# TREE PROTECTION PLAN

**For**

## McIntyre Addition

**7520 Mercer Terrace Dr, Mercer Island**
**Parcel #: 545360-0100**

**Delivered to:**

**Shannon McIntyre**
**7520 Mercer Terrace Dr**
**Mercer Island, WA 98040**

**November 10, 2023**

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# McIntyre Addition – 7520 Mercer Terrace Dr, Mercer Island

Arboricultural Assessment and Tree Protection

***Report Summary***

This report includes the location and status of the trees that fall within the perimeters of the proposed development. The trees are marked on the site plan.

***General Information***

*Project Identification and Location:*

McIntyre Addition, 7520 Mercer Terrace Dr, Mercer Island, WA 98020 Parcel # 545360-0100

*Proposal*

This project proposes addition a 2-story with a footprint of 320 SF with an ADU on level 1 and an extension of the primary bedroom on Level 2, resulting in an overall addition of more than 500 square feet of gross floor area. The other part of the scope will include a redesign of the roof on the 1-story half of the house with minimal hardscape improvements.

***Terms of the Assignment***

- Locate and identify the trees that will be affected based on the proposed construction according to the provided site plan.
- Provide findings and recommendations pertaining to the trees.

***Tree Inventory and Assessment***

On 9/6/23 I performed a pre-construction site visit. The trees were verified according to the site plan provided by architect Diego Pineda. I was asked to make any corrections needed to tree species, size, and location and create a table of trees and a tree protection plan. The trees in question were evaluated for impacts by the construction project, their overall condition was verified in comparison to the provided site plan which indicates the existing conditions and the site improvements. The data collected for each tree includes the tree identifier, common and scientific names, trunk diameter (DSH), dripline radius, health, and recommended limits of disturbance (RLOD).

***Purpose and Use of the Report***

The purpose of this report is to establish a Tree Protection Plan that will serve as directions that need to be followed during the construction project. This report documents the information as intended to be used by the owner, construction contractor, the sub-contractors, and the tree care and landscape professionals who are involved in the construction project.

***Limits of the Report***

The trees were visually assessed only, no tools were used.

***Observations***

Site

This 10,085 square foot lot is located at the corner with SE 76th Street. According to the Mercer Island GIS map, a Critical Area (Erosion and Landslide hazard) is present on this site. As a result, a Critical Area Review 2 is required as part of construction application process. Critical Area Review 2 approvals are typically reviewed and approved prior to a building permit. The decision authority for a Critical Area Review 2 is outlined in Mercer Island City Code (MICC) 19.15.030. Because the project involves an overall addition of more than 500 square feet of Gross Floor area, an arborist report is required.

Trees

All trees inventoried for this project can be found in the *Table of Trees*. There are no exceptional trees on the site. Off-site trees are far-removed from the area of disturbance and as a result were not tagged and are not represented as having protection.

***Tree Removal and Replacement***

Three trees are proposed for removal due to their close proximity to construction activity. Tree number #1 is located within the footprint of the addition and trees number 2 and 3 are located close enough to construction activity that root damage is expected to exceed an acceptable threshold for retention.

Tree replacement is required pursuant to MICC 19.10.070. The replacement ratio for trees 10 inches up to 24 inches DSH is 2:1. Replacement ratio for trees less than 10 inches is 1:1. A total of four (4) trees will be planted to replace the removed trees. Replanting locations will be adjacent to or within critical tree areas and will primarily be those species native to the Pacific Northwest. Tree size will be six feet tall if replanting with coniferous trees and at least one and one-half inches in caliper if replanting with deciduous trees. Replacement trees will be planted in the wet season (October 1 through April 1). The applicant shall maintain replacement trees in a healthy condition for a period of five years after planting.

***Discussion – Construction Impacts***

Impacts to retained trees should be minimal and within guidelines outlined in ISA Best Management Practices, *Managing Trees During Construction.* The trees shall be protected with tree protection fencing at the RLOD to the specifications outlined in the *Table of Trees*. No excavation, grading, parking, machine access or materials storage is permitted within the RLOD without arborist coordination.

Exceptions to the above will be that trees numbered 4 and 11 will have their CRZ encroached by approximately 25 percent. Because excavation in these areas will also involve minor encroachment into the ICRZ, an arborist shall be on site during excavation in the proximity of these trees to ensure compliance with the requirements for tree protection outlined in *Appendix D.*

Under no circumstances should machinery be allowed into the RLOD. Where space allows, four inches of arborist woodchips should be installed to the edge of the RLOD to prevent compaction from worker foot traffic.

***Conclusions***

The trees are in poor to good condition, taking species and age into consideration. Provided with the information I received, it is my professional opinion that the performance path will suffice from an arboricultural standpoint. Care should be taken to follow the recommendations and provisions outlined in this TPP to ensure the success of the retention efforts.

***Recommendations***

- Obtain all necessary permits and approval from the City prior to commencement of site work.
- Update site plans to include limits of disturbance detailed above.
- Tree protection consisting of chain-link fencing should be installed at the Limits of Disturbance listed in the included in the *Table of Trees*. Tree protection specifications can be found in *Appendix D*.
- Add a 4-inch layer of coarse arborist woodchips throughout the tree protection area. Keep woodchips one foot from the trunk of the tree.
- All tree retention and removal regulations must be followed. Any pruning of trees on private property must be conducted by an ISA certified arborist to the standards outlined in the ANSI A300 standards.
- Ensure tree protection standards comply with City code and ISA Best Management Practices (BMP) – *Managing Trees During Construction*.

*Appendix A* ***– Assumptions and Limiting Conditions***

While trees vary in their tolerance to changed conditions, disruption in any form of the environment to which the trees have grown accustomed may result in adverse reaction. Human activity among and near trees is inherently contrary to tree welfare and there are inherent risks associated. The following are limitations to this report:

1. All information presented herein covers only the trees examined at the area of inspection, and reflects the conditions observed of said trees at the time of inspection.
2. Care has been taken to obtain all information from a reliable source. However, the Arborist can neither guarantee nor be responsible for accuracy of information provided by others.
3. Observations were performed visually without probing, dissecting, coring, or exaction, unless noted otherwise, and in no way shall the observer be held responsible for any defects that could have only been discovered by performing said services in specific area(s) where a defect was located.
4. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects or applied stress. Trees are living biological organisms, and I cannot predict nor guarantee their stability or failure.
5. No guarantee or warranty is made, expressed or implied, that defects of the trees inspected may not arise in the future.
6. This report and any values/opinions expressed herein represent my opinion as an Arborist. Inaction on the part of those receiving the report is not the responsibility of the Arborist.
7. Sketches or drawings in this report are intended as visual aids only and are not necessarily to scale. They should not be used as engineering or architectural reports or surveys.
8. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear and under responsible ownership and competent management.
9. No assurance can be offered that if any recommendations or precautionary measures suggested are accepted and followed, that the desired results may be attained.
10. No responsibility is assumed for the methods used by any person or company executing any recommendations provided in this report.
11. The information provided herein represents an opinion, and in no way is the reporting of a specified finding, conclusion, or value based on payment for services.
12. This report is proprietary to *Scott Selby Consulting LLC* and may not be reproduced in whole or in part without written consent. This report has been prepared exclusively for use of the parties to which it has been submitted.
13. Should any part of this report be altered, damaged, corrupted, or lost, the entire evaluation shall be invalid.
14. The consultant/appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment for such services.
15. Possession of this report does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written consent of the consultant/appraiser.

*Appendix B* ***– Certification of Performance***

I, Scott Selby, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately. The extent of the evaluation or appraisal is stated in the attached report the Terms of Assignment.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinions and conclusions were developed, and the report has been prepared, according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated in the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member of, and certified by, the International Society of Arboriculture. I am also a member of the American Society of Consulting Arborists. I have been involved in the arboricultural field in full-time capacity for a period of 30 years.

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***Glossary***

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|---|---|
| CRZ/ICRZ: | **Critical Root Zone**. The area of soil immediately adjacent to the trunk where roots essential for tree health and stability are located. The CRZ is subjective; there is no accepted formula to biologically define it. However, there may be regulations that define it. The **Interior Critical Root Zone (ICRZ)** is measured at one-half the distance from the tree: if the CRZ measures 12 feet radius, the radius distance of the ICRZ would be six feet. |
| DSH or DBH | **Diameter at Standard Height** (measured at 54 inches above grade). |
| Dripline | Imaginary line defined by the branch spread of a single plant or group of plants. |
| LOD | **Limits of Disturbance**. Defined as the boundary within which all construction, materials storage, grading, landscaping, and related activities shall occur. |
| RLOD | **Recommended Limits of Disturbance**. As outlined in ISA Best Management Practices, Managing Trees during construction, this is calculated as a radial distance 8 times the trunk diameter. Some cases required 12 times the trunk diameter. For purposes of this report, this represents the CRZ. |
| TPF | **Tree Protection Fencing**. A physical fence around a tree or cluster of trees to indicate retention or protection. |
| TPP | **Tree Protection Plan**. A comprehensive plan to encompass all site work before (site preparation and demolition), during (construction and site servicing), and after (tree fencing removal and final landscaping) development. |
| TPZ | **Tree Protection Zone** (equivalent to the RPZ). |

## *Appendix C* ***– Methods***

***Measuring***
I measured the diameter of each tree at 54 inches above grade, diameter at standard height (DSH). If a tree had multiple stems, I measured each stem individually at standard height and determined a single-stem equivalent diameter by using the method outlined in the city of Seattle Director's Rule 16-2008 or the Guide for Plant Appraisal, 10th Edition Second Printing published by the Council of Tree and Landscape Appraisers. A tree is regulated based on this single-stem equivalent diameter value. Because this value is calculated in the office following field work, some unregulated trees may be included in our data set. These trees are included in the tree table for informational purposes only and not factored into tree totals discussed in this report.

***Tagging***
Trees were tagged at approximately six-foot level with round aluminum tags with sequential numbering. I assigned each tree a numerical identifier in the tree table, corresponding to this tree tag.

***Evaluating***
I evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot or area of mechanical stress. A tree reacts to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. An understanding of the uniform stress allows the arborist to make informed judgments about the condition of a tree.

***Rating***
When rating tree health, I took into consideration crown indicators such as foliar density, size, color, stem and shoot extensions. When rating tree structure, I evaluated the tree for form and structural defects, including past damage and decay. I have adapted ratings based on the Purdue University Extension formula values for health condition (Purdue University Extension bulletin FNR-473-W - Tree Appraisal). These values are a general representation used to assist arborists in assigning ratings.

Excellent - Perfect specimen with excellent form and vigor, well-balanced crown. Normal to exceeding shoot length on new growth. Leaf size and color normal. Trunk is sound and solid. Root zone undisturbed. No apparent pest problems. Long safe useful life expectancy for the species.

Good - Imperfect canopy density in few parts of the tree, up to 10% of the canopy. Normal to less than ¾ typical growth rate of shoots and minor deficiency in typical leaf development. Few pest issues or damage, and if they exist, they are controllable, or tree is reacting appropriately. Normal branch and stem development with healthy growth. Safe useful life expectancy typical for the species.

Fair - Crown decline and dieback up to 30% of the canopy. Leaf color is somewhat chlorotic/necrotic with smaller leaves and "off" coloration. Shoot extensions indicate some stunting and stressed growing conditions. Stress cone crop clearly visible. Obvious signs of pest problems contributing to lesser condition, control might be possible. Some decay areas found in main stem and branches. Below average safe useful life expectancy.

Poor - Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting of shoots is obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe and uncontrollable. Extensive decay or hollows in branches and trunk. Short safe useful life expectancy.

## *Appendix D – **Tree Protection Specifications***

*The following is a list of protection measures that must be employed before, during and after construction to ensure the long-term viability of retained trees.*

1. **Project Arborist**: The project arborists shall at a minimum have an International Society of Arboriculture (ISA) Certification and ISA Tree Risk Assessment Qualification.
2. **Tree Protection Zone (TPZ)**: In some cases, the TPZ may extend outside tree protection fencing. Work within the TPZ must be approved and monitored by the project arborist.
3. **Tree Protection Fencing**: Tree protection shall consist of 6-foot chain-link fencing installed at the TPZ as approved by the project arborist. Fence posts shall be anchored into the ground or bolted to existing hardscape surfaces.
    a) Where trees are being retained as a group, the fencing shall encompass the entire area including all landscape beds or lawn areas associated with the grove.
    b) Per arborist approval, TPZ fencing may be placed at the edge of existing hardscape within the TPZ to allow for staging and traffic.
    c) Where work is planned within the TPZ, install fencing at edge of TPZ and move to limits of disturbance at the time that the work within the TPZ is planned to occur. This ensures that work within the TPZ is completed to specification.
    d) Where trees are protected at the edge of the project boundary, construction limits fencing shall be incorporated as the boundary of tree protection fencing.
4. **Access Beyond Tree Protection Fencing**: In areas where work such as installation of utilities is required within the TPZ, a locking gate will be installed in the fencing to facilitate access. The project manager or project arborist shall be present when tree protection areas are accessed.
5. **Tree Protection Signage**: Tree protection signage shall be affixed to fencing every 20 feet. Signage shall be fluorescent, at least 2' x 2' in size, with 3" tall text. Signage will note: "Tree Protection Area – Do Not Enter: Entry into the tree protection area is prohibited unless authorized by the project manager." Signage shall include the contact information for the project manager and instructions for gaining access to the area.
6. **Filter / Silt Fencing**: Filter / silt fencing within the TPZ of retained trees shall be installed in a manner that does not sever roots. Install so that filter / silt fencing sits on the ground and is weighted in place by sandbags or gravel. Do not trench to insert filter / silt fencing into the ground.
7. **Monitoring**: The project arborist shall monitor all ground disturbance at the edge of or within the TPZ, including where the TPZ extends beyond the tree protection fencing.
8. **Soil Protection**: No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPZ. Heavy machinery shall remain outside of the TPZ. Access to the tree protection area will be granted under the supervision of the project arborist. If project arborist allows, heavy machinery can enter the area if soils are protected from the load. Acceptable methods of soil protection include applying 3/4-inch plywood over 4 to 6 inches of wood chip mulch or use of AlturnaMats. (or equivalent product approved by the project arborist). Retain existing paved surfaces within or at the edge of the TPZ for as long as possible.
9. **Soil Remediation**: Soil compacted within the TPZ of retained trees shall be remediated using pneumatic air excavation according to a specification produced by the project arborist.
10. **Canopy Protection**: Where fencing is installed at the limits of disturbance within the TPZ, canopy management (pruning or tying back) shall be conducted to ensure that vehicular traffic does not damage canopy parts. Exhaust from machinery shall be located five feet outside the dripline of retained trees. No exhaust shall come in contact with foliage for prolonged periods of time.