



April 21, 2022

**CLIENT**

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Mercer Island, Wa. 98040

**ASSIGNMENT**

To travel to the above site to perform a revised survey of existing trees on the site, or on the adjacent property to the north, that may be impacted from the proposed demolition and replacement of the current house.

**METHODS/OBSERVATIONS**

During my visit to the site, I examined a total of 19 significant trees: 7 grow very close to the boundary line of the adjacent north property. One grows near the southeast corner of the home, 8 grow on the slope west of the driveway, and 3 grow near the northwest property corner. The survey begins with a large Douglas Fir near the northwest corner of the Nguyen property, moves east along the boundary line, and finishes with a Western Red Cedar just to the northeast of the north end of the driveway. Each tree has been numbered and marked with green surveyors' tape for protection and preservation, or orange tape for removal. In many cases, the tape is attached to a branch or an English ivy stem. Both the common and botanical names are provided. However, there are several trees of the same genus and species, so the botanical name is shown only once. The Diameter Breast Height, or DBH, (trunk diameter at 4.5' above the ground), and drip line radius, (the average distance from the trunk to the ends of the existing branches), of each tree were measured, and the overall condition rated. All the trees are shown on the enclosed site map.

**TREE #1** is a 24" DBH Douglas Fir, (*Pseudotsuga menziesii*), growing near the northwest of the Nguyen home. Its drip line radius is 20' and the tree is in good condition. Because of its trunk diameter, it is protected as an Exceptional Tree by Mercer Island code. It should be protected and preserved.

**TREE #2** is a 24" DBH Douglas Fir growing to the east of Tree #1. Its drip line radius is 16' and it is in good condition. It is an Exceptional Tree and should be protected and preserved.

**TREE #3** is a 16" DBH Douglas Fir, in good condition with a 12' drip line radius. It should be protected and preserved.

**TREE #4** is an 18" DBH Douglas Fir, in good condition with a 12' drip line radius. It should be protected and preserved.

**TREE #5** is a 12" DBH Western Red Cedar, (*Thuja plicata*), in good condition with a 7' drip line radius. It should be protected and preserved.

**TREE #6** is a 14" DBH Flowering Cherry, (*Prunus spp.*), in good condition with an 18' drip line radius. It should be protected and preserved.

**TREE #7** is a 28" DBH Western Red Cedar, in very good condition with a 17' drip line radius. It qualifies as an Exceptional Tree and should be protected and preserved.

**TREE #8** is a two-stem, (28" and 24" DBH, respectively), Western Red Cedar, with a calculated DBH of nearly 37". It qualifies as an Exceptional Tree. It grows near the southeast corner of the Nguyen home, and has a 16' drip line radius, is in very good condition, and should be protected and preserved.

**TREE #9** is a 16" Douglas Fir located at the southwest corner of the property. It has a drip line radius of 12' and is in fair condition as it has been repeatedly topped for power line clearance for several decades. This tree grows well away from the construction impact zone.

**TREE #10** is a 14" DBH Douglas Fir that grows near the southwest corner of the driveway. It has a drip line radius of 12' and is in fair condition as, like Tree #9, it has been topped regularly. It grows very close to the rock retaining wall, and, if retained its large anchor roots will damage the wall. This tree is marked with orange tape and should be **removed**.

**TREE #11** is a 12" DBH Western Red Cedar that grows upslope and slightly north of Tree #10. This tree has a drip line radius of 8', is in good condition and can be protected and retained.

**TREE #12** is a 19" DBH Douglas Fir that grows north of Tree #10 and in contact with the retaining wall. It has a drip line radius of 12' and is in fair condition. However, like Tree #10, its anchor roots will eventually damage the rock wall and it should be **removed**.

**TREE #13** is a 16" DBH Western Red Cedar that grows upslope to the west of Tree #12. It has a drip line radius of 14', is in fair condition and can be protected and preserved.

**TREE #14** is a 10" DBH Western Red Cedar that grows near Tree #13. It has a drip line radius of 8', is in fair condition, and can be protected and preserved.

**TREE #15** is an 18" DBH Douglas Fir that grows uphill from Tree #14. It has a drip line radius of 20' and is in fair condition. It can be protected and preserved on the slope.

**TREE #16** is a 28.5" DBH Western Red Cedar that grows on the west side of the driveway where it meets the public street. It is protected as an Exceptional Tree by Mercer island code and it has a drip line radius of 16'. Despite the fact that it has been topped for line clearance, it is in fair condition and can be protected and preserved on the site.

**NOTE:** The tree map includes Tree #17 on the east side of the driveway. I found that this tree is only 6" DBH and not considered to be significant. However, it is in fair condition and grows as part of an effective evergreen tree screen between the driveway and the house.

**TREE #18** is a 2-stem, (15", 14" DBH), Western Red Cedar, with a calculated DBH of 20.5". It has a drip line radius of 20', is in fair condition, and should be protected and preserved.

**TREE #19** is a 12" DBH True Fir, (*Abies spp.*), that grows near the northeast corner of the driveway. It has a drip line radius of 12', is in poor condition, but should survive the driveway rebuilding project.

**TREE #20** is an 18" DBH Western Red Cedar that grows just east down the slope from Tree #19. It has a drip line radius of 16', is in poor condition, but is healthy and sound enough to survive the project.

## TREE PROTECTION GUIDELINES

Successful preservation of trees on construction sites begins with all the involved parties understanding and agreeing to adhere to a set of Tree Protection Guidelines. My understanding of this demolition and rebuilding project is that the footprint of the old home and the new home will be the same, and that the driveway raising will have little to no impact on the Critical Root Zones, (CRZ), of the adjacent trees. I recommend that the following Tree Protection Guidelines be implemented on this project.

1. **Root Zone Mulching:** I recommend that prior to beginning demolition, enough arborist wood chips be brought in to cover the south areas of the drip line radius or CRZ of trees #1-7 by 4-5". Available CRZ areas to the east and north of Tree #8 should also be mulched. The purpose of mulching is to cool the soil, preserve moisture and protect the roots. It will not be necessary to add mulch to the CRZ's near Trees #9-20.
2. **Root Zone Fencing:** Simultaneously with mulching, 6' tall, moveable chain link fencing should be installed at the outer edge of the drip line radius or CRZ. The purpose of fencing is to create a NO GO zone where no construction materials may be stored or equipment staged. Trees #1-8, and #9-16 should be fenced off in this way.
3. **Excavation:** During excavation, if roots of protected trees that are 3" diameter and greater are encountered, they should be cut cleanly to the edge of the trench and not ripped from the ground.
4. **Irrigation:** Providing extra water to the root zones of trees is the MOST CRITICAL factor in preserving trees during and after construction. If the project takes place during the growing season, I recommend that all available CRZ areas receive, either from rainfall or supplemental irrigation, the equivalent of 1" of water per week from at least May 1-September 30. This watering program should continue for two years following completion of the project.

## SUMMARY COMMENTS

Of the 19 trees identified and discussed, only 2 will need to be removed during this project. And their removal will have no impact to any other trees on the site. Trees #1-#8 will receive some impact to their root zones, but all are in good enough condition that they can be preserved by carefully following the above protection measures. Trees to be retained on the slope west and east of the driveway should experience minimal construction impact. Please contact me if you have further questions.

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ISA Qualified Tree Risk Assessor, (TRAQ), since February 2017

