June 21, 2022

Ben Johnson Greenworks 110 SE Main St STE 100 Portland, OR 97214



Tree Protection for Vietnam War Memorial

Dear Ben,

You contacted us about tree protection and preservation for three trees that are intended to be incorporated into a proposed memorial to be dedicated to veterans of the Vietnam War. The trees in question are located in the southwest corner of Willson Park, located in Salem, OR.

Given the labor intensive activities surrounding the proposed construction, the City of Salem requested that site plans include appropriate protection of the subject trees as a condition of granting permits. An arborist report was requested that indicated that proposed measures for protection of the affected trees were appropriate. We met remotely via Microsoft Teams on June 10, 2022 to discuss the plans. This letter outlines my observations, analysis and recommendations from that meeting.

The three trees include the Embracing Tree, a western redcedar (*Thuja plicata*), which is planned to be the figurative foundation of the proposed memorial, largely due to its unique branch architecture (Photo 1). In addition, the Liberty Tree, an Atlas cedar (*Cedrus atlantica*) and a Douglas fir (*Pseudotsuga menziesii*) located slightly north of the two named trees, are located inside the construction envelope (See Page 4, Site Plan).

The Embracing Tree was assessed and the root system was surveyed in April 2022 in conjunction with a Root Invigoration[™] performed by Bartlett



Photo 1. The Embracing Tree during Root Invigoration procedure. (04.29.2022)

Tree Experts. The root collar of the Liberty Tree was also exposed and surveyed. The purpose of the survey was to locate the significant roots (those two inches in diameter and larger), and more importantly, the spaces between them to aid in determining where footings could be placed to support a deck, which will encompass much of the root zone of the Embracing Tree. The deck will be elevated, avoiding contact with the ground, which will avoid future interactions with tree roots. Outward to the northeast from the deck, a patio of permeable concrete pavers will be laid through the remainder of the Embracing Tree's root zone and that of the Liberty Tree. Rainwater will be allowed to penetrate through the patio surfance, down to the roots of the two trees.

The Douglas fir will have two narrow concrete walkways installed just inside the north and west edges of its root zone, with an area of permeable concrete pavers between the western walkway and an interpretive panel. The remainder of the root zone is proposed to be kept as a planting area following construction (See Page 5, Hardscape Map).

The Vietnam War Memorial should have minimal effect on the three subject trees. Elevated decking mounted on footings deliberately placed in areas where no roots are located and using a paver system that allows water infiltration into the trees' root zones will greatly reduce the potential for injury to roots and lower trunks and minimize future interactions between roots and the structures associated with the memorial. The following recommendations will help to minimize any detrimental effects on the trees:

• Establish a Tree Protection Zone (TPZ) around trees to be preserved to prevent damage to roots and aboveground portions over the course of construction. Per Section 808.005 of the City of Salem's Unified Development Code, TPZs should be established as a radius of one foot per inch of trunk diameter at 4.5 feet above grade. The City uses the term Critical Root Zone to indicate the TPZ. For the purposes of this project, the two terms are synonymous.

• Delineate TPZs with above ground silt fencing fully encircling the TPZ of each tree. The Embracing Tree and the Liberty Tree have overlapping root zones, and their TPZs will also overlap. Their TPZs can be fenced off together as a single unit.

• The nature of the project will require some incursion into TPZs to place footings, assemble the decking, install the pavers, and to install the infrastructure necessary for the memorial. The silt fence can be moved to allow needed access into a tree's TPZ only while work is being done in that area and must be returned to its previous position upon completion of the work or the end of the workday, whichever comes first.

• A layer of wood chips 4-6 inches deep should be placed over the trees' root zones to prevent compaction of the soil underneath while construction progresses. Areas of higher traffic, whether foot traffic or vehicular, can have the added weight disbursed by placing ³/₄-inch plywood or similar material over them while construction is ongoing. Remove plywood and reduce wood chip depth to 3-4 inches when access into any tree's TPZ is no longer required. Care should be exercised in keeping wood chips away from the trunks and root collars of protected trees.

• No grading or storage of any materials or equipment is permitted inside any tree's TPZ.

• The silt fence should be kept intact and in good repair for the duration of the project.

• Ensure that protected trees are kept adequately irrigated in the absence of natural rainfall over the course of the project.

Means of supplying water during spells of hot and dry weather after the memorial is completed should be incorporated into the design. Soil samples should be taken periodically for analysis and any deficiencies discovered should be corrected to maintain tree health.

If you have any questions about my observations or recommendations, please contact me.

Dean

Sean Rinault ISA Board Certified Master Arborist PN-7889B ISA Tree Risk Assessment Qualified srinault@bartlett.com

Limits of the Assignment

This was not a tree risk assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this report.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

Illustrations, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. There is no warranty or guarantee, expressed or implied, that problems of deficiencies of the plans or property in question may not arise in the future.

There is no guarantee for the preservation of the trees contained in this report, however, the preservation plan is made with the best interest intended for the trees being preserved.

SITE PLAN



HARDSCAPE MAP



The F.A. Bartlett Tree Expert Company 11814 SE Jennifer St, Clackamas, OR 97015 • 503.722.7267 • www.bartlett.com