# ARBORIST REPORT

**Date:**
October 14, 2022

**Prepared for:**
Jamie Buchan
Buchan Homes

**Site Address:**
3036 67th Avenue SE
Mercer Island, WA

**Prepared by:**
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## NARRATIVE

**Scope of Work**
You have asked me to assess the current condition of the trees located at the above referenced site, and to prepare a tree preservation plan that would protect certain trees during the proposed construction project. The plan will include a suggested replanting plan, as may be required.

**Methodology**
The methods and techniques used for this assessment are as outlined in *Tree Risk Assessment* by Julian Dunster and as adopted by the International Society of Arboriculture (ISA). Additional standards, practices and specifications are as detailed in *ANSI Standard A300 (Part 9)-2017 Tree Risk Assessment a. Tree Failure,* and Best Management Practices publication *'Managing Trees During Construction'* Second Edition. The end goal of most assessments is to provide the owner or manager of the tree(s) with factual information, enabling them to make decisions about the management of the tree(s). For this particular assessment, I used a Level II Assessment that includes inspection of the root collar, lower trunk, and canopy of the tree as can be seen from the ground. Basic assessment does not include climbing the tree or excavation of soils to inspect root structure or condition. However, in this case, it was necessary to hand excavate an 'exploratory trench' to assess the presence of roots in the soil. Those findings are detailed herein.

Each tree was measured for its Diameter at Breast Height (DBH), an industry standard of measuring trees at 4.5' above grade. Photos were taken, with select photos attached below. A Tree Inventory and Assessment spreadsheet was completed that details each tree by Reference Number, Species, Common Name, Size (DBH), Dripline, Condition, with Comments. Condition is rated on a scale of Poor, Fair, Good, Excellent and considers overall vigor and structure.

**Findings and Observations**
I first visited this site in February of 2022., with follow-up visits in August and September. There are five trees located on-site, two trees that appear to be growing in the right-of-way (ROW), and one large evergreen located off-site with limbs that overhang the subject site.

Tree #1 is a 35.4" DBH Douglas fir. The Tree Protection Zone (TPZ) for this tree is equal to its dripline diameter, which was measured and estimated to be 25' south. Much of this dripline south of the tree overhangs the structure, thereby an educated estimate was made regarding its dripline radius. At the time of my initial site visit, there existed large wooden deck sections that covered much of the trees root zone on the southern side of the tree. The deck material was subsequently removed in order to provide root zone inspection. See additional comments in the **Considerations** section below.

Tree #2 and #3 are both large Douglas fir trees measuring 29.0" and 35.0" DBH. Both of these trees are in Fair or Good condition and are good candidates for retention. It is noteworthy that both trees topped many years ago and now have co-dominant leaders with ivy growing up to and beyond the 'crotch' of the co-dominant stems. See additional comments below regarding ivy removal.

Tree #4 is an Apple tree that measures 9.2" DBH. The tree is in Poor condition due to advanced decay in the trunk. This tree should be removed due to its Poor condition. The most recent site visit reveals that this tree is now completely DEAD.

Tree #5 is an Apple tree that measures 12.9" DBH. It is considered in Fair condition with heavy limb pruning that has removed too much wood, resulting in a poor structure and large wound wood.

Tree # 6 appears to be growing in the ROW. Tree #6 measures 6.4" DBH.

Tree #7 appears to be growing in the ROW and measures 10.5" DBH. Both #6 and #7 are in Poor condition with decay and structural defects. Both are planted near a fire hydrant, on a failing embankment, with utility lines overhead.

There is one (1) large Atlas Cedar tree, with an estimated 30" DBH, located approximately 15' off-site from the NE corner of the subject property. This tree has overhanging limbs.

There is also an off-site Flowering Plum tree located approximately 8' south of the south property line, near the back-fence line. This Plum tree has overhanging limbs but is in poor condition due to structural defects. The tree is leaning near the ground and overhangs the subject property due to this extreme lean. No protection measures will be needed for this tree.

***Considerations***

Your initial plans were to retain Tree #1. Those plans would have involved excavation within 15' – 17' of the tree trunk. An exploratory trench was hand excavated 14' away from the trunk. The trench was dug to a depth of 18" to 24" where dense hardpan soils were encountered. In the top profile of soil, we found several roots larger than 2" in diameter. In my opinion, severing the roots found within the trench would significantly increase the likelihood that Tree #1 might fail from lack of structural roots. The tree is located within a few feet of the residential structure located immediately north of the subject property. While the tree may be of Exceptional size, its planting location is far less than exceptional. It is planted on, or very near the property line, within a few feet of the neighboring structure.

It is my understanding that you calculated your loss of allowable building footprint that would be allowed if you retained the tree, as defined under MIMC 19.10.0603b. Retention would require that you reduce the size of the allowable footprint. Removal of this tree will require six (6) trees be planted as mitigation.

I have reviewed your Plan Sheet A1.1, revised 9/26/2022. There are four (4) large regulated trees on-site, you plan to remove three (2) for a retainage of 50%. Tree #1, #5, will be removed. Tree #2 and #3 will be retained. ROW Tree #6 and #7 will be removed and will require two trees (one tree for each ROW tree removed) to be planted as mitigation.

A total of ten (10) trees will need to be planted as mitigation for the removed trees, including the two replacement trees for the two trees removed from the ROW. Plan A1.1 shows the location and species of the replacement trees. The City of Mercer Island requires that at least 50% of the replacement trees be native to the Puget Sound region; you plan to plant 66% native.

**Conclusions**
The off-site large Atlas cedar will have little to no impact from the proposed construction. The two Douglas fir trees scheduled for retention should tolerate the minimal root system impacts that are likely from this development, provided the following mitigation measures are adopted.

The City of Mercer Island allows for removal of street trees that are in poor condition or in the way of construction, provide they are replaced on a one-for-one ratio. The City prefers that the replacement trees be located as near as possible to the location from where they are removed. In this case, replacement of the two ROW trees near their present location would not be advisable due to nearby underground and overhead utilities.

The following protection and preservation measures should be adopted and should be included on all plan sheets that detail site clearing and grading, as well as any plan sheets that detail tree retention or replanting.

- Tree protection fencing (TPF) shall consist of chain link fencing, or other fencing as may be required or approved by the City of Mercer Island, installed at the dripline radius of Tree #1 and Tree #3 and shall be staked into place, as required by the City. Plan Shee t A1.1 details the location of the Tree Protection Fencing.
- Signage shall be installed at intervals of 20’ or less along the fenceline declaring the fenced area as a **“TREE PROTECTION ZONE - NO TOOLS, EQUIPMENT, OR CONSTRUCTION RELATED MATERIALS MAY BE PLACED WITHIN THE TREE PROTECTION ZONE”.** Signage shall be a minimum of 8.5” by 11.0” and shall be resistant to weather conditions.
- An ISA certified arborist shall verify the location of the fencing. The fencing shall be installed prior to any site clearing or grading and shall remain in place until the construction phase is completed.
- An ISA certified arborist shall be on-site for any excavation in the backyard area or anywhere near these protected trees.
- Any roots that are encountered and in need of removal shall be assessed by the Project Arborist. Severing of encountered roots shall be undertaken as detailed in *ANSI Standard A300 (Part 8)-2013, Root Management*.

- Any roots that are encountered and severed shall be covered with moist compost or mulch material as soon as is reasonable following the root exposure and severance.
- Preserved trees shall be re-assessed after completion of the construction activity.
- The Ivy in Tree #2 and #3 should be removed, as much as possible.

One (1) photo included below.
Photo #1 – Exploratory trench dug by hand 14’ from the tree trunk, measured 4.5’ above grade
This view is from the west, looking east.

End of report –

This report was prepared by Thomas Quigley, ISA certified arborist PN0655A. Tree Risk Assessment Qualified (TRAQ) by the International Society of Arboriculture (ISA).