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June 12, 2015

Planning Dept.  
City of Lake Forest Park  
17425 Ballinger Way NE  
Lake Forest Park, WA 98155

**Re:** Arborist Review Tree Permit #2015-ARP-0015, Review and Recommendations  
**Site:** Scofield property, 4950 NE 184th St, Lake Forest Park, WA 98155

The tree removal application was checked for compliance with the standards and requirements pursuant to Chapter 16.14 LFPMC. I conducted a site and tree inspection on June 9, 2015 and had a brief discussion with Alex Scofield regarding proposed tree removals. I also reviewed the Site Plan drawings for the proposed project, included with the tree removal application. This report outlines my inspection and includes my findings, conclusions, and recommendations.

### **Proposed Activity**

The proposed activity on this lot is for new construction of a single family residence. There are a total of 3-4 trees that potentially may be removal on the lot to allow the project to be completed as planned, refer to Site Plans and *Attachment: 2013 Aerial Site Photo*.

### **Methods**

I conducted my tree inspection and evaluation for the trees following the protocol of the International Society of Arboriculture (ISA) for Visual Tree Assessment (VTA) that employs a visual and non invasive inspection of the overall health and external condition of each tree and site conditions. I also conducted a basic level tree risk assessment, adhering to tree care industry standards, protocols and practices set by the American National Standards Institute (ANSI), and the International Society of Arboriculture (ISA), that employs a 360-degree, ground- based detailed visual and non-invasive inspection of a tree, including tree crown, trunk, trunk flare, above ground roots and site conditions around the tree in relation to targets. The time frame for tree risk assessments, the period in which estimating the likelihood of failure, is generally 1-5 years, unless otherwise noted.

All significant trees, (a tree that is 6.0" in diameter at breast height (DBH), 4.5 feet above grade, of concern, on the site were inspected and assessed for species, size, health and structural condition, critical root zone, and drip line.

All trees proposed for retention were thoroughly inspected and evaluated for their suitability to tolerate the expected construction impacts and for their overall worthiness for long term retention.

## **Findings**

### Site

This is an undeveloped single-family residential lot, 14,329 square feet in size. The front south half of the lot is level grade and the back half of the lot is steep sloped terrain, see Site Plan. The tree canopy coverage goal for this size lot, pursuant to Chapters 16.14.080, is 39 % (5,588 sq. ft.). The current canopy coverage, from trees originating on the lot, is approximately 55.5% (7,955 sq. ft.), as determined either by collected tree data and/or interpretation of high resolution aerial photography, see *Attachment: 2013 Aerial Site Photo*.

### Subject Trees

There are 4 individual significant trees on the lot that were inspected. Three of the trees are landmark trees (a tree that is 28 inches in diameter and larger). No trees beyond the steep slope buffer were inspected, except for Tree 4, which is described below.

**Tree 1** is a Western Red cedar/*Thuja plicata*, located in the SW corner of the lot. It is 35 inches in diameter at breast height (DBH), measured 4.5 feet above grade and it is approximately 95 feet in height. The live crown ratio(LCR), which is the amount of live canopy expressed as a percentage of the entire tree height, is 100%. The drip line(the radius distance from the trunk to the furthest branch tips) and the tree canopy spread area is shared with Tree 2. The crown is in good overall health and condition. There are indications of some butt and trunk decay. There are no other obvious structural defects. The overall health and condition of the tree is good.

**Tree 2** is a Western Red cedar, is located in SW corner of the lot, along the west side property boundary. It is 32" DBH and it is approximately 80 feet in height. The LCR is 100%. The drip line and the tree canopy spread area is shared with Tree 1. The crown is in good overall health and condition. There are indications of some butt and trunk decay. There are no other obvious structural defects. The overall health and condition of the tree is good.

The combine canopy spread for Tree 1 and Tree 2 is approximately 1,800 sq. ft., and is estimated as equally shared.

**Tree 3** is a Cherry/*Prunus* species, located in front of the lot, along the south side property boundary. It is a multiple stemmed tree, 3", 4" and 7" DBH. It is approximately 18 feet in height. The LCR is 90%. The drip line is 12ft. and the tree canopy spread area is approximately 250 sq. ft. The crown is in fair overall health and condition. The overall health and condition of the tree is fair.

**Tree 4** is a Douglas Fir/*Pseudotsuga menziesii*, located at the top of the cut bank, above the existing retaining wall. It is 38" DBH and is approximately 120 feet in height. The LCR is 75%. The drip line is 18ft. and the tree canopy spread area is approximately 850 sq. ft. The crown is in good overall health and condition. There are no obvious structural defects and the tree is in good overall health and condition.

- Tree 2 and Tree 3 are all within the proposed construction zone of the proposed project and are not suitable to retain and should be removed.
- Tree 1 has the potential to be retained. It is in generally good overall health and condition and is suitable to tolerate the proposed construction activities, provided the recommended tree protection measures are followed, see *Attachment: Tree Protection Measures*.
- Tree 4 is located in within the protected Sensitive Area, away from the proposed construction activities. It has the potential to be retained. It is in good overall health and condition. The assessed risk category for this tree is 'low', currently, and is likely to remain 'low' for the new developed residence, throughout the time frame for the tree risk assessment.

The proposed tree removals will reduce the total tree canopy coverage by approximately 1,150 sq ft.(8%).

### **Conclusion**

The 2 trees proposed for removal will allow the project to go forward safely and as proposed. The trees that will be retained on the property provide economic and environmental benefits that are an asset to the owner and to the community as a whole and are worthy of the energy require to preserve them.

### **Tree Canopy Replacement**

The current tree canopy coverage over the entire lot is approximately 7,955 sq. ft.(55%). The proposed tree removals will reduce tree canopy coverage, that originates from trees on the lot, by approximately 1,150 sq ft. The total amount of retained tree canopy coverage, over the lot, will be approximately 6,805 sq ft.(47.5%). Therefore, pursuant to Chapters 16.14.080 LFPMC, a Tree Replacement Plan is required to replace canopy coverage. Trees are required to be planted in sufficient numbers to replace 1,150 sq. ft. of tree canopy coverage to bring the canopy cover up to tree canopy coverage goal for this size lot, which is 28%, in 30 years.

### **Limitations**

Tree risk assessment considers known targets and visible or detectable tree conditions. Unless expressed otherwise, information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. It must be realized that trees are living organisms and their health and vigor constantly change over time. They are not immune to changes in the site conditions or seasonal variations in the weather.

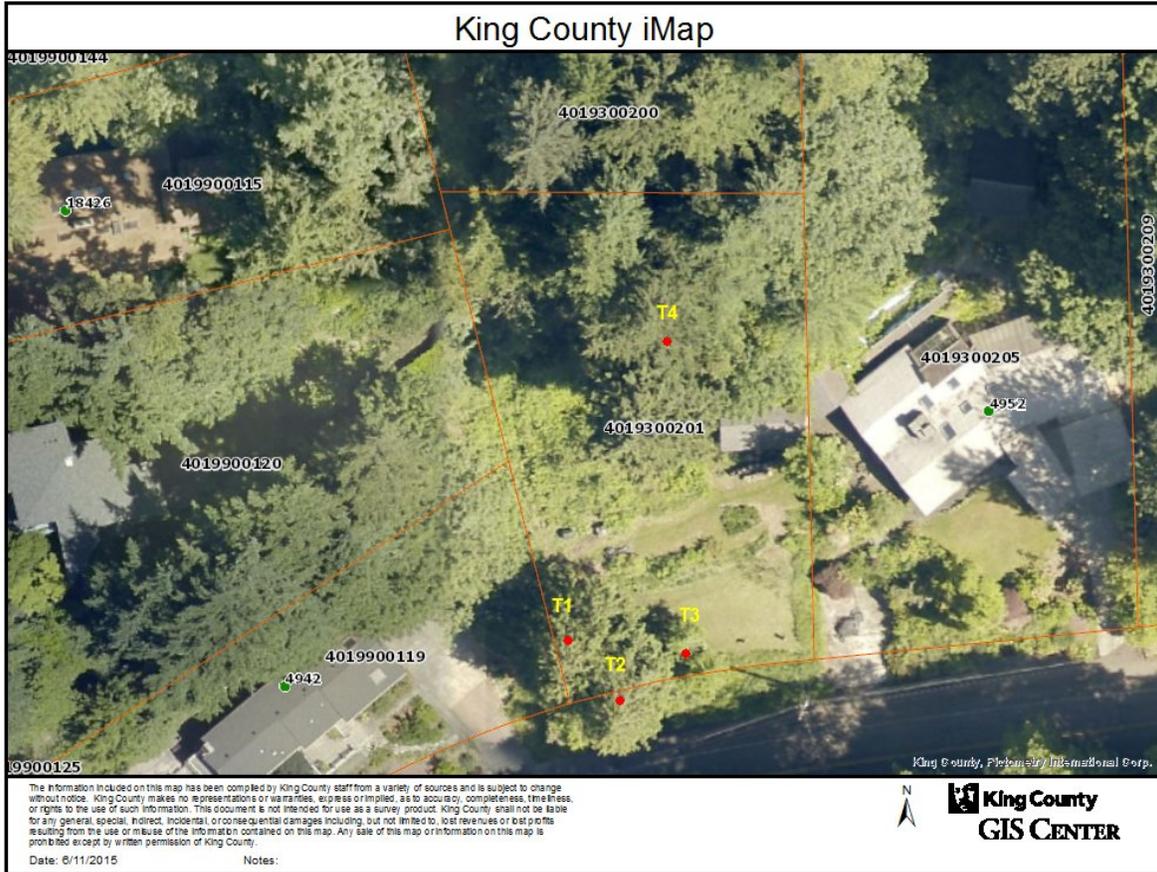
There is no warranty or guarantee expressed or implied that problems or deficiencies of the trees in question may not arise in the future. The report and conclusions expressed herein represent the opinion of Michael Woodbury d/b/a M. Woodbury Consulting Arborist.

Please contact me should you have questions regarding this report.

Respectfully submitted,  
Michael A. Woodbury

Michael A. Woodbury, Consulting Arborist  
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**ATTACHMENT: 2013 AERIAL SITE PHOTO**  
**4950 NE 184th St.**  
**Lake Forest Park, WA**



Locations of inventoried trees.

<u>Trees proposed for removal:</u>	<u>Trees to retain:</u>
T1	T2
T3	T4

## Attachment: Tree Protection Measures

In order for trees to survive the stresses placed upon them in the construction process, tree protection must be planned in advance of equipment arrival on site. If tree protection is not planned integral with the design and layout of the project, the trees will suffer needlessly and will possibly die. With proper preparation, often costing little, or nothing extra to the project budget, trees can survive and thrive after construction. This is critical for tree survival because damage prevention is the single most effective treatment for trees on construction sites. Once trees are damaged, the treatment options available are limited.

The following minimum Tree Protection Measures are:

Tree #2 can be protected with a single circular Tree Protection Fence(TPF).

1. Install a continuous TPF, of polyethylene laminar safety fencing material, a minimum of 4 feet high and supported by metal fence posts spaced approximately 4 feet apart, in a radial arc 20 feet from the trunk the tree. Installation of the TPF facing the construction zone shall be as close to the edge of work as feasible, if less than the recommended 20 feet.
2. Place a layer of mulch, woodchips are recommended, at least 4" in depth covering the area within the TPF.
3. The area within the tree protection fencing is the Tree Protection Zone (TPZ) and nothing must be parked or stored within the TPZ; no equipment, vehicles, soil, debris, or construction supplies of any sorts.

The Tree Protection Fences need to be clearly marked with the following or similar text in four inch or larger letters:

**“TREE PROTECTION FENCE  
DO NOT ENTER THIS AREA  
DO NOT PARK OR STORE MATERIALS WITHIN THE PROTECTED AREA”  
To report violations call the City of Lake Forest Park, 206-368-5440**

Additional Tree Protection Measures:

- During excavation roots over 1 inch in diameter can be cleanly cut back to the edge of disturbance using loppers. Roots over 2 inches in diameter shall be cleanly cut with a saws all saw.
- If pruning is needed for clearance, it should be done by a certified arborist or under his/her supervision. The construction crew should not perform the pruning task.
- Water the TPZ of the retained trees during the construction period.
- Other appropriate tree protection measures not withstanding to Chapter 16.14.090 LFPMC

### Summary Timeline for Tree Protection Measures

1. Project crew to install tree protection fencing.
2. The City arborist to inspect tree protection fences and attend the pre-work meeting with the project and construction representatives.
3. The City arborist to make site visits during tree removal and demolition and during peak construction activities.
4. The City arborist to make a post - construction inspection and recommend post-construction tree maintenance treatments, as needed.