A GRAND DESIGN
Shelley Towers
Landscape Design
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8.28.2023

To: City of Mercer Island,

John Kenney, City Arborist,

Planning Dept.

Re: Wellmon Residence,

6333 77th Ave S.E.

Mercer Is. WA.

I was asked to supply an arborists report for this project.

Credentials of Arborist:

ISA since 2005.

Traq since 2012.

Method to determine L.O.D.

I use the trunk diameter method of determining CRZ and thus TPZ for trees.

Trunk diameter is 1" DBH =1' diameter CRZ.

Reasons for removal of trees: One tree will be removed because it falls within the footprint of the building, others will need to be removed because they are in fair condition but are an undesireable species.

The removal of trees onsite will not affect any other trees either on or off site due to the retention of roots where possible to stabilize soil and grade.

Tree Inventory Health definitions:

Excellent High or above average vigor with little or no twig dieback, discoloration or defoliation. Trunk and root flare exhibit no visible defects or cavities. Branch structure and attachments are normal for species and free of defects.

Good Vigor is normal for species. No significant damage due to diseases or pests. Any twig dieback, defoliation or discoloration is minor (up to 10% of the crown). Well-developed structure. Defects are minor and can be corrected. Codominant stem formation may be present. Trees in groves may have asymmetries/deviations from an open-grown form of the same species.

Fair Reduced vigor. Twig dieback, defoliation, discoloration, and/or dead branches up to 30% of the crown. Obvious signs of pest problems contribute to a lesser condition but is not likely to be fatal. Visible evidence of trunk damage or cavities, large girdling roots or branch attachments that require moderate corrections.

Poor Poor vigor, unhealthy and declining. Low foliage density with extensive (more than 50%) twig and/or branch dieback. Smaller-than-normal leaf size and little evidence of new growth. Structural problems cannot be corrected, such as recent change in tree orientation, extensive trunk decay or poor branch attachments. Tree/tree part failure may occur at any time.

Tree inventory

Tree #	Species	DBH	CRZ diameter/L.O.D.	Condition?	Retain?	Tree Status
1	*Deciduous*	6'"	6’	Good, viable	Yes	Significant
2	*Sequoia sempervirens*	16"	16'	Good, viable	yes	Large, regulated
3	*Pseudotsuga menziesii*	16"	14'	good, viable	yes	Large, regulated
4	*Sequoia sempervirens*	56"	50’	good, viable	yes	Exceptional
5	*Gleditsia tricanthos*	14"	14'	good, viable	no	Large, regulated
6	*Prunus var.*	6"	5'	fair, viable	no	Significant
7	*Pinus var*	36"	30'	good, viable	yes	Exceptional
8	*Acer japonica*	6"	5'	good, viable	yes	Significant
9	*Prunus americanus.*	6"	5'	fair, viable	no	Significant
10	*Prunus americanus.*	6"	5'	fair, viable	no	Significant
11	*Prunus americanus.*	6"	5'	fair, viable	no	Significant
12	*Prunus americanus.*	8"	5'	fair, viable	no	Significant
13	*Prunus americanus.*	8"	5'	fair, viable	no	Significant
14	*Prunus americanus.*	10"	7'	fair, viable	no	Significant
15	*Prunus americanus.*	6"	5'	fair, viable	no	Significant

Reasons for removal of trees: Most trees will be removed because they fall within the footprint of the building, or are in fair condition but are an undesirable species

The removal of trees onsite will not affect any other trees either on or off site due to the retention of roots where possible to stabilize soil and grade.

Necessary Reductions in CRZ/TPZ to Retain 2 Exceptional Trees onsite.

Subject tree #4 is *Sequoia sempervirens*, 56" DBH, onsite. This tree is close to the street and has been utility pruned. This tree has good form and no evidence of overt disease or decay. The roots are well buttressed. This tree has not been topped and has maintained a single leader to the best of my ability to see the top.

I use the trunk diameter method of determining CRZ and thus TPZ for trees.

Trunk diameter is 1" DBH =1' diameter CRZ. It is allowable in this instance to shorten the diameter of the CRZ by 25%. This can also be calculated by area for a net deduction of 25%. In this case, 56" DBH=56' diameter CRZ. Radius of 28' on the house side of the tree can be cut in ½ for the 25% reduction. So a radius of 14' from the trunk, towards the house will be sufficient to protect this tree.

This will be the only deductions in this case.

CRZ=TPZ.

A Preliminary root excavation of tree #4 was performed, the results of which were evaluated in a previous document and photos sent.

Synopsis of preliminary root excavation for Tree #4 The photos showed only 5 roots 2" or more in the 20' excavation. This is surprisingly few. I suspect other excavations in the area within the last decade, for irrigation, paver sidewalks or waterlines may have served to root prune this tree.

Because of these findings, I feel confident in the determination of the TPZ measures at 14' from the tree. This will give crews 4' to work around the edge of the new slab on grade. TPZ measures should be parallel to the street and extend from the P.L. on the south, to 28' on the north, then to the street.

Tree #7 Pinus var. 36" DBH. TPZ will need to be reduced because of required grading for the installation of the retaining walls in the back yard. Net % of TPZ reduction, 24.5%.

A preliminary root excavation was performed for Tree #7.

Synopsis of preliminary root excavation for Tree #7

The excavation was 65' long, 2' deep and 8" wide. The excavation was done at the propeosed reduced CRZ/L.O.D for this tree.

There were 10 roots at 1"-3" diameter and 1 root 5" in diameter found in the trench.

This again is surprisingingly few and small for a tree this size, it's proximity to the test, and the length of the trench.

This few and small impacted roots should not affect this tree's stability or longevity.

Therefor I approve of the reduced CRZ in this case.

Protecting neighboring Trees

Trees #A and B and D are on the neighbor's property but overhang the subject property.

Please see civil plans for exact locations of TPZ measures.

An existing paver driveway will need to be removed within the TPZ of these trees.

This will be performed with minimal disturbance to grade. Pavers will be removed by light equipment reaching into TPZ or by hand. Bedding material for pavers will be left in place. No grading is to occur here. Only the installation of 2" of mulch or soil is to occur at the landscape phase of the project.

Pruning of overhanging limbs is allowed if following industry standards and with the neighbor's consent.

Net reduction of TPZ for A and B is 19.8% each.

Net reduction of TPZ for #D is 11.2%.

General TPZ Requirements.

TPZ will not extend under the driveway.

Please see civil plans for exact location of trees and TPZ measures.

Generally, within the TPZ,

-No storing of materials or equipment.

-Weight displacement techniques are to be employed if heavy equipment needs to traverse the TPZ, such as laying down of 4" of gravel and plywood before the traverse. Then these materials need to be picked up ASAP.

-No spoils are to be piled back onto the TPZ.

-TPZ fencing is considered L.O.D.

-TPZ measures are to remain in place until the landscape phaser of the project.

-Only hand implements are to be used within the TPZ.

- Original grade is to be maintained, _+ 2”.

More criteria may be required by the city.

I am available for consultation on this project.

Highest Regards,

ISA, TRAQ