Urban Forestry Services
BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company

Arborist Report

Title: **Amberleigh HOA – Level 1 Limited Visual & Level 2 Basic Tree Risk Assessment**

Prepared for: **Amberleigh HOA**
Attn: Mark Beales, Amberleigh HOA Board President
1820 163rd Street SE
Mill Creek, WA 98012

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Tree Risk Assessment Qualified

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Date: April 21, 2025

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Summary

Through an ISA Level 1 Limited Visual Assessment of approximately 200 trees growing within the Amberleigh Homeowners Association located at 163rd Street SE in Mill Creek, Washington, I advanced 16 trees to an ISA Level 2 Basic assessment due to the tree conditions I observed.

I completed the tree risk assessment on April 2, 2025.

Level 2 Basic Assessment Summary

I determined the overall risk rating for 14 of the 16 trees included in the ISA Level 2 Basic assessment; however, I was unable to determine the overall risk rating of two (2) trees using Level 2 assessment methods. Table 1 summarizes the overall risk rating of the 14 trees for which I was able to make risk determinations.

Table 1. *Overall risk rating summary.*

Overall Risk Ratings		
Risk rating determination	Tree ID	Totals
Extreme	146	1
High	137, 149, 142	3
Moderate	138, 139, 141, 147	4
Low	142, 144, 145, 148, 150, 151	6
	Total	14

Risk mitigation measures for these trees includes removal, wildlife snag creation, branch reduction pruning, and monitoring. Table 2 summarizes the recommended risk mitigation and reassessment options for these 14 trees.

Tree 146 presents an ***Extreme*** overall risk to surrounding targets. Mitigation pruning treatments should be applied as soon as possible for this tree . '*Extreme*' is the highest overall risk rating that can be assigned to trees using ISA TRAQ tree risk assessment methods.

Table 2. *Risk mitigation measures summary.*

Risk Mitigation Measures		
Treatment	Tree ID	Totals
Removal/Snag conversion	137, 138, 142, 145, 147, 149	6
Branch reduction pruning	146, 152	2
Aerial assessment	139	1
Monitoring	141, 144, 148, 150, 151	5
	Total	14

I was unable to determine the overall risk rating of Trees 136 and 143 using ISA Level 2 Basic assessment methods and raised these two (2) trees to a more detailed ISA Level 3 Advanced Assessment. The defects in Trees 136 and 143 that I observed in the Level 2 assessment required an inspection of the internal condition of the trunk of each tree. The defects I observed included:

- Tree 136 – There is a large wound with visible signs of decay. I was unable to determine the extent of the decay using Level 2 assessment methods.
- Tre 143 – I observed brittle cinder fungus (*Kretzschmaria deusta*) growing at two (2) locations on the lower trunk. Brittle cinder fungus feeds on living wood which can lead to failure of the infected tree part. I was unable to determine the structural condition of the lower trunk using Level 2 assessment methods.

Level 3 Advanced Assessment Summary

I advanced Trees 136 and 143 to an ISA Level 3 Advanced Assessment due to the limitations of my Level 2 assessment.

Using ISA Level 3 Advanced assessment methods, specifically resistance drilling, I determined that Trees 136 and 143 have a *possible* likelihood of failure and present a ***Moderate*** overall risk to surrounding targets.

I recommend the following measures to manage the risk associated with Trees 136 and 143:

- Tree 136 - Monitor and reassess the overall risk rating of this tree in three (3) years using ISA Level 3 Advanced assessment methods.
- Tree 143 - Reduce the length of branches extending toward the target to reduce the likelihood of impact from branch failure and inspect the internal condition of the lower trunk using ISA Level 3 Advanced assessment methods in three (3) years.

Introduction

Purpose

The purpose of this report is to determine the overall risk rating of trees within the Amberleigh HOA's City-designated cutting preserve and landscape buffer and to recommend any measures to mitigate the risk associated with the assessed trees.

Project

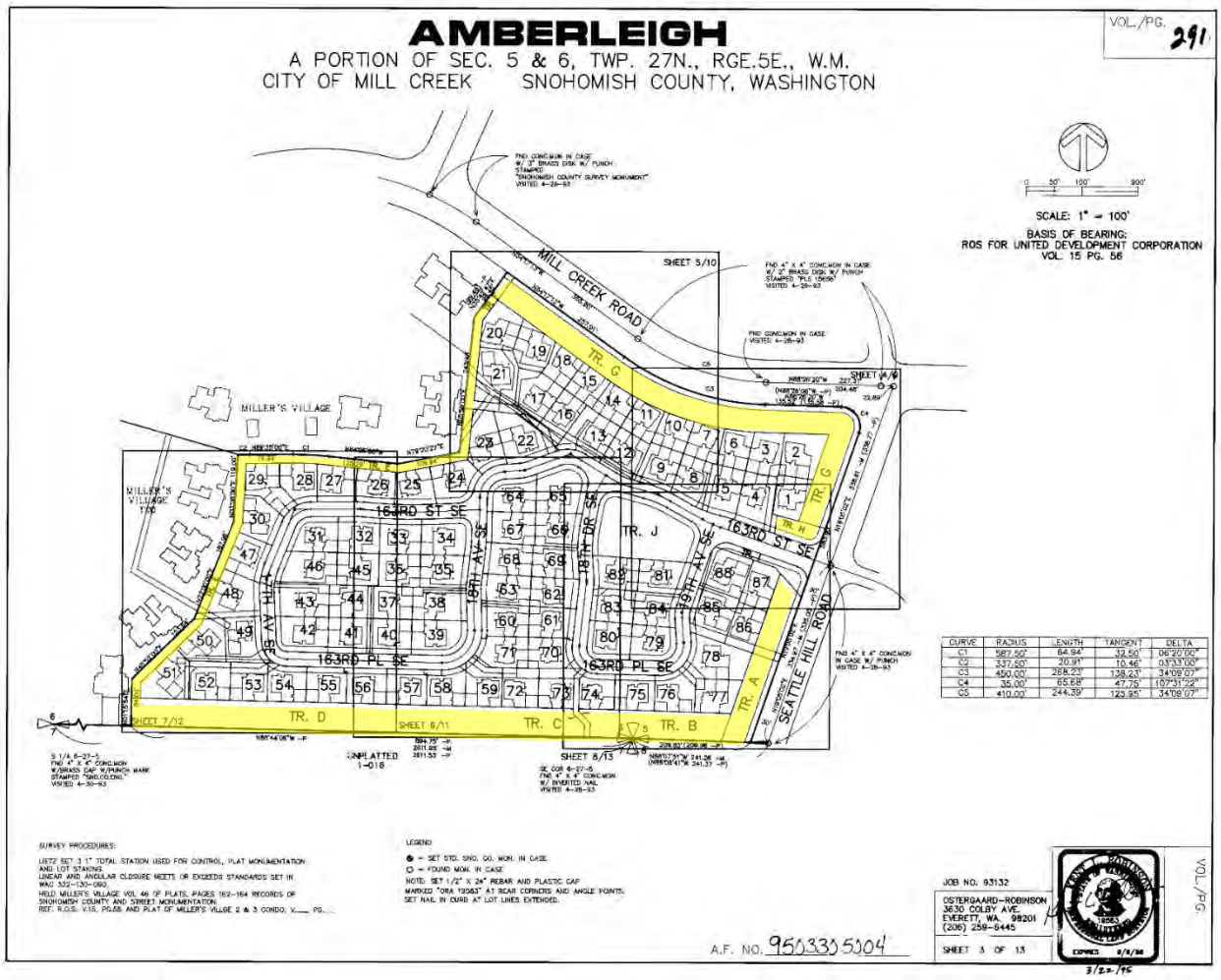
Mark Beales, Board President of the Amberleigh HOA, contacted our office in March 2025, requesting a risk assessment of trees within the HOA's cutting preserve and landscape buffer.

Mark Beales provided me with the following background and history of tree risk management completed by the HOA.

- Approximately 10 years ago the Amberleigh HOA contracted an arborist to perform a risk assessment of trees within their cutting preserve.
- Mark Beales walked the site with the contracted arborist while the contractor collected data and made recommendations for tree risk mitigation. The assessment was performed over a period of three (3) days.
    - A representative from the City of Mill Creek also attended a portion of the field work to document the assessment.

- One (1) tree identified for removal during the assessment failed and impacted Mill Creek Road. The local fire department removed the tree from the road

From my discussions with Mark and my review of the plat map available on the HOA's website, it is my understanding that the cutting preserve and landscape buffer (Tracts A to H) border the entirety of Amberleigh HOA and, at its greatest extent, reaches 50 feet beyond private residences located within the HOA (Map 1).



City of Mill Creek Requirements

City of Mill Creek Municipal Code (MCMC) 15.10 *Land Clearing and Tree Cutting* provides protection and regulates the removal of significant[1] trees.

A permit for tree cutting that is not associated with a building permit must include a site plan that shows the location of existing trees, property buffers, cutting preserve, and the address of the site. The permit must also include a plan for the removal or disposal of cut trees and woody debris.

Methods

I was on-site on April 2, 2025, to inspect trees in an ISA Level 1 Limited Visual, Level 2 Basic and Level 3 Advanced risk assessment. The timeframe for this ISA Level 1 Limited Visual, Level 2 Basic, and Level 3 Advanced tree risk assessment is three (3) years from the date of this report.

I included Tree 140 in this assessment for management that is not tree risk related. Tree 140 is an existing six (6) foot tall stump from a past failure.

Trunk diameters were measured at 4.5 feet above grade.

Tree height was estimated to the nearest foot.

Condition ratings are based on tree *health*, *structure*, and *form* as defined in the *Plant Appraisal Guide, 10th Edition.*

Risk Assessment Methods

Level 1 Limited Visual Assessment

I performed an ISA Level 1 Limited Visual Assessment for approximately 200 trees within the assessment area shown in the attached *Tree Assessment Site Plan*. During the Level 1 assessment, I evaluated trees visually from a single path of travel to identify observable tree parts with a probable or imminent likelihood of failure and a moderate or high likelihood of impact to any potential targets. The approximate path of travel is illustrated on the attached *Tree Assessment Site Plan*.

Level 2 Basic Assessment

I advanced 16 trees to an ISA Level 2 Basic Assessment due to conditions of concern I observed during my Level 1 assessment. I marked these trees with a numbered aluminum tag and reference these numbers in this report. The tags are nailed to the trunk.

The Level 2 assessment involved looking at each tree for structural defects, signs, and symptoms of disease or insect activity, and any other indicators related to the potential likelihood of failure. I evaluated each tree from the ground and from all sides of the tree.

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[1] Significant tree: A tree with a minimum trunk diameter of six (6) inches measured at 4.5 feet above grade (Mill Creek Municipal Code 15.10.015).

In a Level 2 assessment the site is also assessed for wind exposure, location and type of targets that would be struck by a failed tree or tree part and the potential consequences of failure.

Overall tree risk ratings determined through Level 2 assessment methods are derived from a combination of three factors: the likelihood of failure, the likelihood of the failed tree or tree part impacting a target, and the consequences of the target being impacted by a failed tree or tree part. These factors are then used to categorize tree risk as *extreme, high, moderate,* or *low*.

Level 3 Advanced Assessment

I advanced Trees 136 and 143 to an ISA Level 3 Advanced Assessment due to the limitations of my ISA Level 2 Basic assessment. The defects in Trees 136 and 143 that I observed in the Level 2 assessment required an inspection of the internal condition of the trunk of each tree so that I could accurately determine the likelihood of failure for these tree parts. The Level 3 assessment involved resistance drilling to determine the internal condition of the trunks of these two (2) trees.

Resistance drilling was performed to identify the potential loss of structural integrity within the lower trunk, to determine the likelihood of trunk failure, and to provide analysis within this report.

The IML-PD400 device uses a small diameter drill-bit to drill into the tree and measure the amount of resistance encountered. The drill bit will encounter more resistance in wood that is intact and not structurally compromised. The drill bit will move easily through compromised areas such as a crack, cavity, decay, or void, causing a drop in resistance. The amount of resistance measured is presented as a graphic image.

Limitations

The tree assessment was performed from the ground for visual conditions. Dense understory vegetation obscured the view of the trunks of some trees, which may have hidden conditions of concern.

Resistance drilling devices can provide sophisticated results related to tree structure. This is done by measuring the amount of resistance the drill bit encounters. However, as with any higher-level technology, the amount of structural integrity shown can vary based on the version of the program software used. Therefore, this technology can be limited and should not be used by Amberleigh HOA as the sole decision-making criteria, but rather one of many factors used in the decision-making process.

Findings

Attached with this report are the *Tree Assessment Site Plan* and the *Tree Assessment Matrix*. The site plan illustrates the location of each tree included in the Level 2 Assessment and my Level 1 assessment path. The *Tree Assessment Matrix* includes details of the 16 trees included in the Level 2 Basic assessment.

Site Summary

Amberleigh HOA is a residential neighborhood located at 163rd Street SE in Mill Creek, Washington. The HOA is bordered by Mill Creek Road to the north, Seattle Hill Road to the east, and separate HOAs to the south and west. Amberleigh HOA manages a cutting preserve that surrounds the neighborhood.

The cutting preserve and landscape buffer are not designated as a critical area, though some sections within the preserve and buffer provide similar functions as critical areas (Photo 1). Trees and other vegetation within the cutting preserve and buffer protect water quality, provide urban canopy coverage, and provide wildlife habitat.

Photo 1. Tract G included several native tree species. The viewer is on Seattle Hill Road looking southwest.

Level 2 Basic Assessment Trees

The attached *Tree Assessment Matrix* provides greater detail on each of the trees included in the Level 2 Basic Assessment. Table 3 provides a brief summary of the conditions of concern I observed with each tree included in the Level 2 Basic Assessment.

Table 3. *Condition summary*

Tree Condition	
Tree ID	**Condition notes**
136	There is a large wound on the south side of the trunk (Photo 2).
137	This is a dead tree that leans slightly towards Mill Creek Road.
138	This is a dead-standing tree.
139	There is an occluded[2] wound on the trunk at an approximate height of ten (10) feet.
140	Sprouts are growing from the remaining stump. Remove sprouts and girdle base to prevent future problematic growth. This tree was not included in the ISA Level 2 assessment.
141	Small amount of pitch oozing on the east and west sides of trunk.
142	Dead-standing tree with several mushroom conks growing on the trunk.
143	Multiple leading stems with narrow attachments. Black crust like fruiting bodies, consistent with brittle cinder fungus, are growing on the base of the trunk.
144	Two (2) leading stems with narrow attachments and included bark[3].
145	Dead-standing tree.
146	The branch that extends southeast towards houses has developed a crack at the attachment (Photo 3). The crack is approximately one (1) inch wide.
147	Multiple leading stems and there is extensive decay in the lower trunk where the stems diverge.
148	There are several wounds in the tree that appear to be man-made. Much of the exposed wood is solid.
149	Several *Ganoderma applanatum* conks are growing on the base of the trunk (Photo 4).
150	The tree has a corrected lean and the trunk is covered in ivy.
151	The trunk has a slight lean to the north that is uncorrected.
152	Multiple leading stems that are narrowly attached (Photo 5).

[2] Occlusion: The process where a wound is progressively closed by the formation of new wood and bark.
[3] Included bark: The bark of adjacent tree parts that becomes embedded and causes a weak structure.

Photos 2 to 5. Photo 1 shows the large wound on Tree 136. A crack has developed at the attachment point of a large stem on Tree 146 (Photo 2). Brittle cinder fungus is growing on Tree 143 (Photo 3). Ganoderma conks are growing at the base of Tree 149 (Photo 4). The white ruler in Photos 1, 3, and 4 is four (4) inches long.


Photo 2

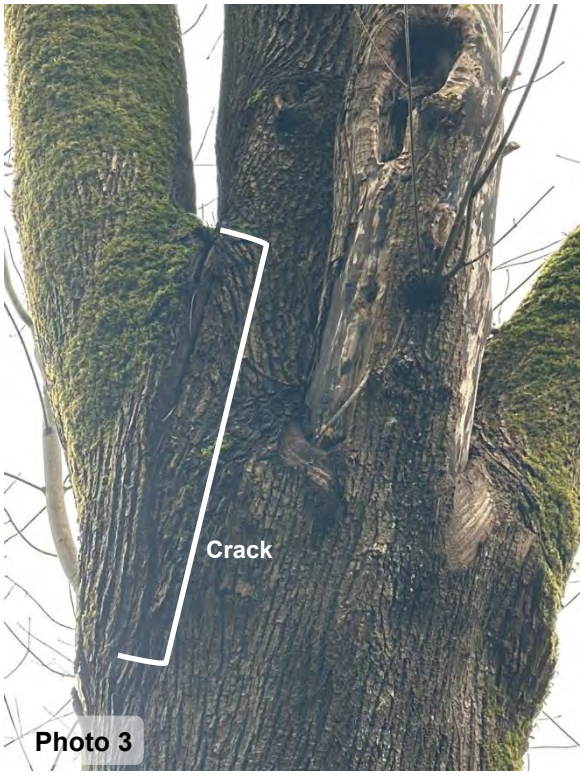

Photo 3

Photo 4

Photo 5

Risk Assessment Summary

Using tree risk assessment methods outlined in this report it is my professional judgement that trees included in the ISA Level 2 Basic and ISA Level 3 Advanced assessments present the following overall risk ratings to surrounding targets. Table 4 summarizes the overall risk rating of each tree and the factors used to determine the overall risk rating.

Table 4. *Risk factors summary*

Risk Factors				
Tree ID	**Likelihood of failure**	**Likelihood of impact**	**Consequences**	**Overall risk rating**
136	*Possible*[*]	*High*	*Severe*	***Moderate***
137	*Probable*	*High*	*Significant*	***High***
138	*Probable*	*Medium*	*Significant*	***Moderate***
139	*Possible*	*High*	*Significant*	***Moderate***
141	*Possible*	*High*	*Significant*	***Moderate***
142	*Probable*	*Low*	*Significant*	***Low***
143	*Possible**	*High*	*Severe*	***Moderate***
144	*Possible*	*Medium*	*Significant*	***Low***
145	*Probable*	*Medium*	*Minor*	***Low***
146	*Imminent*	*High*	*Severe*	***Extreme***
147	*Probable*	*Medium*	*Significant*	***Moderate***
148	*Improbable*	*Medium*	*Severe*	***Low***
149	*Probable*	*High*	*Significant*	***High***
150	*Improbable*	*High*	*Significant*	***Low***
151	*Improbable*	*High*	*Severe*	***Low***
152	*Probable*	*High*	*Significant*	***High***

If the level of risk associated with an assessed tree or tree part is not acceptable to Amberleigh HOA, then I recommend completing the mitigation measures specified in the Recommendations section below.

[*] Likelihood of failure determined using ISA Level 3 Advanced assessment methods.

Site Assessment

Targets considered in this assessment include:

- Traffic and pedestrian use of Mill Creek Road and Seattle Hill Road.
- Residences that are located within Amberleigh HOA.
- Residences that are located within separate HOAs that abut the assessment area to the south and west.

During my assessment I observed the following occupancy rates for each target:

- Frequent traffic on Mill Creek Road.
- Occasional traffic on Seattle Hill Road.
- Occasional pedestrian use of sidewalks on Mill Creek Road and Seattle Hill Road.
- Constant occupancy for residential structures.

Prevailing winds come from the southwest. Localized weather patterns are unpredictable, and wind direction could factor into the likelihood that a tree or tree part impacts a target. Other factors such as lean and weight were also considered when assessing the likelihood of impact

Level 3 Summary

Through ISA Level 3 Advanced assessment methods I determined that Trees 136 and 143 have a *possible* likelihood of failure and present a ***moderate*** overall risk rating to surrounding targets.

I recommend that both trees be retained and inspected using ISA Level 3 Advanced Assessment methods in three (3) years from the date of this report.

I performed resistance drilling for Trees 136 and 143 to determine the internal condition of the lower trunk of each tree.

I used an IML-PD400 resistance drill to complete the tests. Testing depth for each test was approximately 16 inches.

Tree 136

I performed four (4) resistance drilling tests on Tree 136.

Test 1 was performed at the large wound on the lower trunk. Wood density appears normal to a depth of four (4) inches, after that there is a complete drop in the density reading to the end of the test which indicates possible advanced decay or a cavity.

Test 2 was performed perpendicular to the wound on the lower trunk. Testing indicated decay at a depth of 3.5 to 7 inches and at a depth of 9 to 16 inches.

Tests 3 and 4 indicated apparent normal wood density on the north and west sides of the lower trunk. No evidence of a crack, cavity, or decay was present on either test.

Tree 143

I performed three (3) resistance drilling tests and found that overall, wood density appears normal.

A small and isolated pocket of decay was found during two (2) resistance drilling tests. The pocket of decay was approximately two (2) inches wide and began at a depth of 10.5 inches into the trunk of the tree.

Recommendations

The following recommendations are provided to assist the Amberleigh HOA with managing the risk associated with trees included in this ISA Level 1 Limited Visual, Level 2 Basic, and Level 3 Advanced assessment.

Removal – Three (3) Trees

To reduce the likelihood of impact for surrounding targets, I recommend removing Trees 142, 145, and 149.

- All work shall follow ANSI Z133 safety standards.
- All woody debris should be left in the HOA's cutting preserve. Cut branches to 4-foot lengths and let logs be in contact with the ground, when possible, to help with decomposition.

Wildlife Snag Creation – Three (3) Trees

To reduce the likelihood of trunk failure, I recommend converting Trees 137, 138, and 147 into wildlife snags. Attached to this report is our *Wildlife Snag Detail* which provides guidance on the appropriate methods to use when performing this type of tree work.

- All wildlife snag creation shall be performed by or directly supervised by an ISA Certified and Tree Risk Assessment Qualified (TRAQ) Arborist® with experience in pruning trees to manage risk and wildlife habitat.
- All work shall follow the ANSI A300 Tree Risk Assessment and the ANSI Z133 safety standard.
- Reduce the height of each tree such that it will not impact targets using Mill Creek Road or Seattle Hill Road.
- All woody debris should be left in the HOA's cutting preserve. Cut branches to 4-foot lengths and let the logs be in contact with the ground, when possible, to help with decomposition.
- This is not a recommendation to "top" these trees. Topping is the reduction of a tree's size by heading back stems or branches to stubs, without regard to their "natural" aesthetic or structure for stability or habitat. Wildlife snag creation is an approach that intentionally simulates the form of naturally occurring failed parts of trees or snags while allowing the tree to decline naturally.

Pruning Treatments – Three (3) Trees

I recommend the following pruning treatments for Trees 143, 146, and 152 to reduce the likelihood of impact in the event of branch failure.

- Pruning treatments shall be performed by or directly supervised by an ISA Certified and Tree Risk Assessment Qualified (TRAQ) Arborist® and follow ANSI A300 Part 1 Pruning standards and Z133 safety standards.
- All woody debris should be left in the HOA's cutting preserve. Cut branches to 4-foot lengths and left in contact with the ground, when possible, to help with decomposition.

Branch Reduction – Trees 143 & 152

Tree 143

- Reduce the length of one (1) branch by two-thirds. The branch extends towards the residence 1831 163rd Street SE and is oriented southwest.
- Prune the branch back to a viable lateral branch.
    - If a proper reduction cut back to a viable lateral branch is not possible, then remove the branch back to the branch's bark collar at the parent stem.
- Final cuts shall be made outside the branch collar; do not make flush cuts or leave branch stubs.
- Do not reduce the height of this tree.

Tree 152

- Reduce the length of one (1) branch by two-thirds. The branch extends towards the residence at 1800 Mill Creek Road Unit 14-D and is oriented northwest.
- Prune the branch back to a viable lateral branch.
    - If a proper reduction cut back to a viable lateral branch is not possible, then remove the branch back to the branch's bark collar at the parent stem.
- Final cuts shall be made outside the branch collar, do not make flush cuts or leave branch stubs.

Crown & Branch Reduction – Tree 146

- Reduce the length of the stem that extends towards 1923 163rd Street SE by two-thirds. The stem has a one (1) inch crack at the attachment point and is oriented to the southeast.
- Reduce the height and canopy spread of the tree by 20 percent.
    - Structural pruning principles shall be applied to reduce codominant stems.
    - Multiple years of pruning treatments may be necessary to complete crown reduction to avoid pruning more than 20 percent of the crown in one (1) year.
- Final cuts shall be made outside the branch collar, do not make flush cuts or leave branch stubs.
- Maintain a balanced canopy and natural tree form.

Aerial Assessment – One (1) Tree

An aerial assessment should be performed for Tree 139 to inspect the condition of the wound that is approximately 10 feet above grade.

- The assessment shall be performed by an ISA Certified and Tree Risk Assessment Qualified (TRAQ) Arborist® and follow ANSI A300 standards for tree risk assessment and Z133 safety standards.
- The aerial assessment may include ISA Level 3 Advanced methods such as resistance drilling or sonic tomography.
- The assessor shall determine the likelihood of failure and overall risk rating of the tree and recommend mitigation measures if necessary.

Monitoring

Monitor and reassess the overall risk rating of trees located within the assessment area in three (3) years using ISA Level 1 Limited Visual and if necessary, ISA Level 2 Basic assessment methods.

- Reassessment should be performed by an ISA Certified and Tree Risk Assessment Qualified (TRAQ) Arborist® and follow ANSI A300 standards for tree risk assessment and Z133 safety standards.
- Trees 136 and 143 should be reassessed using ISA Level 3 Advanced assessment methods, such as resistance drilling, sonic tomography, or a combination of both methods to inspect the internal condition of the lower trunk of both trees.
- The reassessment of Tree 143 should consider the implications of the brittle cinder fungus infection present during this assessment.

Other – One (1) Tree

Girdle the base of Tree 140 to prevent further problematic sprouting.

The sprouts that are growing on this tree are small and manageable. Over time, as these sprouts grow into large branches, they could become prone to failure due to poor attachments.

Let me know if you have any questions regarding this ISA Level 1 Limited Visual, Level 2 Basic, Level 3 Advanced Assessment of tree risk assessment and Arborist Report.

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Bibliography

Common Tree Diseases of British Columbia, Allen, E., Morrison, D., Wallis, G. 1996 Natural Resources Canada.

Guide for Plant Appraisal, 10th Edition Revised, Council of Tree and Landscape Appraisers®, October 2020, International Society of Arboriculture.

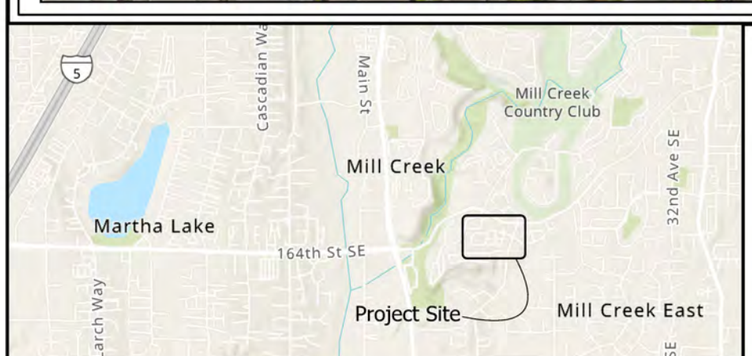
Forest Fungal Pathogen Management – Best Practices for Regional Parks, Bruzos, M., 2018 University of British Columbia.

ISA Tree Risk Assessment Manual, Dunster, L., Smiley, T., Matheny, N., and Lilly, S., 2013 International Society of Arboriculture

ISA Best Management Practice, Tree Risk Assessment, Smiley, T., Matheny, N., and Lilly, S. 2011 International Society of Arboriculture.

Structural Pruning: A Guide for the Green Industry, Gilman, E. Kempf, B., Matheny, N., Clark, J., 2013 Urban Tree Foundation.

Tree Risk Assessment in Urban Areas and Urban / Rural Interface, Dunster, J. 2009 Pacific Northwest Chapter, International Society of Arboriculture.



Symbols: (Approximate location)

- Low overall risk rating
- Moderate overall risk rating
- High overall risk rating
- Extreme overall risk rating
- Assessment area
- Level 1 assessment path

2023 Aerial imagery and parcel data retrieved from Snohomish County GIS Portal.

Tree Assessment Site Plan
Amberleigh HOA- Tree Risk Assessment

163rd Street SE
Mill Creek, Washington

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Amberleigh HOA
Tree Risk Assessment
163rd Street,
Mill Creek, Washington

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Tree Assessment Table

Tree Summary					Risk Assessment				
Tree ID	**Species**	**DBH**	**Height**	**Tree Notes**	**Likelihood of Failure**	**Likelihood of Impact**	**Consequences**	**Risk Rating**	**Recommendation**
136	Western red cedar (*Thuja plicata*)	42.6	87	A wound on the south side of the trunk is 4-feet by 1.5 feet wide. There is some occlusion covering the wound.	Possible	High	Severe	Moderate	Retain and monitor
137	Red alder (*Alnus rubra*)	11.3	50	This is a dead tree that leans slightly towards Mill Creek Road.	Probable	High	Significant	High	Convert to snag
138	Red alder (*Alnus rubra*)	9.6	45	This is a dead-standing tree.	Probable	Medium	Significant	Moderate	Convert to snag
139	Bigleaf maple (*Acer macrophyllum*)	14.4	45	There is an occluded wound on the trunk at a height of appoximately 10 feet.	Possible	High	Significant	Moderate	Aerial assessment
140	Black cottonwood (*Populus trichocarpa*)	28.0	6	Sprouts are growing from the stump. *This tree was not included in the Level 2 Assessment*.	NA	NA	NA	NA	Girdle stem
141	Douglas fir (*Pseudotsuga menziesii*)	18.8	70	Small amount of pitch exuding on the east and west sides of trunk. Sounding with a mallet did not indicate decay or a cavity.	Possible	High	Significant	Moderate	Monitor
142	Red alder (*Alnus rubra*)	6.8	30	This is a dead-standing tree with multiple mushroom conks growing on the trunk.	Probable	Low	Significant	Low	Remove
143	Bigleaf maple (*Acer macrophyllum*)	32.3	80	Multiple leading stems with narrow attachments. Black crust-like fruiting bodies, consistent with brittle cinder fungus, are growing on the base of the trunk.	Possible	High	Severe	Moderate	Branch reduction
144	Bigleaf maple (*Acer macrophyllum*)	15.5	60	There are two leading stems with narrow attachments and included bark.	Possible	Medium	Significant	Low	Monitor
145	Red alder (*Alnus rubra*)	10.7	30	Dead-standing tree.	Probable	Medium	Minor	Low	Remove
146	Bigleaf maple (*Acer macrophyllum*)	32.0	80	The branch that extends southeast has developed a crack at the attachment to the parent stem. There are multiple past branch failures.	Imminent	High	Severe	Extreme	Crown & branch reduction
147	Bigleaf maple (*Acer macrophyllum*)	21.3	60	Multiple leading stems and there is extensive decay in the lower trunk where the stems diverge. One stem leans toward Seattle Hill Road.	Probable	Medium	Significant	Moderate	Convert to snag
148	Western red cedar (*Thuja plicata*)	37.1	70	There are several wounds in the tree that appear to be man-made. Much of the exposed wood is solid.	Improbable	Medium	Severe	Low	Monitor
149	Bigleaf maple (*Acer macrophyllum*)	17.2	34	There are several mushroom conks growing at the base of the trunk. The tree leans slightly towards residences located within Amberleigh HOA.	Probable	High	Significant	High	Remove
150	Red alder (*Alnus rubra*)	13.4	50	The tree has a corrected lean and the trunk and crown are infested with English ivy.	Improbable	High	Significant	Low	Monitor
151	Western red cedar (*Thuja plicata*)	39.4	50	The tree has a slight lean to the norht that is uncorrected.	Improbable	High	Severe	Low	Monitor
152	Bigleaf maple (*Acer macrophyllum*)	24.5	40	There are multiple leading stems with narrow attachments. One stem extends towards the residence at 1800 Mill Creek Road Unit 14-D.	Probable	High	Significant	High	Branch reduction

WILDLIFE SNAG DETAIL

Snag Selection

In some locations, trees slated for removal may be converted to a wildlife snag. A snag can be created from a dead or live tree. In general, the best candidates will be at least 15-inches diameter and not affected by root disease or decay. Work should be completed by an ISA certified Arborist® trained and experienced in wildlife tree creation. Trees cut to mimic the character of naturally occurring snags offer the best functions and appearance in the landscape.

Functional Wildlife Snags

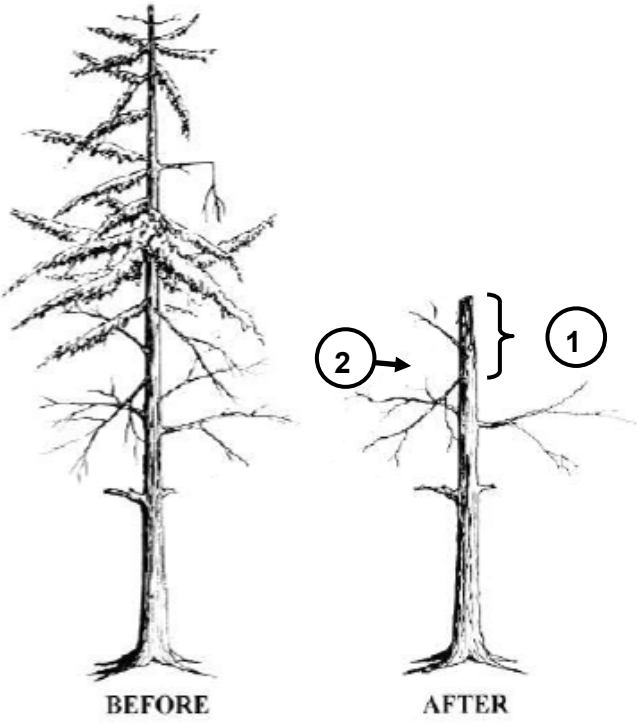
Topping, heading, and jagged cuts are harmful to healthy trees but are appropriate when creating functional wildlife snags. The height of the snag or a retained standing dead tree should not exceed the distance to a valuable target. Multiple snags near each other should be cut to different heights.

(1) On live trees, the snag should be clear of live branches for at least the top 5-feet. This reduces the likelihood of lateral branches growing upward and potentially becoming a future hazard.

(2) Retain live or dead branch stubs near the top to serve as perches. **Natural fracture pruning** uses ropes (or a combination of partial cuts and ropes) to pull branches downward to break them.

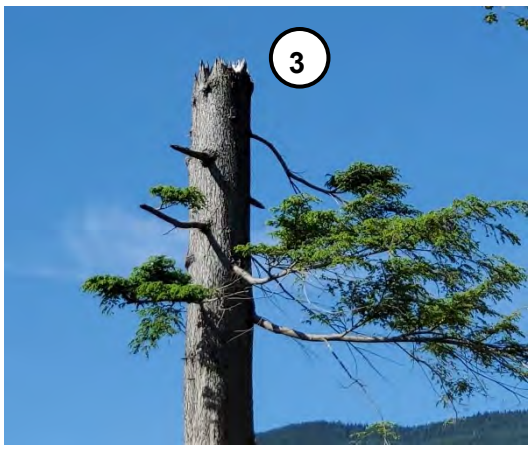
(3) **Coronet cuts** create a jagged surface at the cut end to mimic a natural break at the top of a snag.

(4) Retain and/or create cavities to allow for cavity nesting opportunities.



Signage

"Wildlife Tree" signs attached to snags that are visible to the public will help explain why the snag is there and to distinguish it from inappropriately topped trees.



Monitoring

Living snags near high value targets require additional attention to ensure they aren't producing dangerous new shoot growth. Annual monitoring and ISA Tree Risk Assessments are recommended for this type of snag.

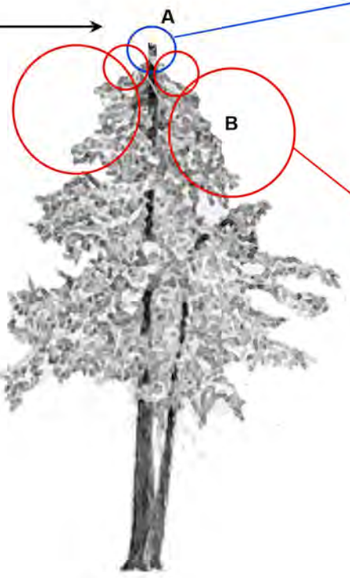
Resources

ISA Certified Arborists® trained and skilled in creating wildlife trees can provide more specialized habitat features.

https://dnrtreelink.wordpress.com/2016/12/09/how-to-make-a-wildlife-tree/

https://backyardhabitats.org/wp-content/uploads/2017/07/Snags-Living-with-urban-wildlife.pdf

Forms and Functions of living Wildlife Snags:



Coronet

Natural Fracture

A. Coronet Cut

The aim of this technique is to create a cut that will quickly develop the characteristics of a naturally occurring fracture. Jagged, naturalized fracture shapes encourage the development of wood decay and attract insect activity. As such, coronet cuts can function as feeding sites for certain bird and bat species. The rough surface of the coronet can also function as the foundation for the construction of nests. As wood below the coronet softens over time cavities and sloughing bark may develop, offering places for birds and bats to nest and roost within and between.

B. Fracture Technique

The aim of this technique is to tear and rip branch ends to create a condition in the live branches that mimics a natural failure that might occur as a result of high winds or snow loading. This method can produce a response in the tree that maintains a live crown by stimulating re-growth of the live branches. Maintaining a live crown will allow the tree to sustain its structural integrity for a longer period. Re-growth may require further maintenance over time. The retention of a live crown functions as essential cover animals using the tree for nesting (cavity or external) and roosting.

Optimal Methods for finished cuts to create living wildlife snag features:

Sloping, jagged and irregular cut tops mimic characteristics of naturally occurring trunk and branch failures.

Retaining or creating broken branch stubs on conifers adds habitat value.

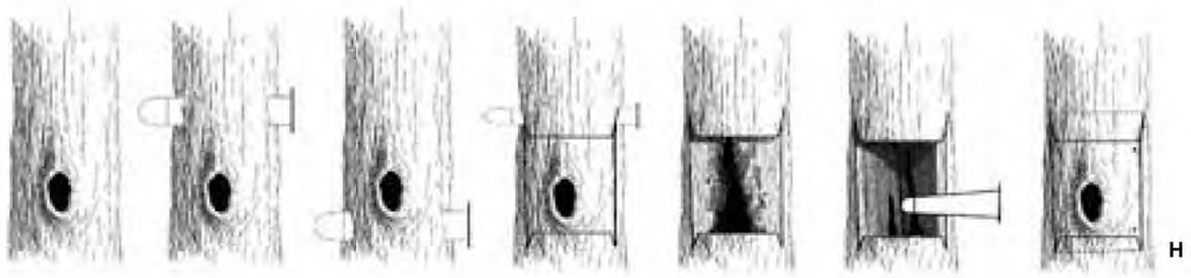
Naturally formed snag.

Leaving cut tops flat or slanted does not provide optimal wild-life habitat and does not communicate the intended goals behind the work being completed.

Cavities and Hollows:

Cavities and hollows are another vital component of effective living wildlife snags. Retaining naturally occurring cavities or creating artificial cavities, as seen in images G and H, is essential for cavity dwelling animal survival and reproduction.

Image credit: Brian French (Arborist News 2018)



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Live Conifer Wildlife Snag Detail (Living Wildlife Snag)

General guidance for the enhancement and modification of live viable trees as living ecological features and wildlife habitat.

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