7724 2nd Ave NE
Seattle, WA 98115
206.898.6312

Tree Report

4045 W Mercer Way

August 27, 2020

Prepared For: Bret Chatalas
4037 W Mercer Way
Mercer Island, WA, 98040
(206) 850-1242
bret@cactusrestaurants.com

Prepared By: Russell + Lambert
Mary Ellen Russell
WA Landscape Architect #1149
ISA Tree Risk Assessment Qualified
(206) 898-6312

Overview

At the request of Bret Chatalas I visited 4045 W Mercer Way, Mercer Island WA on August 25,2020 to inventory and assess existing and recently removed trees around a derelict house located on the site. This tree report is undertaken as part of the permit process to demolish the house. The house is in dangerous condition with sagging structural members, floating doorways, and large panes of broken glass. No redevelopment of the property is planned at this time.

During the site visit I performed level 2 Basic Tree Risk Assessments with a five year time frame for existing trees 6” or greater measured 4.5’ from the ground (DBH) located within the potential impact area for the demolition. The site includes a steep slope above the existing house that is heavily vegetated. Trees at the top of the slope will not be impacted by the demolition and were not assessed.

The owner’s contractor has already cleared vegetation around the house to allow access for demolition, removing (7) existing trees and (2) standing dead trees. This work was done prior to submitting for a tree removal permit. I observed the stumps of previously removed trees. Wood from the removed trees has been already been removed from the site.

DBH measurements were taken using a diameter tape rounded to the nearest inch. Where site conditions limit access diameter was estimated using a standard measuring tape. For multi-stem trees the diameter was averaged by taking the square root of the sum of the squared diameters of each stem. This report summarizes details of my observations and assessments below.

Tree Condition Categories

This report categorizes tree condition as 'Good', 'Fair', or 'Poor'. 'Good' indicates that a tree has no evident significant structural defects or disease concerns and has good form for the species and typical vigor. 'Fair' indicates that the tree may have minor to moderate structural defects that are not expected to contribute to a failure within the next five years, minor disease or pest concerns, an asymmetric or unbalanced crown, or less than normal vigor. 'Poor' indicates that the tree has significant conditions of concern which are likely to cause a failure within the next five years such as major structural defects, disease or significant pest concerns, decline due to old age, evidence of decay at the roots, severely overextended branches, sparse or abnormal foliage, and very low vigor. Trees in 'Poor' condition may or may not be classified as high-risk trees depending on the size and location of the tree and the likelihood of impacting a target in the event of a failure.

Existing Trees

There are (6) existing trees in the potential impact area with a DBH 6" or greater. There are no street trees at the property. There are no trees off-site which have critical root zones extending into the potential impact area.

Previously Removed Dead Trees

Two standing dead trees have been previously removed. Their stumps show extensive decay without live wood. These stumps are located with asterisks on the tree map.

Tree 1

Prunus sp. (Flowering Cherry) | Diameter: 17" avg. | Exceptional Tree: No
Condition: Poor | Risk Rating: Low | Hazardous Tree: No

Tree 1 is located near the lake shore. It has been tagged as '1' with pink construction flagging. It has a multi-stem form with (1) 7" stem, (1) 10" stem, and (1) 12" stem. It has indications of decay including a swollen base with a small cavity and areas of loose, patchy bark. Due to its small size and location away from active uses the risk rating is low. The canopy extends 16' from the base of the tree. The critical root zone extends 8' from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed at the drip line and maintained throughout demolition.

Tree 2

Acer macrophyllum (Bigleaf Maple) | Diameter: 17” | Exceptional Tree: No
Condition: Poor | Risk Rating: Low | Hazardous Tree: No

Tree 2 is located on the steep slope above the existing house. It has been tagged as ‘2’ with pink construction flagging. Its crown has previously broken off leaving a sparse, narrow canopy of suckering growth. The likelihood of failure within five years is probable. Since the timeframe for demolishing the house is short, and after the house is removed there will not be any targets within striking range, the risk rating is low. The canopy extends 12’ from the base of the tree. The critical root zone is 6’ from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed minimum 6’ from the base of the tree on the downhill side. Tree protection fencing should be maintained throughout demolition.

Tree 3

Acer macrophyllum (Bigleaf Maple) | Diameter: 13” | Exceptional Tree: No
Condition: Poor | Risk Rating: Low | Hazardous Tree: No

Tree 3 is located on the steep slope above the existing house. It has been tagged as ‘3’ with pink construction flagging. It has a low live crown ratio with few branches and sparse canopy and it leans down-slope. The likelihood of failure within five years is probable. Since the timeframe for demolishing the house is short, and after the house is removed there will not be any targets within striking range, the risk rating is low. The canopy extends 11’ from the base of the tree. The critical root zone is 5.5’ from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed minimum 5.5’ from the base of the tree on the downhill side. Tree protection fencing should be maintained throughout demolition.

Tree 4

Acer macrophyllum (Bigleaf Maple) | Diameter: 12” | Exceptional Tree: No
Condition: Poor | Risk Rating: Low | Hazardous Tree: No

Tree 4 is located on the steep slope above the existing house. It has been tagged as ‘4’ with pink construction flagging. Its crown has previously broken off leaving a narrow canopy of suckering growth. Tree 4 is heavily infested with English Ivy which weighs down the tree and makes failure more likely. The likelihood of failure within five years is probable. Since the timeframe for demolishing the house short, and after the house is removed there will not be any targets within striking range, the risk rating is low. The canopy extends 12’ from the base of the tree. The critical root zone is 6’ from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed minimum 6’ from the base of the tree on the downhill side. Tree protection fencing should be maintained throughout demolition.

Tree 5

Acer macrophyllum (Bigleaf Maple) Diameter: 25” avg. Exceptional Tree: No

Condition: Poor Risk Rating: Low Hazardous Tree: No

Tree 5 is located on the steep slope above the existing house. It has a multi-stem form with (1) 11” stem, (1) 12” stem, and (1) 20” stem. It has been tagged as ‘5’ with pink construction flagging. The 20” stem has significant evidence of decay on the east side of the trunk. Branches on all three stems have previously broken off leaving a narrow canopy with a low live crown ratio. The likelihood of failure within five years is probable. Since the timeframe for demolishing the house is short, and after the house is removed there will not be any targets within striking range, the risk rating is low. The canopy extends 14’ from the base of the tree. The critical root zone is 7’ from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed minimum 7’ from the base of the tree on the downhill side. Tree protection fencing should be maintained throughout demolition.

Tree 6

Acer macrophyllum (Bigleaf Maple) Diameter: 18” Exceptional Tree: No

Condition: Poor Risk Rating: Low Hazardous Tree: No

Tree 6 is located on the steep slope above the existing house. It has been tagged as ‘6’ with pink construction flagging. It has substantial decay on the uphill side of the trunk, encompassing half of the trunk diameter. The top has previously broken off leaving a narrow suckering canopy. The likelihood of failure within five years is probable. Since the timeframe for demolishing the house is just a few weeks, and after the house is removed there will not be any targets within striking range, the risk rating is low. The canopy extends 12’ from the base of the tree. The critical root zone is 6’ from the base of the tree.

This tree is planned for retention. Prior to demolition tree protection fencing that meets the requirements of the City of Mercer Island should be placed minimum 6’ from the base of the tree on the downhill side. Tree protection fencing should be maintained throughout demolition.

Note regarding safety during demolition

Trees 1-6 are all in poor condition with structural weaknesses and a history of failures. During demolition workers should take safety precautions to avoid disturbing the trees and wear protective gear. No workers should be on-site during high winds when tree failure is most likely.

Stump A

Acer macrophyllum (Bigleaf Maple) Diameter: less than 10”
Exceptional Tree: No

Stump A is 10” wide at its widest point. Since trees are wider at the base than at 4.5’ from the ground, this tree would have been less than 10” DBH before it was removed.

Stump B

Acer macrophyllum (Bigleaf Maple) Diameter: 23” max.
Exceptional Tree: No

Stump B had (3) stems that measure 7”, 8”, and 20” at the base. This tree was larger than 10” DBH, with a maximum possible DBH of 23”, (and likely several inches smaller). The largest stem emerges from the ground at a 45 degree angle toward the existing house. Aerial photography shows that this tree leaned far over the house. The uniformly poor condition of the other Bigleaf Maples on the site suggests that this tree was likely to have had decay and/or broken branches.

Stump C

Acer macrophyllum (Bigleaf Maple) Diameter: 29” max. Exceptional Tree: No

Stump C had (6) stems that measure 8”, 10”, (2) 11”, 14”, and 16” at the base. This tree was larger than 10” DBH, with a maximum possible DBH of 29”, (and likely several inches smaller). This tree has extensive evidence of decay on the downhill side of the base including fungal fruiting bodies. This tree was in poor condition with a probable likelihood of failure within the next five years.

Stump D

Prunus sp. (Flowering Cherry) Diameter: 21” max.
Exceptional Tree: No

Stump D is 21” at the widest point of the base. This tree was likely greater than 10” DBH. Aerial photography showing the tree in bloom was used to confirm the species identification. There is no remaining evidence of its condition.

Stump E

Acer macrophyllum (Bigleaf Maple) Diameter: 16” max.
Exceptional Tree: No

Stump E had (3) stems that measure 10” and (2) 9” at the base. This tree was larger than 10” DBH, with a maximum possible DBH of 29”, (and likely several inches smaller). The stump is circled by the remains of thick English Ivy vines. The uniformly poor condition of the other Bigleaf Maples on the site suggests that this tree was likely to have had decay and/or broken branches.

Stump F

Acer macrophyllum (Bigleaf Maple) Diameter: 16” max.
Exceptional Tree: No

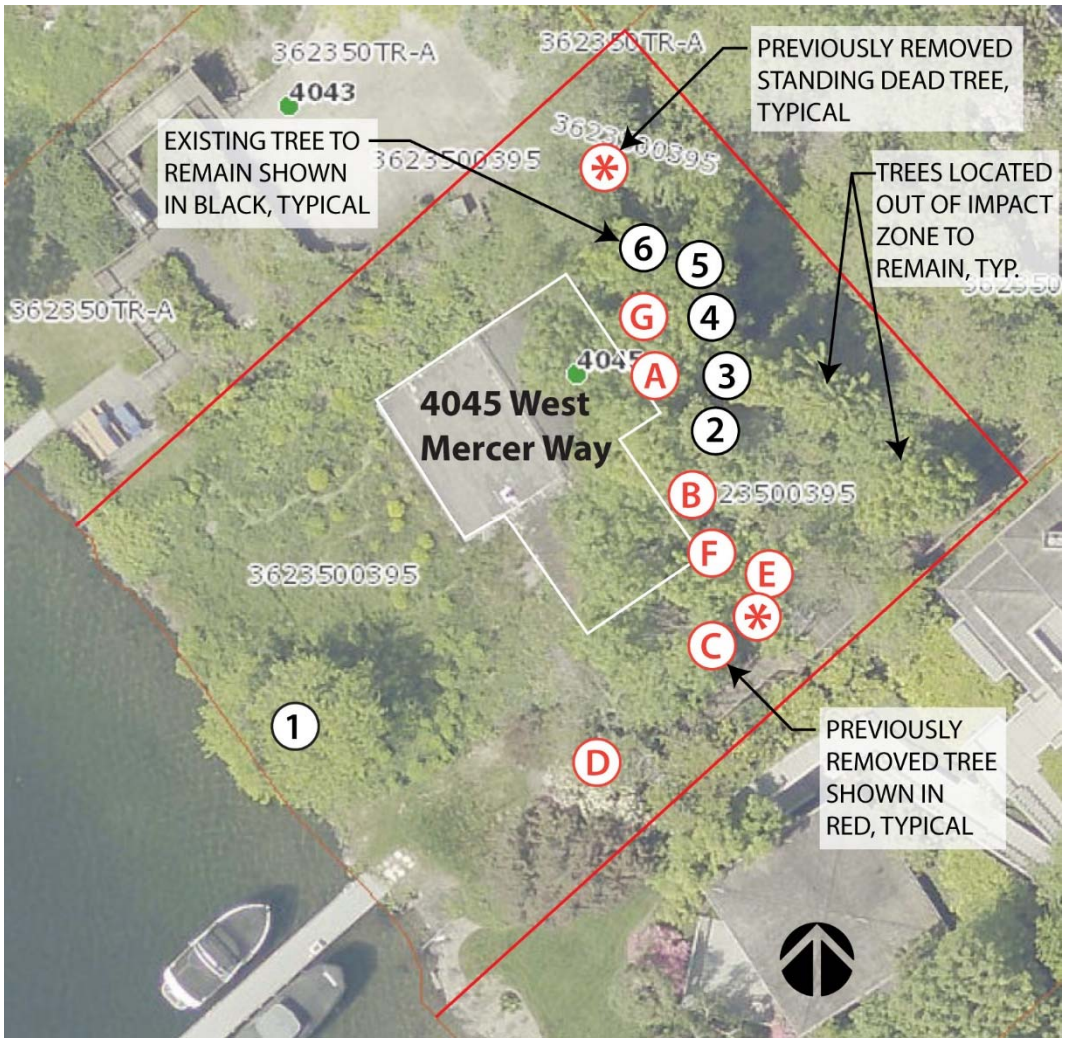
Stump F is located near a large swollen root extending from stump B and may be a sucker from the same root system. It measures 16” at the widest point of the base and emerges from the soil at a 45 degree angle down slope. The uniformly poor condition of the other Bigleaf Maples on the site suggests that this tree was likely to have had decay and/or broken branches.

Stump G

Acer macrophyllum (Bigleaf Maple) Diameter: Less than 10”
Exceptional Tree: No

Stump G measures 9” at its widest point. This tree was a young Bigleaf Maple with a DBH less than 10”.

Tree Map



Tree Retention

All of the remaining trees are proposed for retention. (7) existing trees located around the base of the existing house have already been removed. None of the remaining trees or previously removed trees are/were Exceptional.

This site is located within 200' of the Lake Washington shoreline and there are steep slopes on site. MIMC 19.10.050 states that tree removal "that is not associated with a development proposal located within wetlands, watercourses, landslide hazard areas and buffers associated with these critical area types shall be permitted subject to the following standards:

1. One or more of the following criteria apply to the tree(s) proposed for removal:
    a. The tree is documented to be a hazard tree by a TRAQ-qualified arborist;

b. The tree is documented by a qualified arborist to be diseased, in decline, or not viable for retention; or

c. The removal of the tree will enhance ecosystem functions and values and/or promote slope stability."

The largest of the removed trees, Stump C, was diseased with numerous fungal fruiting bodies at the base. The other (6) removed trees were cleared in order to allow equipment access to demolish the existing derelict house. In addition to being potentially dangerous, the house has no significant habitat value. Removing the house and invasive species on site and replanting the cleared area around the house with a diverse mix of native species will improve habitat value and enhance ecosystem functions on site.

Impact of tree removal on remaining trees

A geotechnical report completed by PanGeo Engineers states that that "the site trees are not critical to the global stability of the site slopes, provided that any disturbed ground resulting from tree removal be restored based on our recommendations for permanent erosion control." Replanting the disturbed area per the restoration plan recommendations below matches the engineer's recommendation for long-term erosion control. T

Restoration Plan

The removed trees consisted of (6) native Bigleaf Maples and (1) non-native Flowering Cherry. According to the 2015 City of Mercer Island Open Space Vegetation Plan exotic plants, such as the removed Flowering Cherry, "have been shown in many cases to decrease wildlife habitat value…and other ecosystem benefits." The plan calls for urban forests with a "mixture of native coniferous and deciduous canopy trees" combined with "diverse native understory" to improve habitat. With the exception of two exotic Flowering Cherries, the remaining trees on site are/were all Bigleaf Maples. Replacing the removed Bigleaf Maples with a mixture of native coniferous and deciduous trees with a diverse native understory will enhance ecosystem functions.

Per the table in 19.10.070(A) the removal of (2) trees less than 10" DBH, (4) trees between 10" DBH and 24" DBH, and (1) tree that may have been greater than 24" DBH but less than 36" DBH requires a total of 13 replacement trees.

The cleared area around the house should be replanted with the following trees:

No.	Scientific Name	Common Name	Size	Spacing	Comments
4	Thuja plicata	Western Redcedar	6' min.	15' O.C.	min. 6' from foundation
5	Pseudotsuga menziesii	Douglas Fir	6' min.	15' O.C.	min. 6' from foundation
4	Malus fusca	Pacific Crabapple	1.5" cal.	12' O.C.	min. 6' from foundation

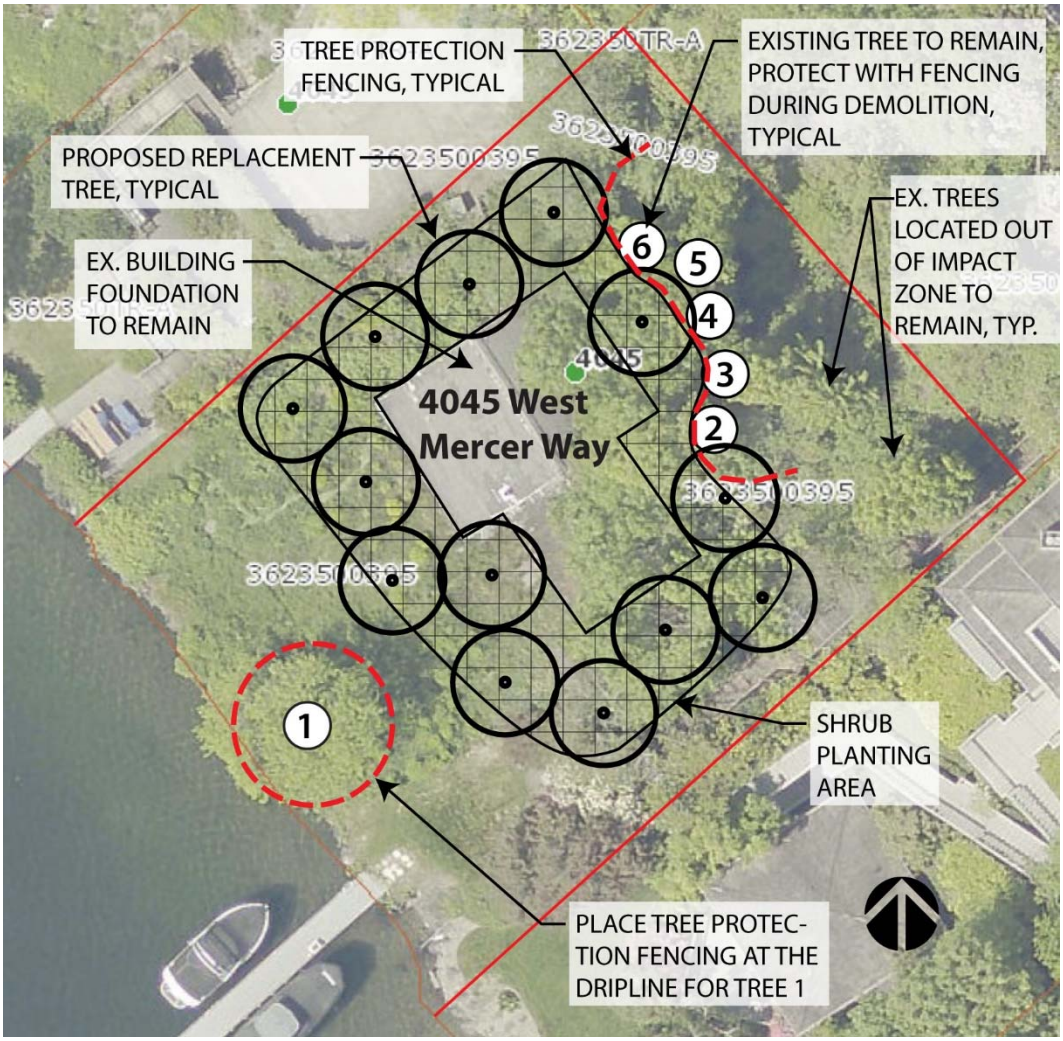
Himalayan Blackberry, English Ivy, and Field Bindweed (aka Morning Glory) were observed at the site. These plants are all invasive in the maritime Northwest and classified as Noxious Weeds or Weeds of

Concern by King County. They should be removed throughout the impact area and the roots should be grubbed out to the greatest extent possible.

After all invasive plants are removed from the impact area the understory should be replanted with the following shrubs:

No.	Scientific Name	Common Name	Size	Spacing	Comments
15	Cornus sericea	Redosier Dogwood	#2 cont.	6’ O.C.	min. 4’ from trees
15	Gaultheria shallon	Salal	#2 cont.	4’ O.C.	min. 4’ from trees
15	Ribes sanguineum	Red Flowering Currant	#2 cont.	6’ O.C.	min. 4’ from trees
15	Symphoricarpos albus	Snowberry	#2 cont.	6’ O.C.	min. 4’ from trees

Planting should be completed between October 1 and April 1. All planted areas should be mulched with a minimum 2” depth of arborist wood chip mulch. The property owner should maintain restoration plantings and replace any that die within the first five years. Maintenance should include watering in the summer as needed to prevent signs of water stress.



Pruning

Prune trees only to remove damaged branches or as needed to provide minimal clearance for demolition equipment. Do not top, thin, or wind-sail trees. Under no circumstances should more than 25% of the canopy of trees to be retained be pruned. All pruning should be done under the direction of an ISA certified arborist.

Limit of Liability

The terms and evaluation forms used in this report are as laid out in the International Society of Arboriculture *Tree Risk Assessment Manual*, Second Edition. The tree evaluation is a Level 2 Basic Assessment as defined by the International Society of Arboriculture. As conditions change, it is the responsibility of the property owners to schedule additional site visits by the necessary professionals to monitor the long-term health and risk of the tree.

There are many conditions affecting a tree's health and stability which may be present and cannot be ascertained such as root rot, previous or unexposed construction damage, internal cracks, stem rot and more. Changes in circumstances and conditions can also cause a rapid deterioration of a tree's health and stability. Adverse weather conditions can dramatically affect the health and safety of a tree in a very short amount of time. While I have used every reasonable means to visually examine the tree, this evaluation represents my opinion of the tree health at the time of the evaluation only. I make no warranties about tree condition. These findings are estimates only, and do not guarantee future safety, nor are they predictions of future events, nor do they insure that a tree will not fail.

This tree evaluation is to be used to inform and guide the property owner in the management of their trees. This in no way implies that I am responsible for performing recommended actions or using other methods or tools to further determine the extent of internal tree problems without written authorization from the property owner. Furthermore, my recommendations do not in any way insure that a tree will not fail. Extreme weather conditions or hidden rot can cause good condition trees to fail.

If you have any further questions, please do not hesitate to call.

Sincerely,

Mary Ellen Russell, PLA
Principal, Russell + Lambert Landscape Architecture
ISA Qualified Tree Risk Assessor