

## Memorandum

To: Seascape Homes LLC c/o Jon Tellefson  
CC: Sturman Architects c/o Kati Eitzman  
Site: 5214 Forest Ave SE, Mercer Island, WA 98040  
Re: Exploratory Pneumatic Excavation  
Date: August 16, 2023  
Project Arborist: George White,  
ISA Certified Arborist #PN-8908A  
ISA Qualified Tree Risk Assessor  
Reviewed By: Charlie Vogelheim,  
ISA Certified Arborist PN-9375A  
ISA Qualified Tree Risk Assessor  
Referenced Documents: Tree Assessment for Seascape Homes (Tom Hanson, ArborInfo LLC,  
11.21.2022)  
Letter Regarding Tree 1005:2212-079 (Tom Hanson, ArborInfo LLC,  
4.27.2023)  
Site Plan C1.0 (Patrick Harron and Associates LLC, 6.16.2023)

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### Summary

This memorandum documents the site visit of George White and Connor McDermott, of Tree Solutions Inc., to the above referenced site on August 9, 2023. We were asked to visit the site and perform exploratory pneumatic excavation at a designated location surrounding an existing tree (tree 1005). These services were by Jon Tellefson, of Seascape Homes, and Kati Eitzman, of Sturman Architects. The purpose of this excavation was to evaluate the potential impacts to the root system of tree 1005 prior to proposed construction. We were asked to provide a memo containing our observations and evaluation of proposed impacts.

Based on the limited quantity and size of the roots exposed during our pneumatic excavation, we are confident that the proposed construction will have minimal impact on the health, and negligible impact on the stability, of tree 1005, provided that the appropriate tree protection measures are implemented.

### Observations And Discussion

#### Site

The site fronts Forest Ave SE, in the west side of Mercer Island, WA. A single-family home and shed currently exist on-site. Understory vegetation is a mix of native species and invasive plants such as

Himalayan blackberry (*Rubus bifrons*) and English Ivy (*Hedera helix*). Soils in the center of the buildable area are quite compact as a result of consistent vehicle traffic.

### **Tree**

The tree in question (tree number 1005 in the InfoArbor LLC report dated 11.21.2022) is a mature Douglas-fir (*Pseudotsuga menziesii*) which measures 41.2 inches in Diameter at Standard Height (DSH). The tree is located in the adjacent Right-of-Way (ROW) southwest of the site. At the time of our assessment, the tree appeared to be in good health and structural condition. The tree is growing on a level area defined by steep slopes to the west and north of the tree which were likely created during historic grade cuts related to the construction of the existing driveway and adjacent road.

### **Proposed Plans**

The most recent plans (Site Plan C1.0, Patrick Harron and Associates LLC, 6.16.2023) propose the demolition of existing structures and the construction of a new single-family house. Improvements to the existing driveway are also proposed.

Proposed driveway improvements include the installation of a concrete retaining wall and roof-drain catch-basin approximately 18 feet north of tree 1005. Construction of these improvements will require a grade cut within the outer root zone of tree 1005 with impacts totaling approximately 23 percent of the total critical root zone area.

### **Pneumatic Exvacation and Root Observations**

We used pneumatic excavation to excavate a trench at the proposed limits of excavation as marked by Seascope homes. The marked limits of excavation appeared to be consistent with the provided plans. Using an AirSpade, we cut excavated a trench to a depth of 24 inches at the limits of excavation to expose any roots from tree 1005 that may be impacted by the proposed grade cut. In our opinion, this depth was sufficient, as the compact soils on-site tend to result in shallower root systems. Our trench was filled-in following our observations to prevent root desiccation and the creation of a trip-hazard.

During our exploratory excavation, we did not encounter any roots in excess of .5 inches in diameter. A moderate layer of small feeder roots was observed. In our opinion, excavating at this location will have a minimal effect on the health of the tree and a negligible effect on tree stability. The lack of structural roots in this location can likely be attributed to historic grade cuts and the compact soils present on the east side of the tree.

### **Recommendations**

- Do not allow excavation to encroach farther into the critical root zone of tree 1005 as what is currently proposed on the most recent plans (Site Plan C1.0, Patrick Harron and Associates LLC, 6.16.2023)
- Install tree protection fencing consisting of 6-foot-tall chain-link fencing at the proposed limits of excavation.
- Cut any roots exposed by excavation cleanly and immediately backfill to prevent desiccation.
- Notify the project arborist if any roots in excess of 2-inches are exposed by excavation so that impacts may be reassessed.
- Consider installing a 4-inch layer of coarse woody mulch (arborist woodchips) to the critical root zone of tree 1005 to mitigate construction stress and improve soil structure.

Respectfully Submitted,

George White – Consulting Arborist

## Appendix A Photographs



**Photograph 1.** Connor McDermott, of Tree Solutions Inc, Using an AirSpade to open a trench at the proposed limits of excavation.



**Photograph 2.** Our completed trench as marked by stakes and flagging. Tree 1005 is indicated with a red arrow.



**Photograph 3.** Measuring trench depth.



**Photograph 4.** A typical section of trench. Small feeder roots can be seen at right.



**Photograph 5.** The open trench north of tree 1005 above the existing slope. This slope is likely the result of a historic grade-cut.

## Appendix B Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.