ARBORIST REPORT

Date:
March 15, 2021

Prepared for:
Rachel Lumpkin

Site Address:
5401 West Mercer Way
Mercer Island, WA

Prepared by:
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NARRATIVE

Scope of Work
You have asked me to assess the trees located on the above referenced property as well as trees located off-site but with limbs overhanging the subject property. This scope of work includes preparation of documents for submittal to the City of Mercer Island. You have provided a site plan sheet labeled 'Tree Retention & Replanting Plan TS-3', dated 03/17/2021.

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*. 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. While this specific assessment is not intended to rate risk of individual trees, the assessment principles and practices are based on the same data.

I used a wood mallet to 'sound' certain trees and field glasses to look at upper limbs and canopies. I measured each tree for its Diameter at Breast Height (DBH), an industry standard of measuring trees at 4.5' above grade.

Findings and Observations
I first visited the site July 22, 2019.

I assessed thirty-six (36) trees: twenty-six (26) trees on-site, five (5) trees off-site, five (5) trees in the Right-of-Way (ROW). The five off-site trees are all located on private property, on neighboring parcels. Of the twenty-six (26) on-site trees, seven (7) are smaller than 10" DBH, therefore nineteen (19) trees are of consideration. There are three (3) trees considered 'Exceptional' by Mercer Island Municipal Code. You plan to retain eighteen (18) trees, or 94.4 percent retainage, rounded to 94%.

The following trees are noteworthy.

Tree #201 is a 24.1" DBH Douglas fir that is located near the existing driveway entrance. There are most likely roots from this tree growing under the existing driveway paving. If this pavement and compacted gravel are disturbed, there could be associated root impacts. Any excavation in this area should be monitored by a tree professional.

Tree #202, 203, 205, 207 and 209 are in the ROW and will be protected from root system impacts by the temporary use of 6' tall chain link fencing, as detailed on the above referenced site plan.

Tree #214 is a 41.3" DBH Douglas fir. The dripline radius of this tree will be impacted slightly by proposed excavation. It is likely that such impacts will be manageable, see additional notes below.

Tree #217 is scheduled for retention but the trees' condition is considered to be 'Poor'. It is growing under the canopy of Tree #214 and leans to the west, with poor structure and poor vigor.

Tree #215, 216, 219, and 220 are scheduled for removal. Tree #215, 216 and 220 are less than 10" DBH and thereby are considered 'unregulated' by city code.

Tree #221, through #226 are located south of the existing driveway and carport. As noted in the tree inventory, these trees are mostly in fair to poor condition. The soils in this area have eroded and many tree roots are exposed. Any soil disruption in this area will likely encounter roots from these trees. As noted below, any soil disruption should be monitored so that potential root system impacts can be assessed and responded to.

Tree #227, 233, and 234 are located west of the proposed construction and will have excavation within the drip-line radius of each tree. On-site monitoring of the root system impacts should be implemented during any on-site excavation. If roots of these trees are exposed during excavation, and it is necessary to remove certain roots in order to proceed with construction, the tree should be assessed for the risk of failure due to root loss. If any tree is deemed of ''High" risk of failure and needs to be removed, additional trees will need to be planted as mitigation for the tree removal.

The above referenced site plan details a 'Proposed Site Wall' located in the front yard area. The excavation for this wall will intrude into the dripline radius of certain trees, including the 41" DBH Douglas Fir tree, #214.

Considerations

Of primary concern is protection of the trees that could very likely have root system impacts from the proposed excavation associated with the new residential construction on the subject property.

The following mitigation measures should be implemented prior to any clearing or grading activities. The following bulleted items should be included on the Tree Retention & Replanting plan sheet and/or other plan set pages that detail clearing and grading standards.

- Tree Protection Measures (TPM) should be 4' tall orange poly fencing, or equivalent, staked into place at the Limits of Disturbance (LOD), except that TPM for the trees located along the ROW shall be 6' tall chain-link panels secured in place.
- Signage shall be provided every 20' along the sections of TPM stating the fence provides a "Tree Protection Zone" – "No Soils, Building Materials or Equipment Allowed in Protection Zone". These signs should be 8.5" by 11.0"and made to be weather resistant.
- Site clearing, grading and excavation should be monitored by a professional tree person. Any roots encountered should be cleanly cut as-if it were a root from a tree scheduled for retention. Any stump removal should be considered for its potential impact to nearby protected trees.
- Root pruning, as needed, should be undertaken with care. Additional pruning standards are detailed in *ANSI Standard A300 (Part8)-2013 Root Management.*
- Any tree with root system impacts should be furthered assessed to determine if root impacts might increase the likelihood of a future failure.
- All exposed roots should be covered with moist native soil or a commercial compost or mulch product, sufficient to cover the freshly cut roots as soon as is reasonable.
- All bare soils around the retained trees should be covered with 3" of arborist wood chips or a commercial mulch material.
- If limb removal is needed in order to provide building clearance, such pruning should be undertaken by a tree professional and should be done with proper pruning equipment.
- The trees would benefit from additional summer-time hydration, as may be possible.

City of Mercer Island code provides for re-planting trees to mitigate for trees removed. I have completed a City of Mercer Island 'Tree Inventory & Replacement Submittal Information' work-sheet. You will be required to re-plant two (2) trees as mitigation for the trees removed. At least 50% of the replacement trees need to be a species native to the Puget Sound region. Evergreen trees must be a minimum of 6' tall and deciduous trees must be a minimum of 2" caliper. Caliper is an industry standard of measuring nursery trees, typically 6" above grade. A typical 2" caliper deciduous tree will stand 10'-14' tall, planted. As noted above, if additional trees need to be removed due to an increase in assessed risk as a result of the site development, additional trees will need to be planted as mitigation for the tree removal.

Conclusions

Sufficient trees will be retained (94%) to meet the City of Mercer Island code regarding the minimum retention percentage of 30%.

The LOD are closer to certain trees than what would be optimal. These trees, as detailed above, should be monitored during any planned soil disturbances. Exposed soils and exposed roots should be treated as detailed above and as detailed on the referenced site plan.

The referenced Tree Retention and Replanting Plan details two (2) replacement trees to be planted in the front yard area. There are ample locations within this site to accommodate replacement tree plantings.

This report was prepared by Thomas Quigley, ISA certified arborist PN-655A. Tree Risk Assessment Qualified (TRAQ) by the International Society of Arboriculture (ISA).