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**ARBORIST REPORT
FOR
3675 W Mercer Way
Mercer Island, WA**



**August 16th, 2016
Revised January 12th, 2018**

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1. Introduction

American Forest Management, Inc. was contacted by Amanda Cavassa with Demetriou Architects, and was asked to compile an ‘Arborist Report’ for a single home build on three parcels located within the City of Mercer Island, WA.

The proposed home tear-down and reconstruct is located at 3675 W Mercer Way. Our assignment is to prepare a written report on present tree conditions, which is to be filed with the permit application.

Date of Field Examination: August 2nd, 2016

2. Description

Significant trees are comprised of a mix of planted and native species. Subject trees can be identified in the field by a numbered aluminum tag. Tree tag numbers correspond with tree numbers on the attached tree summary tables and the copy of the site plan. Detailed information for assessed trees can be found on the accompanying Tree Condition Summary spreadsheets. Tree/Tag #, species, DBH (diameter at 4 ½ feet above ground), height, measured drip-lines, specific defects and overall condition are given.

64 significant trees were evaluated on the subject property. A significant tree as defined by the City is any conifer 6’ in height or larger and any deciduous tree 6” in diameter and larger. Two of these were found to be in a non-viable condition. In addition to the trees on the subject property, there are two neighboring trees with driplines that extend over the property line. These trees are included in this report.

3. Methodology

Each tree in this report was visited. Tree diameters were measured by tape. The tree heights were measured using a Spiegel Relaskop. Each tree was visually examined for defects and vigor. The tree assessment procedure involves the examination of many factors:

- The crown of the tree is examined for current vigor. This is comprised of inspecting the crown (foliage, buds and branches) for color, density, form, and annual shoot growth, limb dieback and disease. The percentage of live crown is estimated for coniferous species only and scored appropriately.
- The bole or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insects, bleeding, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects include crooks, forks with V-shaped crotches, multiple attachments, and excessive sweep.
- The root collar and roots are inspected for the presence of decay, insects and/or damage, as well as if they have been injured, undermined or exposed, or original grade has been altered.

Based on these factors a determination of condition is made. The four condition categories are described below based on the species traits assessed:

Excellent – free of structural defects, no disease or pest problems, no root issues, excellent structure/form with uniform crown or canopy, foliage of normal color and density, above average vigor, it will be wind firm if isolated, suitable for its location

Good – free of significant structural defects, no disease concerns, minor pest issues, no significant root issues, good structure/form with uniform crown or canopy, foliage of normal color and density, average or normal vigor, will be wind firm if isolated or left as part of a grouping or grove of trees, suitable for its location

Fair – minor structural defects not expected to contribute to a failure in near future, no disease concerns, moderate pest issues, no significant root issues, asymmetric or unbalanced crown or canopy, average or normal

vigor, foliage of normal color, moderate foliage density, will be wind firm if left as part of a grouping or grove of trees, cannot be isolated, suitable for its location

Poor – major structural defects expected to fail in near future, disease or significant pest concerns, decline due to old age, significant root issues, asymmetric or unbalanced crown or canopy, sparse or abnormally small foliage, poor vigor, not suitable for its location

A ‘viable’ tree has determined to be in good health, with a low risk of failure due to structural defects, is wind firm if isolated or remains as part of a grove, and is a species that is suitable for its location. Trees considered ‘non-viable’ are trees that are in poor condition due to disease, age related decline, have significant decay issues and/or cumulative structural defects, which exacerbate failure potential.

The attached tree map indicates the ‘condition’ of the subject trees found at the site.

4. Observations

The property contains a wide variety of tree species, sizes and age classes. See the attached tree table for information on specific trees.

Douglas-fir

The Douglas-fir trees on the subject property are generally healthy, mature trees. Many of the Douglas-fir trees are adjacent to the home and in small planters. Common defects include butt swell, and structural defects such as forked tops. All of the Douglas-fir trees are viable.

Western red cedar

The western red cedar trees are in three areas of the property. There are two young western red cedar trees next to the driveway. There are four western red cedar trees in good condition on the steep slope on the east side of the property. The remaining western red cedars are in a cluster on the southeast property line. There are eight western red cedar trees in this location. All eight are semi-mature and growing closely together. Trunk taper and crown vigor was good in all eight trees. The most common defect observed in the western red cedar trees was forked trunks with included bark. All of the western red cedar trees on the property are viable.

Big leaf maple

Big leaf maple trees are dispersed throughout the steep slope above the home. The big leaf maple range in age and condition. One big leaf maple, #103 has a broken top and is in poor condition. This is the only significant, non-viable big leaf maple on the subject property. Common defects include forked trunks, self-corrected leans.

Cherry laurel

Cherry laurel is a small tree found throughout the property. The majority are on the east side of the property on the steep slope. Most of the cherry laurel trees on the property are non-significant. Most of the cherry laurels are leaning and have widespread crowns. Both characteristics are common for the species. All of the cherry laurel trees are viable.

Horse chestnut

There is a grouping of four horse chestnut trees on the south side of the property just below the steep slope. All four are in fair condition. Three are mature and one is semi-mature. Ivy is covering the trunks of these trees. Two of the trees are leaning. All four trees are viable.

Bitter cherry

The majority of the bitter cherry trees are non-significant and on the northwest property line. Of the significant trees, the most common notable defects were small live crowns and poor trunk structure. These trees are semi-mature for the species.

Norway spruce

All of the Norway spruce trees on the property are on the northwest property line, interspersed with the bitter cherry trees. Tree #146 has a thin crown and there is moderate bleeding in the upper trunk. The Norway spruce trees range from fair to good condition. All of the Norway spruce trees are viable.

Neighboring trees

Tree #201 is a bitter cherry east of the property line. This tree leans west. Cherry gummosis was observed on the trunk. The subject tree is in fair condition and is viable.

Tree #202 is a Crimson King maple. This tree has a large crown and no defects were observed. The subject tree is in good condition and is viable.

Neighboring trees – 3661 W Mercer Way – Near Utility Trenching

Tree #1801 is a mature apple tree. This tree was pruned periodically. There is a large cavity in the lower trunk. Condition is rated as fair.

Tree #1802 is a semi-mature Douglas fir tree. This tree is on a steep slope. The crown is full and vigorous. Condition is rated as good.

Tree #1803 is a green ash just south of the driveway. This tree has a narrow crown and poor trunk taper. Condition is rated as good.

Tree #1804 is a semi-mature Douglas fir tree on the steep slope. This tree has a healthy crown. Condition is rated as good.

Tree #1805 is a big leaf maple growing between tree #1804 and #1806. This tree was topped in the past and has multiple leaders. Condition is rated as fair.

Tree #1806 is a Douglas fir tree growing on the steep slope. This tree has good trunk taper and a full crown. Condition is rated as good.

5. Discussion

The extent of drip-lines (farthest reaching branches) for all trees can be found on the tree summary tables at the back of this report. These have also been delineated on a copy of the site plan which is attached and part of this report. The information plotted on the attached site plan needs to be transferred to the final tree retention - protection plan to meet City submittal requirements. The trees to be removed shall be shown "X'd" out on the final plan. The recommended Limits of Disturbance (LOD) measurements can also be found on the tree summary table and delineated on the site plan. The LOD measurements are based on species, age, condition, drip-line and prior improvements.

Species Considerations

The tree species of highest retention value on this property are the Douglas-fir, Pacific madrone, and western red cedar trees. These three species are native to western Washington and typically have long, productive lifespans. When developing the site plan, these trees were given higher priority for retention.

It is important to consider species ability to withstand construction damage. Pacific madrone trees are intolerant of site damage and any work within the dripline could severely compromise long term viability. The location and condition of the Pacific madrone trees on this property made retention of any of them impossible.

Norway spruce trees typically grow to 40' – 60' in height but can get up to 100'. The Norway spruce trees on the subject property are between 35' and 70'. Norway spruce is commonly planted as a windbreak or screen tree. This species is intolerant of root loss.

The cluster of western red cedar trees on the south property line are close to the preliminary new home and deck location. Western red cedar trees are intolerant of root damage and fill. Changes in water table and soil moisture can severely impact their viability. Careful tree protection measures will be necessary to protect these trees. All eight trees (#131 - #138) will be retained as a group to minimize future wind impacts.

Cherry laurel trees were found throughout the property. Cherry laurel is a small tree not native to Washington. This tree is classified as a Weed of Concern in King County. King County discourages planting this species. This species is the lowest priority for retention on this property.

For the majority of the property, ivy was killed and removed from trees. There is still ivy covering the trunks of many trees. This threatens the long term health and viability of the trees. It also impeded visual assessments of tree trunks. The remaining ivy should be killed and removed from trees.

Removal of Exceptional Trees

The architects have gone to great lengths to preserve the maximum number of trees on the site. Special consideration was given to exceptional trees and trees that make up groves. Some of the exceptional Douglas fir trees were planted in small planters adjacent to the existing home. The roots of these trees are most likely intertwined with the existing foundation. It would not be feasible to re-develop the site and retain these trees successfully.

A few of the exceptional trees will be removed for shoring systems. The specifications for the shoring systems were created by the engineers who designed with maximum tree retention in mind.

Exceptional Trees (including trees that are part of groves) Reasons for Removal

107 – The shoring wall needs to go through this tree. The location of the shoring wall is determined by the fire access easement. The current placement is ideal for access to lot C. The current design reflects recommendation made by the geotechnical engineer and structural engineer.

162 – In home footprint. Tree would not survive demolition of the existing home and would limit the buildable gross square footage to less than 75%.

163 – In home footprint. Tree would not survive demolition of the existing home and would limit the buildable gross square footage to less than 75%.

164 – In home footprint. Tree would not survive demolition of the existing home and would limit the buildable gross square footage to less than 75%.

117 – The shoring wall needs to go through this tree. Design and geometry of the shoring wall is based on recommendations of the structural engineer. Other options were explored to avoid disturbing this tree and found it was not feasible from a structural engineering standpoint.

119 – In driveway footprint. Driveway is based on fire access easement.

121 – In home and shoring wall footprint. This tree is well within the buildable site. The building has been pulled off the setbacks more than the requirements. The home footprint is smaller than what could be built. This tree would limit the buildable gross square footage to less than 75%.

125 – In home footprint. This tree is well within the buildable site. The building has been pulled off the setbacks more than the requirements. The home footprint is smaller than what could be built. This tree would limit the buildable gross square footage to less than 75%.

126 – In home footprint. This tree is well within the buildable site. The building has been pulled off the setbacks more than the requirements. The home footprint is smaller than what could be built. This tree would limit the buildable gross square footage to less than 75%.

127 – In home footprint. This tree is well within the buildable site. The building has been pulled off the setbacks more than the requirements. The home footprint is smaller than what could be built. This tree would limit the buildable gross square footage to less than 75%.

129 – In home footprint. This tree is well within the buildable site. The building has been pulled off the setbacks more than the requirements. The home footprint is smaller than what could be built. This tree would limit the buildable gross square footage to less than 75%.

6. Tree Retention and Replacement

A total of 63 trees were identified on the subject property. 61 are healthy and viable. 17 are small trees and 46 are large and/or exceptional trees. This project will exceed the required 30% tree retention.

The following table is adapted from the City of Mercer Island Tree Inventory and Replacement Submittal Information handout.

Subject Property Tree Table

Tree Type	Removal	Retained	Total
Exceptional #	12	12	24
Exceptional %	50%	50%	100%
Large #	14	8	22
Large %	63%	36%	100%
Total #	26	20	46
Total %	56%	43%	100%

Tree Replacement Table

Diameter of Removed Tree (measured 4.5’ above ground)	Tree Replacement Ratio	Number of Trees Proposed for Removal	Number of Trees Required For Replacement Based On Size/Type
10” up to 24”	2	11	22
Greater than 24” up to 36”	3	1	3
Greater than 36” and any Exceptional Tree	6	12	72
Total Tree Replacements			97

Replacement trees shall be conifers at least six feet tall and/or deciduous at least one and one-half inches in diameter at base.

7. Tree Protection Measures

The following guidelines are recommended to ensure that the designated space set aside for the preserved trees are protected and construction impacts are kept to a minimum.

1. Tree protection fencing shall be erected per prior to moving any heavy equipment on site. Doing this will set clearing limits and avoid compaction of soils within root zones of retained trees.
2. Excavation limits should be laid out in paint on the ground to avoid over excavating.
3. Excavations within the drip-lines of retained trees shall be monitored by a qualified tree professional so necessary precautions can be taken to decrease impacts to tree parts. A qualified tree professional shall monitor excavations when work is required and allowed up to the “limits of disturbance”.
4. To establish sub grade for foundations, curbs and pavement sections near the trees, soil should be removed parallel to the roots and not at 90 degree angles to avoid breaking and tearing roots that lead back to the trunk within the drip-line. Any roots damaged during these excavations should be exposed to sound tissue and cut cleanly with a saw. Cutting tools should be sterilized with alcohol.
5. Areas excavated within the drip-line of retained trees should be thoroughly irrigated weekly during dry periods.
6. Preparations for final landscaping shall be accomplished by hand within the drip-lines of retained trees. Large equipment shall be kept outside of the tree protection zones.

There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long term condition of any tree, but represent my opinion based on the observations made. Nearly all trees in any condition standing within reach of improvements or human use areas represent hazards that could lead to damage or injury.

Please call if you have any questions or if we can be of further assistance.

Sincerely,



Kelly Wilkinson
ISA Certified Arborist #PN-7673A
ISA Tree Risk Assessment Qualified

Tree Protection Standards

1. Tree Protection Fencing shall be erected at prescribed distance per arborist report. Fences shall be constructed of chain link and be at least 4 feet high.
2. Install highly visible signs on protection fencing spaced no further than 15 feet apart. Signs shall state "Tree Protection Area-Entrance Prohibited", and "City of Mercer island" code enforcement phone number.
3. No work shall be performed within protection fencing unless approved by Planning Official. In such cases, activities will be approved and supervised by a "Qualified Tree Professional".
4. The original grade shall not be elevated or reduced within protection fencing without the Planning Official authorization based on recommendations from a qualified professional.
5. No building materials, spoils, chemicals or substances of any kind will be permitted within protection fencing.
6. Protection Fencing shall be maintained until the Planning Official authorizes its removal.
7. Ensure that any approved landscaping within the protected zone subsequent to the approved removal of protection fencing be performed with hand labor.

In addition to the above, the Planning Official may require the following:

- a. If equipment is authorized to operate within the root zone, the area will be mulched to a depth of 6" or covered with plywood or similar material to protect roots from damage caused by heavy equipment.
- b. Minimize root damage by excavating a 2-foot deep trench, at edge of protection fencing to cleanly sever the roots of protected trees.
- c. Corrective pruning to avoid damage from machinery or building activity.
- d. Maintenance of trees throughout construction period by watering and fertilization.

Photos

Tree #102 – bitter cherry with large ivy stems and burls



Tree #103 – big leaf maple with broken top



East side of property



Tree #121 – Pacific madrone with cankers caused by *Nattrassia mangiferae*



Tree #123 – paper birch leaning west, ivy on the trunk



Tree #131 - #133 – western red cedars on the southeast property line



Western red cedar trees on the southeast property line



Tree #140 – mulberry tree with co-dominant stems



Tree #141 – apple tree with old cabling



Southeast portion of subject property



North side of subject property



North side of subject property



Tree #156 – mature Douglas-fir



Tree #162 – mature Douglas-fir in small planter box adjacent to home, cambium ruptures on the trunk



Tree #163 and #164 – Douglas-fir trees adjacent to the home in a small planter box



Tree #1804, #1805 and #1806 – neighboring Douglas fir and big leaf maple trees, utility trenching will occur to the left of tree #1804



Cavity in lower trunk of tree #1801



Tree Summary Table

For: 3675 W Mercer Way
City of Mercer Island

American Forest Management, Inc.

Date: 8/2/2016 - Revised 1/12/2018
Inspector: Wilkinson

Tree/ Tag #	Species	DBH (inches)	Height (feet)	Drip-Line/Limits of Disturbance (feet)				Condition	Viability	Comments	Excep. Tree	>24" DBH	Excep. Grove	Proposal	# of Repl. Trees
				N	S	E	W								
101	white ash	11	38	8 / 6	15 / 2	10 / 6	14 / 2	fair	viable	slight lean s				remove	2
102	bitter cherry	13	18					poor	non-viable	large ivy stems covering trunk, burls				remove	2
103	big leaf maple	8, 5 (9)	26					poor	non-viable	broken top, growing on steep slope, small live crown, trunk forks at base, small tree on steep slope, some decay, small tree				remove	
104	white ash	7, 5 (9)	42	4 / 6	5 / 6	0 / 6		fair	viable					retain	
105	cherry laurel	8, 5, 5, 4 (11)	25	18 / 10	16 / 5	0 / 10	14 / 5	fair	viable	shrub - no replacement required				remove	
106	cherry laurel	5, 6, 5, 10 (14)	26	12 / 8	15 / 5		18 / 8	fair	viable	shrub - no replacement required				remove	
107	big leaf maple	34	88	25 / 10	30 / 15	16 / 15	25 / 8	fair	viable	attachment	X	X		remove	6
108	big leaf maple	15, 11, 8 (20)	80	12 / 12	10 / 12	9 / 15	7 / 5	fair	viable	2' from ground, fork is an ok attachment				remove	2
109	big leaf maple	10, 5, 5, 3 (13)	21	2 / 10	15 / 10	2 / 10	17 / 8	fair	viable	self corrected lean, forks at base				remove	2
110	western red cedar	5	26	7 / 5	8 / 5	6 / 6	7 / 4	good	viable	small tree				remove	
112	cherry laurel	7, 4 (8)	23	3 / 4	4 / 4	0 / 4	21 / 10	fair	viable	leans west, shrub form, classified as small tree by code				retain	
113	cherry laurel	3, 4, 2, 4, 5, 6, 9 (14)	25	16 / 10	0 / 10	0 / 10	21 / 12	fair	viable	leans west, shrub trunk forks at 27', some included bark				retain	
114	western red cedar	26	80	12 / 15	8 / 15	7 / 18	14 / 12	good	viable				X	remove	6
115	western red cedar	11	75	8 / 6	7 / 6	9 / 8	8 / 5	good	viable				X	retain	
116	western red cedar	33	82	9 / 10	14 / 10		13 / 6	good	viable		X	X	X	retain	
117	big leaf maple	16, 14 (22)	78	6 / 14			15 / 14	good	viable	forks at 2', good attachment, one stem has a j-shaped crook, ~10' up				remove	6
118	big leaf maple	(33)	81	12 / 16	24 / 16	13 / 18	29 / 16	good	viable	forks at base, wide crown	X	X	X	retain	
119	Douglas-fir	32	105	13 / 15	7 / 15	10 / 15	11 / 15	good	viable	forked top	X	X	X	remove	6
120	Pacific madrone	22, 18 (28)	93	6 / 18	8 / 18	3 / 18	17 / 16	poor	non-viable	20% dieback, some decay, exposed roots on south side				remove	3

Tree Summary Table

American Forest Management, Inc.

For: 3675 W Mercer Way
City of Mercer Island

Date: 8/2/2016 - Revised 1/12/2018
Inspector: Wilkinson

Tree/ Tag #	Species	DBH (inches)	Height (feet)	Drip-Line/Limits of Disturbance (feet)				Condition	Viability	Comments	Excep. Tree	>24" DBH	Excep. Grove	Proposal	# of Repl. Trees
				N	S	E	W								
121	Pacific madrone	28, 32	58	14 / 20	15 / 20	0 / 20	34 / 25	good	viable	some cankers, forks 4' from the ground	X	X	X	remove	6
122	red alder	9	45	3	12	5	15	fair	viable	leans west, broken top, small tree				remove	
123	paper birch	8	30	12	8	5	12	fair	viable	leans west, small tree				remove	
124	western hemlock	10	49	6	7	9	6	fair	viable	self corrected lean N, some soil plate lifting				remove	2
125	horse chestnut	21	82	8 / 10		15 / 10		fair	viable	ivy covering trunk			X	remove	6
126	horse chestnut	12	80	5 / 6		12 / 6		fair	viable	poor taper			X	remove	6
127	horse chestnut	16, 10, 5 (20)	84	8 / 10	10 / 10	5 / 10	15 / 10	fair	viable	ivy covering trunk, leans west			X	remove	6
128	horse chestnut	8, 4 (9)	25	9 / 6	4 / 6	6 / 6	5 / 6	fair	viable	covered in ivy, leans north, small tree				remove	
129	Lombardy poplar	33, 20 (38)	83	16	14	7	20	fair	viable		X	X		remove	6
130	yellow wood	7, 5, 5, 4 (11)	63	16 / 5	4 / 5	0 / 5	13 / 5	good	viable	forks at the base				remove	2
131	western red cedar	11	64	9 / 6		7 / 6	7 / 6	good	viable				X	retain	
132	western red cedar	14	60				5 / 7	good	viable				X	retain	
133	western red cedar	14, 2	65				4 / 8	good	viable				X	retain	
134	western red cedar	13	62				7 / 8	good	viable				X	retain	
135	western red cedar	17	64				6 / 9	good	viable				X	retain	
136	western red cedar	8	58	4 / 5	7 / 5		6 / 5	good	viable					retain	
137	western red cedar	17, 21 (27)	75	10 / 13	14 / 13	5 / 13	15 / 13	good	viable	codominant stems, moderate included bark		X	X	retain	
138	western red cedar	15	61	4 / 8	12 / 8	13 / 8	5 / 8	good	viable				X	retain	
139	apple	3, 4, 4	10	6 / 5	9 / 5	8 / 5	4 / 5	good	viable	small tree				remove	
140	mulberry	3, 3, 4, 5, 5, 5, 4 (11)	13	14 / 7	8 / 7	9 / 7	11 / 7	good	viable					remove	2
141	apple	8, 6, 4 (11)	12	10 / 6	10 / 6	10 / 6	8 / 6	fair	viable	cable around tree				remove	2
142	paper birch	14	66	14	12	8	15	fair	viable					remove	2
143	western red cedar	5	37	3 / 3	5 / 3	4 / 3	4 / 3	fair	viable	small tree				remove	

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				N	S	E	W								
144	western red cedar	11	56	5 / 6	11 / 3	8 / 6	13 / 6	good	viable				remove	2	
145	Norway spruce	11	35	5 / 6	9 / 6	7 / 6	8 / 6	good	viable				retain		
146	Norway spruce	17	71	8 / 9	9 / 9	9 / 9	12 / 9	fair	viable	thin crown, bleeding in upper trunk			retain		
147	bitter cherry	8	40	4 / 4	7 / 4	5 / 4	0 / 4	fair	viable	leans south, small crown, small tree			retain		
148	Norway spruce	9	42	7 / 5	11 / 5	9 / 5	8 / 5	good	viable	small tree			retain		
149	bitter cherry	16, 3	48	3 / 8	4 / 8	5 / 8	3 / 8	fair	viable	small crown			retain		
150	Norway spruce	16	69	6 / 8	10 / 8	8 / 8	10 / 8	good	viable				retain		
151	Norway spruce	7	56	5 / 4	3 / 4	2 / 4	3 / 4	fair	viable	thin crown, small tree			retain		
152	Norway spruce	10	55	4 / 5	9 / 5	5 / 5	5 / 5	good	viable				retain		
153	bitter cherry	7	28	3 / 4	5 / 4	8 / 4	4 / 4	fair	viable	crook in trunk, dieback in crown			retain		
154	bitter cherry	6, 5 (8)	48	2 / 5	5 / 5	3 / 5	9 / 5	fair	viable	forks at base, dieback, small tree			retain		
155	Norway spruce	4	38	6 / 4	6 / 4	7 / 4	5 / 4	good	viable	small tree			retain		
156	Douglas-fir	50	125	23 / 18	27 / 18	22 / 15	20 / 18	good	viable		X	X	retain		
157	Douglas-fir	26	103	8 / 14	7 / 14	6 / 14	7 / 14	good	viable		X	X	retain		
158	western red cedar	7	27	5 / 4	12 / 6	7 / 4	8 / 4	fair	viable	self corrected lean N, small tree			retain		
159	cherry laurel	6, 13, 8, 4, 4 (17)	25	8 / 8	6 / 8	8 / 8	17 / 8	fair	viable				retain		
160	Douglas-fir	22	89	8	13	10	12	fair	viable	mistletoe			remove	2	
161	cherry laurel	9	20	5 / 5	16 / 8	5 / 5	7 / 5	good	viable	forks at 4.5', shrub form, small tree			retain		
162	Douglas-fir	35	112	14	12	17	15	fair	viable		X	X	remove	6	
163	Douglas-fir	36	131	25	15	20	17	fair	viable	some butt swell, small planter	X	X	remove	6	
164	Douglas-fir	28	85	11	16	20	7	fair	viable	j-shaped trunk, small planter	X	X	remove	6	
Neighboring Trees															
111	Douglas-fir	31	115	14 / 15	9 / 15	10 / 18	15 / 15	good	viable				protect		
201	bitter cherry	7	42	16	0	0	22	fair	viable	leans west, cherry gummosis			protect		
202	Crimson King maple	28	80	6				good	viable				protect		
Neighboring Trees - 3661 W Mercer Way - Near Utility Trenching															
1801	apple	12	9	4	9	3	10	fair	viable	large cavity in lower trunk, topped			protect		
1802	Douglas fir	17	80	10 / 8	9 / 8	6 / 8	12 / 8	good	viable	healthy crown, semi-mature			protect		

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American Forest Management, Inc.

Date: 8/2/2016 - Revised 1/12/2018
Inspector: Wilkinson

Tree/ Tag #	Species	DBH (inches)	Height (feet)	Drip-Line/Limits of Disturbance (feet)				Condition	Viability	Comments	Excep. Tree	>24" DBH	Excep. Grove	Proposal	# of Repl. Trees
				N	S	E	W								
1803	green ash	13	54	3 / 7	10 / 7	5 / 7	7 / 7	good	viable	narrow crown, poor taper				protect	
1804	Douglas fir	18	84	6 / 7	9 / 9	3 / 9	10 / 7	good	viable	on steep slope, no defects				protect	
1805	big leaf maple	11	54	7 / 6	16 / 6	4 / 6	10 / 6	fair	viable	topped				protect	
1806	Douglas fir	23	92	7 / 10	12 / 10	6 / 10	11 / 10	good	viable	on steep slope, no defects				protect	

Drip-Line and Limits of Disturbance measurements from face of trunk

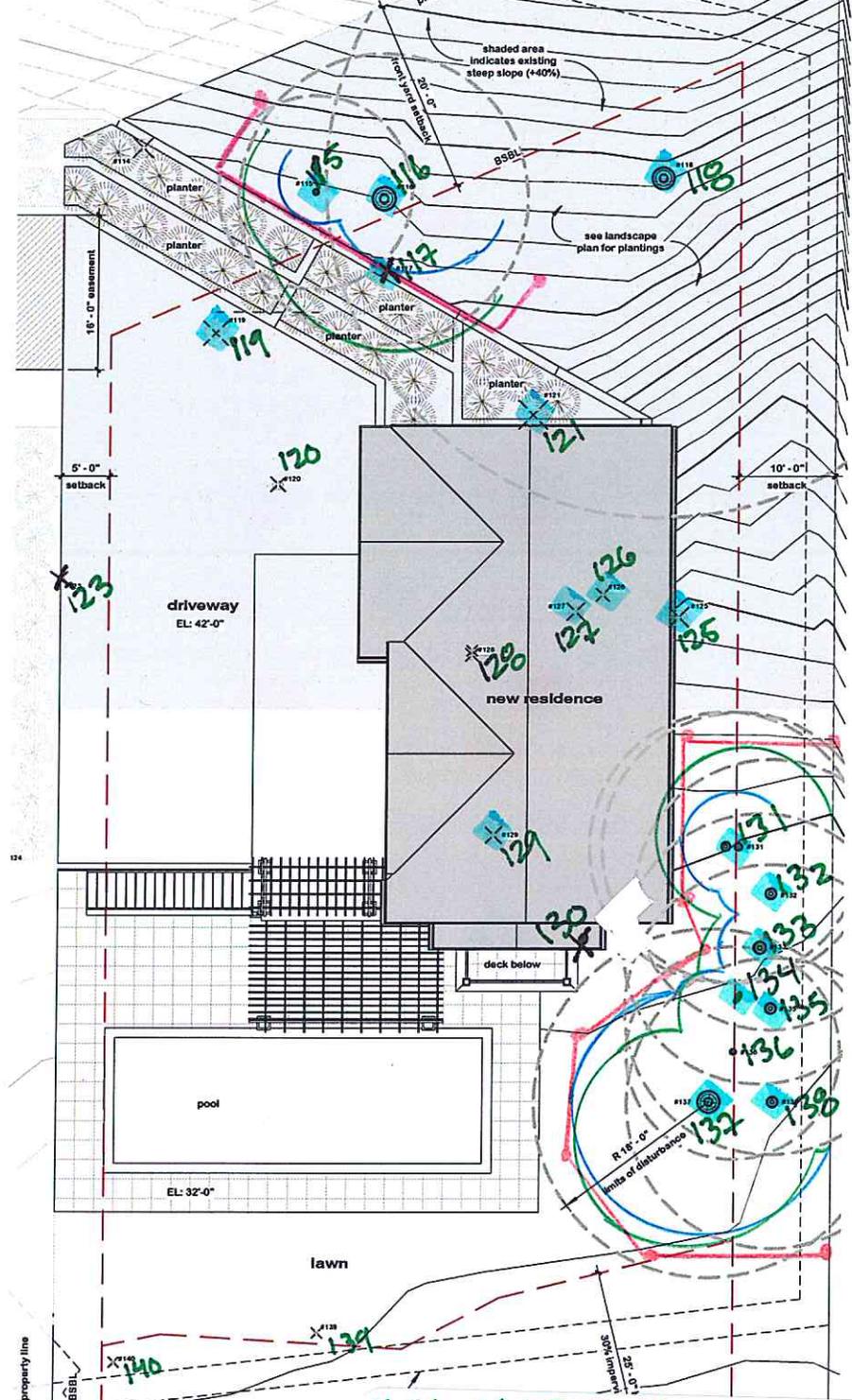
Total Number of Replacement Trees Required	97
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Trees on neighboring properties - Drip-line and Limits of Disturbance measurements from property lines

Calculated DBH: the DBH in parenthesis is the square root of the sum of the dbh for each individual stem squared
(example with 3 stems: dbh = square root [(stem1)² +(stem2)² +(stem3)²]).

TREE PROTECTION MAP - LOT C

sewer and drainage easement per survey



#116 - VIABLE TREE
APPROXIMATE SCALE:
1" = 18'
 --- DRIP-LINE
 --- LIMITS OF DISTURBANCE
 --- TREE PROTECTION FENCING
 ◆ - EXCEPTIONAL TREE OR GROVE

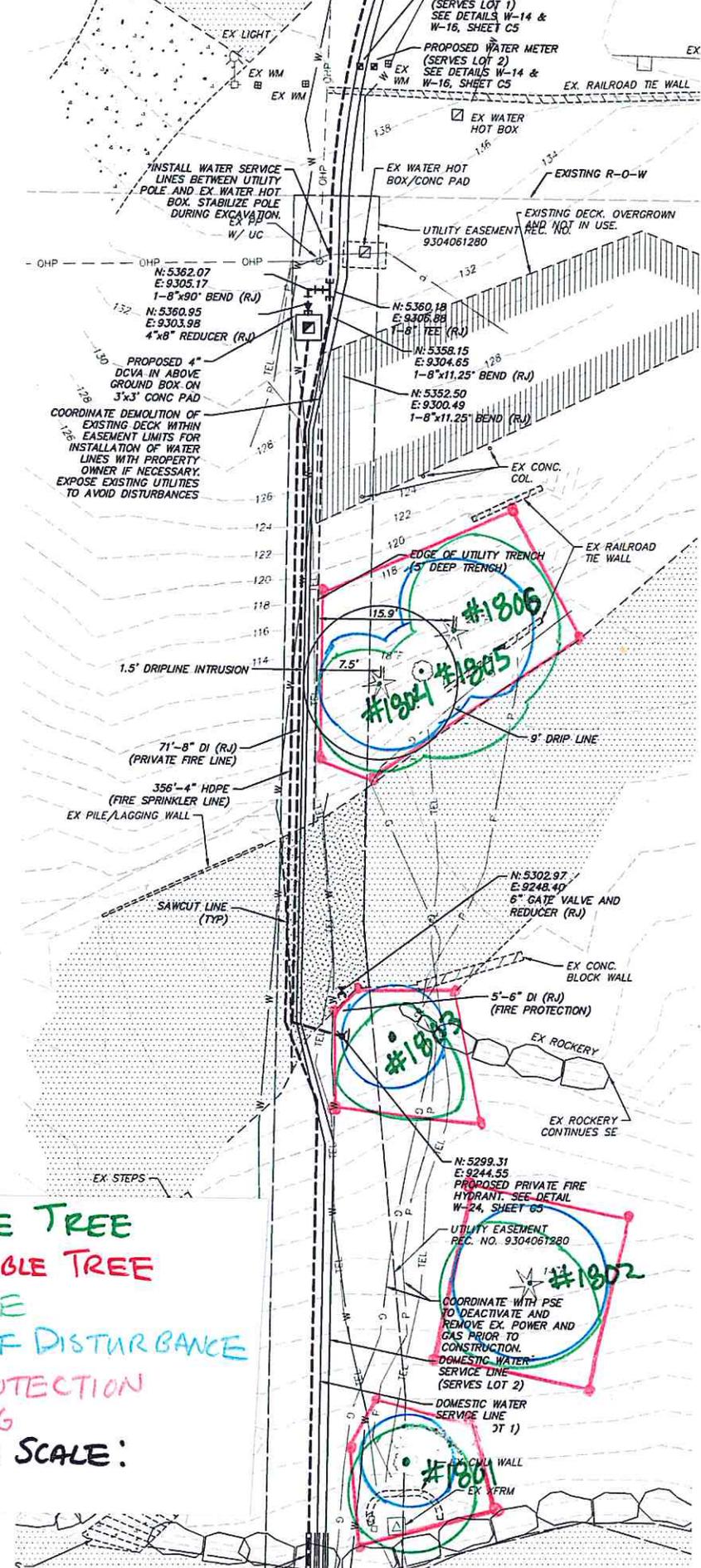
sewer and drainage easement per survey
 outline of (e) site features to be removed

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dock work under

TREE PROTECTION MAP

3661 W MERCER WAY



- #1802 - VIABLE TREE
 - #1801 - Non-VIABLE TREE
 - DRIP-LINE
 - LIMITS OF DISTURBANCE
 - TREE PROTECTION FENCING
- APPROXIMATE SCALE:
1" = 19'