

**Memorandum**

TO: Hu Wen c/o PB Architects  
SITE: 8243 W Mercer Way, Mercer Island, WA 98040  
RE: Pneumatic Air Excavation Observations  
DATE: December 30, 2019  
PROJECT ARBORIST: Tyler Bunton  
ISA Certified Arborist PN-8715A  
ISA Qualified Tree Risk Assessor  
REVIEWED BY: Katie Hogan  
ISA Certified Arborist PN- 8078A  
ISA Qualified Tree Risk Assessor  
REFERENCED PLANS: Tree Plan A-1.02 (PB Architects, 10/18/19)

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This memorandum documents the visit by Tyler Bunton of Tree Solutions Inc. on December 17, 2019 to the above referenced site to document the findings of exploratory pneumatic air excavation near tree 7. Peter Bocek of PB Architects requested these services to better determine the limits of disturbance and retention feasibility of tree 7, an exceptional Douglas-fir (*Pseudotsuga menziesii*) tree.

The excavation occurred to the southeast of tree 7 at the location of the proposed retaining wall to a depth of approximately 3 feet and approximately 25 feet in length centered on the tree. Three roots from tree 7 were encountered in the excavation; one 4 inch root, one 10 inch root, and one 3 inch root. In order to install the retaining wall these roots would be cut approximately 6 feet, 3 feet, and 5 feet from the base of the tree respectively.

In order to maintain the health of this tree the recommended limits of disturbance (RLOD) should be eight times the trunk diameter, which for the purposes of this memorandum will represent the critical root zone. For this 34 inch diameter tree the RLOD is 23 feet from the base of the tree. In order to maintain the stability of the tree, no root cuts should occur within the minimum limits of disturbance which is represented by a radial area of five times the trunk diameter, or 14 feet from the base of the tree. In my professional opinion cutting the roots observed for the installation of the proposed retaining wall would likely compromise the stability of the tree.

## Photographs



**Photograph 1.** Arrow indicates the location of the ten inch root within the excavation zone. The base of tree 7 is just outside of the frame in the top left corner.



**Photograph 2.** Exposed portion of the approximately 10-inch diameter root originating from tree 7.

## **Appendix A - 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 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 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 our reports were taken by Tree Solutions, Inc. during the documented Site visit, unless otherwise noted. Sketches, drawings and photographs in any report by Consultant, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or 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 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 does not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described 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.