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March 9, 2022

Port of Port Townsend
ATTN: Eron Berg
Executive Director
2710 Jefferson St.
Port Townsend, WA 98368

Re: Poplar Trees - Sims Way, Port of Port Townsend

Dear Mr. Berg and the Port of Port Townsend:

I was asked by Mr. Berg on behalf of the Port of Port Townsend to provide my professional opinion of a row of poplar trees growing south of Sims Way, north of Port property.

The Scope of Work for this project included the following tasks:

- Site visit - tree and site data collection for approximately 65 Lombardy poplar *(Populus nigra* 'Italica') trees lining the north property line of the Port of Port Townsend property.
- Reporting - provide a written report including but not limited to the general health of the trees, comments on the tree retention potential of the trees during undergrounding of transmission wires and a discussion of how expanding the port property (including grading and fill practices) could impact the trees.

Methods

To evaluate the trees addressed in this report I combined my field experience and education with current accepted practices as defined by the American National Standards Institute (ANSI) and the International Society of Arboriculture (ISA).

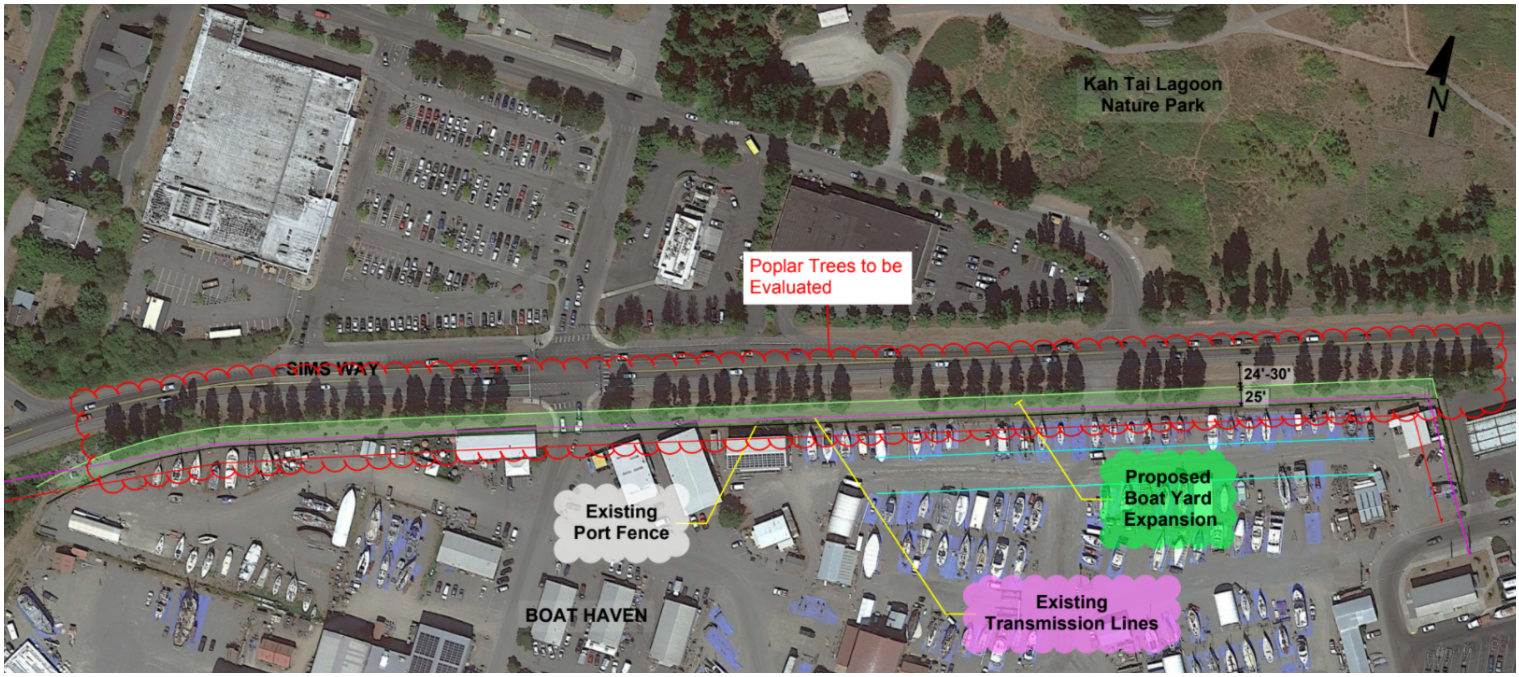
The tools I used to make this assessment were limited to binoculars, compass, mallet, diameter tape and laser pointer unless otherwise noted. A visual tree assessment and other methods are only conclusive for the day of inspection and do not guarantee that conditions will remain the same in the future.

Background, Observations and Discussion

I previously inspected five of these trees in 2013 when roots were discovered to be causing extensive damage to the foundation and siding of the Port Townsend Brewery building at the corner of 10th St. and Sims Way. This report detailed my determinations that the five trees posed a low risk of large or total trunk failure, a moderate risk of branches or upper trunks

failing and discussed the more major issue and harder to control issue of root intrusion causing infrastructure damage as had already occurred.

In this report I also provided recommendations for those trees management. I also suggested that a longer term management plan be decided for the rest of the row of trees of which these were a part of as it was overall an aging population causing problems for other buildings as well as continued maintenance for PUD. Management decisions were to be based on the potential for property damage (both to Port property, PUD transmission lines and to pedestrians and vehicles traveling on Sims Way).



Map 1

In February 2022 I was asked by Mr. Berg and the Port to return for an assessment of the entire stand of trees bordering their north property line. On March 8, 2022 I met with Mr. Berg, Executive DIrector at the Port, Kevin Streett, General Manager from PUD, Matt Klontz, Chief Engineer with the Port and Steve King, Port Townsend Public Works Director. Together they are coordinating to potentially redevelop the area close to and in which the row of approximately 65 trees stand, mainly within the Port property and PUD transmission line Right-of-Way.

During this meeting we discussed the desire by PUD to underground transmission lines that currently stand south of the row of trees, and the desire of the Port to expand their boatyard property north to incorporate currently undeveloped land south of the trees. These areas and the trees are shown in Map 1.

During our meeting I was asked to assess:

1. current tree health including comments on the trees age and architectures,
2. if there were any alternatives to PUD undergrounding the transmission lines without cutting the trees down and;
3. root issues relative to property expansion closer to the trees- specifically if adding fill to expand and grade the port property to the north towards the trees would negatively affect the trees.

1 - Current Tree Observations/Discussion

During my site visit I conducted Level 1 tree assessments and some Level 2 assessments of specific trees growing in the row of trees. All levels of assessment are explained in an attachment to this report.

All of the poplars I assessed are similar in age and structures. As observed in 2013, during my most recent assessment I did not observe any remarkable defects in the upper canopies of any of the trees. The trunks grow with typical architecture for the species and sounding indicated that most of the lower trunk areas of most of the trees have internal basal trunk rot.

A few of the trees have had pieces fall or cut off and a majority have been pruned (sheared) on their south sides in an attempt to keep foliage from touching the lines. Mr. Streett informed me that over the years foliage has burned when touching lines which has caused a need for repeat and frequent pruning maintenance.

As has been well documented by Port Townsend historians, the trees are growing in a mix of sand, till and dredging fill. Most of the roots from these trees are likely growing in the top two feet of soil. Many surface roots have mower damage and clumps of new shoots have grown from roots in many areas along the stretch of grass within the Port property as well as extending well into the developed portions of the boatyard.

I only observed three trees that had dead trunks in which bird nesting holes had been formed. I did not see any birds entering the nest trunks or perching in the trees during my site visit. Overall due to their location between a busy work area, transmission lines and a busy road I would consider this row of trees to provide poor placement for wildlife habitat using this tree species. As a mono-species vegetation buffer, its function as wildlife habitat is low.

At the time of my assessment, branches or small trunks breaking out from the upper and mid canopies were still the most likely pieces to fail. I did not observe any large trunks or bases of trunks with a high potential to fail onto a target. However, failing pieces have many targets that are frequently and less frequently occupied – vehicle and pedestrian traffic, transmission lines, privately owned boats and often occupied buildings. While there is a moderate risk of these parts breaking out in normal conditions, this area of Port Townsend is known to have higher than average wind speeds during storms and gusty conditions and can slightly increase risk in increased weather conditions.

While the trees overall pose a moderate risk to targets, it is my professional opinion that the more likely scenario of continued damage will occur from root spread to aging asphalt, concrete and buildings that are close to the north developed area.

Italian poplar trees are commonly known as relatively short safe useful life expectancy before starting to fall apart structurally with aggressive roots. Suckers quickly and abundantly grow along and from roots paths or near the base of trees that have been cut down close to grade level. In fact three low in height stumps remaining from recently cut down poplars on the north end of this row near a power box have started to vigorously regrow. In this respect they provide a high priority maintenance need of mowing new sprouts to keep new trees from emerging and repairing infrastructure where roots are damaging port and building property.

2- PUD Observations/Discussion

Mr. Streett mentioned the desire of PUD to underground the transmission lines. Normally this process involves daylighting a trench that is approximately six feet deep and a few feet wide with heavy machinery. While other techniques are available for installing underground utilities they are potentially extremely costly to implement along such a long area of lines.

Although exploring the other undergrounding options have not been totally taken off the table, the fact remains that the area needed to be disturbed (dug up) for these lines would likely have to be in a location that would be close enough to the trees to require the disturbance and removal of a significant amount of most of each individual trees critical root zone on the windward side of the trees. Because the trees are already mainly ending their safe useful life, this kind of disturbance would likely cause many of the trees to rapidly decline and/or also become unstable.

Topping the trees to reduce their heights should not be considered an option strategy to reduce maintenance needs or in conjunction with any other redevelopment activities. Topping is a practice that for this species would significantly increase maintenance needs as each tree topped would regrow vigorously from the topped area of the tree. This practice also could cause some unspecified dieback of critical roots and large cuts in trunks which could stress the trees, cause large wounded areas and potentially cause instability.

3 - Root issues relative to property expansion

The Port desires to expand the boatyard property to incorporate a long length of unused property to their property line from the existing fence line. The assumed property line is extremely close to or incorporating the trunks of all of the trees in the row I assessed. Adding fill soil or grading activities would have to occur to match the current boatyard grade.

- Adding fill between the area of the existing fence to any tree trunk would likely and quickly cause the demise of these trees.
- Adding fill to within ten feet of the tree could cause a large percentage of roots on the windward side of each tree to be smothered and new roots would be encouraged to

grow up into the newly developed property unless a long and deep retaining wall buffered by root barrier was built. This action could hasten the death of these trees and potentially cause instability.

- Only extending the shipyard a few feet north would not reasonably add space for new boats in the shipyard but would protect the trees.
- Even if the trees were retained, regrowing roots would likely continue to impact infrastructure, paving and buildings over the long term.

Summary

If no work occurs to underground transmission lines or to expand the boatyard, the poplar trees will likely stand with low but increasing risk to many targets. Ongoing and frequent maintenance would need to continue to prune canopies away from transmission lines, mow emerging root suckers and fix infrastructure damaged from root intrusion.

- It is important to understand that whether or not the boatyard is expanded or not, the trees remain within range of many targets and are at an age where they will start posing greater risk to these targets. It should be expected that falling tree parts and extending roots would increasingly pose risk and continue to cause infrastructure damage.

If transmission lines are undergrounded but no redevelopment of the boatyard occurs, no matter where the placement of the underground lines occurred, damage to the critical root structures of the trees will likely cause decline and in some cases instability of entire trees.

If the boatyard is expanded to the property line (even if the lines are not undergrounded) fill up to within ten feet of the trees could cause the trees to decline quicker than normal from root smothering. Existing power poles would have to be incorporated into the new boatyard design.

If the trees are removed, a wider range of trees, shrubs and groundcovers can be replanted in their stead offering in the long term a better functioning area for wildlife of more types than are attracted to the poplar stand. Portions of trunks from tree removal may also be able to be used to enhance the area offering an even more diverse area for the future.

Thank you very much for calling me for your arboricultural concerns.

Katy Bigelow
Board Master Certified Arborist
PNW ISA member # PN-6039B
Tree Risk Assessment Qualified
Registered Consulting Arborist® # 490

Levels of Tree Assessment

LEVEL 1: The Level 1 assessment is a visual assessment from a specified perspective of an individual tree or a population of trees near specified targets to identify obvious defects or specified conditions. A limited visual assessment typically focuses on identifying trees with an imminent and/or probable likelihood of failure.

Limited visual assessments are the fastest but least thorough means of assessment and are intended primarily for large populations of trees.

LEVEL 2: This is a basic assessment completing a detailed visual inspection of a tree and surrounding site, and a synthesis of the information collected. This assessment requires that a tree risk assessor walk completely around the tree—looking at the site, buttress roots, trunk, and branches.

A basic assessment may include the use of simple tools to gain additional information about the tree or defects. Basic is the standard assessment that is performed by arborists in response to a client's request for tree risk assessment. Simple tools may be used for measuring the tree and acquiring more information about the tree or defects. However, the use of these tools is not mandatory unless specified in the Scope of Work.

LEVEL 3: Advanced assessments are performed to provide detailed information about specific tree parts, defects, targets, or site conditions. They are usually conducted in conjunction with or after a basic assessment if the tree risk assessor needs additional information and the client approves the additional service. Specialized equipment, data collection and analysis, and/or expertise are usually required for advanced assessments. These assessments are therefore generally more time intensive and more expensive.

Assumptions, Limiting Conditions and General Waiver

I, Katy Bigelow, certify that:

I have personally inspected the tree(s) and or the property referred to in this report;

I have no current or prospective financial or other interest in the vegetation or the property which is the subject of this report and have no personal interest or bias in favor of or against any of the involved parties or their respective position(s), if any;

The analysis, opinions and conclusions stated herein are the product of my independent professional judgment and based on current scientific procedures and facts, and the foregoing report was prepared according to commercially reasonable and generally accepted arboricultural standards and practices for the Pacific Northwest and Puget Sound areas;

The information included in this report covers only those trees that were examined and reflects the condition of the trees as of the time and date of inspection;

This report and the opinions expressed herein are not intended, nor should they be construed, as any type of warranty or guarantee regarding the condition of the subject trees in the future;

Covenants, Conditions, and Restrictions ("CC&Rs") may restrict the number, type and height of vegetation on the subject property, and I have made no investigation regarding whether the property is subject to such CC&Rs; and

To the best of my knowledge and belief, all statements and information in this report are true and correct and information provided by others is assumed to be true and correct.

I am not an attorney or engineer. This report does not cover these areas of expertise and represents advice only of arboricultural nature. Without limiting the generality of the preceding sentence, it is specifically understood that nothing contained in this report is intended as legal advice, or advice or opinions regarding soil stability or zoning laws, and this report should not be relied upon to take the place of such advice.

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