  | Thuja plicata (Western red cedar)    | E        | 1       | 19.6          | 35          | 15          | Good      | yes         | no       |
| 1021  | Thuja plicata (Western red cedar)    | E        | 1       | 14.7          | 35          | 10          | Fair      | yes         | no       |
| 1022  | Thuja plicata (Western red cedar)    | E        | 1       | 12.9          | 35          | 10          | Good      | yes         | no       |
| 1023  | Thuja plicata (Western red cedar)    | E        | 1       | 13.7          | 35          | 10          | Good      | yes         | no       |
| 1024  | Thuja plicata (Western red cedar)    | E        | 1       | 15.1          | 35          | 10          | Good      | yes         | no       |
| 1025  | Thuja plicata (Western red cedar)    | E        | 1       | 22.7          | 35          | 10          | Good      | yes         | no       |
| 1026  | Thuja plicata (Western red cedar)    | E        | 1       | 22.5          | 35          | 10          | Good      | yes         | no       |
| 1027  | Thuja plicata (Western red cedar)    | E        | 1       | 16.9          | 30          | 10          | Good      | yes         | no       |
| 1028  | Thuja plicata (Western red cedar)    | E        | 1       | 9.4           | 25          | 5           | Fair      | yes         | no       |
| 1029  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 45.8          | 120         | 20          | Excellent | yes         | yes      |
| 1030  | Thuja plicata (Western red cedar)    | E        | 1       | 8.7           | 15          | 5           | Fair      | yes         | no       |
| 1031  | Thuja plicata (Western red cedar)    | E        | 2       | 18.3          | 35          | 10          | Good      | yes         | no       |
| 1032  | Thuja plicata (Western red cedar)    | E        | 1       | 17.7          | 35          | 10          | Good      | yes         | no       |
| 1033  | Thuja plicata (Western red cedar)    | E        | 1       | 16.3          | 35          | 10          | Good      | yes         | no       |
| 1034  | Thuja plicata (Western red cedar)    | E        | 1       | 14.6          | 35          | 10          | Good      | yes         | no       |
| 1035  | Thuja plicata (Western red cedar)    | E        | 1       | 13.4          | 35          | 10          | Fair      | yes         | no       |
| 1036  | Pseudotsuga menziesii (Douglas-fir)  | E        | 1       | 47.1          | 120         | 29          | Excellent | yes         | yes      |

| TAG # | TREE NAME   | EV / DEC | # STEMS | COMB DBH (IN) | HEIGHT (FT) | RADIUS (FT) | CONDITION | SIGNIFICANT | LANDMARK |
|-------|---|----------|---------|---------------|-------------|-------------|-----------|-------------|----------|
| 1     | Salix scouleriana (Scouler's willow)                      | D        | 1       | 6.0           | 30          | 15          | Fair      | yes         | no       |
| 2     | Betula pendula (European white birch)                     | D        | 1       | 8.0           | 30          | 15          | Fair      | yes         | no       |
| 3     | Betula pendula (European white birch)                     | D        | 1       | 8.0           | 55          | 8           | Fair      | yes         | no       |
| 4     | Acer sp. (Maple species)                                  | D        | 1       | 8.0           | 30          | 10          | Fair      | yes         | no       |
| 5     | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 38.0          | 120         | 120         | Good      | yes         | yes      |
| 6     | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 8.0           | 30          | 10          | Fair      | yes         | no       |
| 7     | Sorbus aucuparia (European mountain ash)                  | D        | 2       | 14.4          | 30          | 15          | Fair      | yes         | no       |
| 8     | Thuja plicata (Western red cedar)                         | E        | 2       | 11.2          | 35          | 10          | Good      | yes         | no       |
| 9     | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 35.0          | 100         | 20          | Excellent | yes         | yes      |
| 10    | Pinus monticola (Western white pine)                      | E        | 1       | 30.0          | 90          | 15          | Good      | yes         | yes      |
| 11    | Thuja plicata (Western red cedar)                         | E        | 2       | 19.8          | 45          | 15          | Fair      | yes         | no       |
| 12    | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 6.0           | 30          | 10          | Good      | yes         | no       |
| 13    | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 20.0          | 85          | 20          | Fair      | yes         | no       |
| 14    | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 40.0          | 110         | 20          | Excellent | yes         | yes      |
| 15    | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 18.0          | 75          | 15          | Good      | yes         | no       |
| 16    | Pseudotsuga menziesii (Douglas-fir)                       | E        | 1       | 35.0          | 100         | 15          | Good      | yes         | yes      |
| 17    | Laburnum x watereri (Goldenchain tree)                    | D        | 1       | 14.0          | 25          | 10          | Good      | yes         | no       |
| 18    | Robinia pseudoacacia (Black locust)                       | D        | 1       | 25.0          | 80          | 20          | Good      | yes         | yes      |
| 19    | Pyrus domestica (Common pear)                             | D        | 1       | 14.0          | 40          | 10          | Good      | yes         | no       |
| 20    | Prunus emarginata (Bitter cherry)                         | D        | 2       | 17.0          | 45          | 15          | Good      | yes         | no       |
| 21    | Betula pendula 'Laciniata' (Cutleaf European White Birch) | D        | 1       | 6.0           | 20          | 5           | Very Poor | no          | no       |




### Tree Inventory Sketch – Richmond Highlands Park

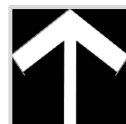
Site Address: 16554 Fremont Avenue N; Shoreline, WA  
Parcel Number: 0726049153  
Site Visit Date: September 1 and 8, 2022

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



**LEGEND**

-  Subject Parcel
-  Study Area
-  Significant Tree



**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 (trees #1001-1036) permanently affixed to the tree trunk. Offsite trees were not tagged but given a unique identification number (#1-21).