



LAYTON TREE CONSULTING, LLC

ARBORIST REPORT/TREE PLAN

7621 SE 22nd Street
Mercer Island, WA



Report Prepared by:

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It's all about trees.....

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Photos, pages 8 - 15

Tree Summary Table

Tree Condition/Dripline Map

Assignment

Layton Tree Consulting, LLC was contacted by Milestone NW LLC, and was asked to compile an Arborist Report for a property on Mercer Island. The subject property is located at 7621 SE 22nd Street. My assignment is to prepare a written report on present tree conditions, and to provide appropriate recommendations for the protection of retained trees during development.

This report encompasses all of the criteria set forth under the City of Mercer Island's tree regulations, particularly Chapter 19.10 Trees, of the Unified Development Code Title 19. A 'Regulated' tree is any tree with a diameter of more than 10-inches or any tree that meets the definition of an 'Exceptional' tree.

Date of Field Examination: February 19, 2020

Description

25 'regulated' trees were identified and assessed on the subject property. These are comprised of a mix of planted and native species. 12 of the subject trees are Douglas fir.

Two off-site or neighboring trees were also assessed. These exist within a proximity of the west property line. Based on the survey, Tree #102 appears to be located on the subject property side of the boundary line. Tree #23 is located on the north property line.

A numbered aluminum tag was attached to the lower trunks of all assessed trees. These tag numbers correspond with the numbers on the Tree Summary Table and attached map. The Tree Summary Table provides detailed information for all of the subject trees.

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 or canopy of the tree is examined for current vigor/health by examining the foliage for appropriate color and density, the vegetative buds for color and size, and the branches for structural form and annual shoot growth; and the overall presence of limb dieback and/or any disease issues.

The trunk or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insect pests, bleeding or exudation of sap, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects can include but are not limited to excessive or unnatural leans, crooks, forks with V-shaped crotches, multiple attachments.

The root collar and exposed surface roots are inspected for the presence of decay, insect damage, as well as if they have been injured or wounded, undermined or exposed, or the original grade has been altered.

Based on these factors a determination of condition is made.

Judging Condition

The three condition categories are described as follows:

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 to moderate 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 cause 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

Judging Retention Suitability

Not all trees necessarily warrant retention. The three retention suitability categories as described in ANSI A300 Part 5 (Standard Practices for the Management of Trees During Site Planning, Site Development and Construction) are as follows:

Good – trees are in good health condition and structural stability and have the potential for longevity at the site

Fair – trees are in fair health condition and/or have structural defects that can be mitigated with treatment. These trees may require more intense management and monitoring, and may have shorter life-spans than those in the “good” category.

Poor – trees are in poor health condition and have significant defects in structure that cannot be mitigated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess characteristics that are incompatible or undesirable in landscape settings or be unsuited for the intended use of the site.

Observations

No ‘poor’ condition or high-risk trees were identified on the subject property. With the exception of Tree #7, all assessed trees are in fair to good condition. The attached map indicates the condition of subject trees. Tree #7 is a semi-mature Scouler’s willow. It is suppressed by the larger surrounding trees. There is obvious decay at the root crown. Condition is rated as ‘fair-to-poor’.

The Douglas fir is of fairly good vigor. The larger Douglas fir have been topped in the past, many years ago. Most have developed new or regenerated tops. These tops appear structurally sound and have a low risk of failure. The lower trunks are sound and free of any outward indicators of internal stem decay. A few have typical cambial ruptures on the lower trunks, evidenced by the pitching or bleeding of sap.

The subject bigleaf maples have developed typical form and structure. Tree #6 is a semi-mature bigleaf maple close to the west property line. It has an asymmetric crown to the west onto the neighboring property. Vigor is fair.

Trees #9, #10 and #11 are young planted Deodar cedar on the south perimeter. All are of good vigor and in good condition.

The Western red cedar is of fairly good vigor. Foliage is of normal color and density. The foliage in the upper crown of Tree #101 is a little sparse. The lower trunks are sound and free of any outward indicators of internal stem decay.

Tree #19 is a young to semi-mature cultivated variety of horse chestnut. No concerning defects were observed. It has developed fairly good form and is of good vigor.

Tree #23 is a mature shore pine at the front of the property. It has multiple forked tops. It has been pruned back in the past for power line clearance.

Discussion/Recommendations

The extent of driplines (farthest reaching branches) for the subject trees can be found on the tree summary table at the back of this report. The driplines have been delineated on the attached map. The information on the attached maps and in this report shall be used by the project architect to create the final tree retention plan sheet for City submittal, once the final site design has been completed.

The recommended Limit of Disturbance (LOD) measurements can also be found on the tree summary table for trees where retention may be feasible. The LOD measurements are based on species, age, condition, drip-line, prior improvements, proposed impacts and the anticipated cumulative impacts to the entire root zone. This is the maximum allowable encroachment. Encroachment (soil excavations) beyond the LOD is likely to cause decline or compromise long-term structural stability. These measurements shall be referenced when determining tree retention feasibility. The information on the map shall be used to site structures and utilities in an effort to retain trees.

Trees #12 through #18 and #25 may comprise an 'exceptional' grove on the east side of the property. Some of these could be removed without compromising the stability of trees to remain.

There are several trees on the site perimeter that are well-suited for successful retention. These might include Trees #2, #4, #5, #6, #8 > #11, #16, #18, #21, #23, #24 and #25.

The project arborist shall be on-site to monitor any excavation within the drip-lines of retained trees so necessary precautions can be taken to maintain these in a viable condition. Care shall be taken when working near trees to protect soils and surface roots that likely extend beyond the drip-line. Cover areas with a protective 6 to 8-inch layer of wood chips or hog fuel to protect soils from compaction and damage to surface roots.

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. Standards have been set forth under MICC 19.10.080. Please review these standards prior to any development activity.

- Tree protection fencing shall be erected per attached tree plan 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.
- Excavation limits shall be laid out in paint on the ground to avoid over excavating.
- Excavations within the driplines 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 within the drip-line or critical root zone.
- To establish sub grade for foundations, curbs and pavement sections near the trees, soil shall 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.
- Areas excavated within the drip-line of retained trees shall be thoroughly irrigated weekly during dry periods.
- 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 at all times.

Tree Replacement

Replacement trees may be required per 19.10.070 Tree Replacement. The replacement ratios per tree removed are as follows:

Trees less than 10-inches in diameter = 1:1

Trees 10-inches to 24-inches = 2:1

Trees 24-inches to 36-inches = 3:1

Any 'Exceptional' tree = 6:1

Consult with your City planner for final tree replacement requirements. All replacement trees are to be planted on site. Replacement trees shall be at a minimum – 1 ½ inch caliper for deciduous species and 6 feet in height for coniferous species.

The most appropriate locations for tree replacement are on the undisturbed perimeters of the site. Perimeters can be enhanced with native tree plantings of coniferous species to provide screening between

residential properties and to maintain the wooded character of the area. Recommended species include western red cedar, grand fir, shore pine and Douglas-fir.

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine and assess trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risks associated with living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that grow, respond to their environment, mature, decline and sometimes fail in ways we do not fully understand. Conditions are often hidden within trees and below ground.

Arborists cannot guarantee that a tree will be healthy and/or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed. Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Photo Documentation

Front of property, Tree #1 on right, Trees #23 and #24 on left



Trees #4, #5, #6 and #7



Lower trunks of trees on west perimeter, note rot at root crown of Tree #7, Tree 31 and #2 in background



Trees on west perimeter, looking north, Tree #6 (maple) with lean to west towards neighbor



Tree #8 in southwest corner of property



Back of property, Trees #101 and #102 on left



Trees #9, #10 and #11 on south perimeter



Lower trunks of young Deodar cedar trees



Tree #12 on east perimeter



Tree #13 located close to existing structure



Grouping of trees in northeast portion of property



Lower trunk of Tree #21



Trees #20, #21 and #22 at front of property



Trees #23 and #24 at front of property



Tree #25 on east property line



Looking south down east property line





Layton Tree Consulting LLC

For: Milestone NW
 Site: 7621 SE 22nd Street - Mercer Island

Tree Summary Table

Date: 2/19/2020

Tree/ Tag #	Species Common	Species Scientific	DBH (inches)	Height (feet)	DripLine/Limit of Disturbance (feet)				Condition	Exceptional Yes/No	Comments	Proposal
					N	S	E	W				
1	Douglas fir	<i>Pseudotsuga menziesii</i>	30	120	12/12	12/12	15/10	12	Fair-good	Yes	topped in past	Save
2	Douglas fir	<i>Pseudotsuga menziesii</i>	28	113	8/10	15/12	10/10	16	Fair-good	No	topped in past, crook, regenerated top, cambial rupture	Save
3	Deodar cedar	<i>Cedrus deodara</i>	23	96	10/10	17/12	20/12	6	Good	No	asymmetric crown to southeast	Remove
4	Douglas fir	<i>Pseudotsuga menziesii</i>	18	79	7/8	12/10	13/10	0	Fair	No	asymmetric crown, somewhat suppressed	Save
5	Douglas fir	<i>Pseudotsuga menziesii</i>	40	116	17/12	16/12	16/12	18	Good	Yes	topped in past	Save
6	bigleaf maple	<i>Acer macrophyllum</i>	18	30	14/10	12/10	0/10	18	Fair	No	trunk forks at 4 feet, asymmetric crown to west	Save
7	Scoulers willow	<i>Salix scouleriana</i>	9	32	2/6	11/8	6/6	4	Fair-poor	Yes	decay at root crown, suppressed	Save
8	Douglas fir	<i>Pseudotsuga menziesii</i>	26	93	13/12	16	17/12	14	Fair-good	No	large crook, large exposed surface roots, good vigor	Save
9	Deodar cedar	<i>Cedrus deodara</i>	11	44	12/8	10	10	10/8	Good	No	young, no concerns	Save
10	Deodar cedar	<i>Cedrus deodara</i>	12	45	11/8	10	10	11	Good	No	young, no concerns	Save
11	Deodar cedar	<i>Cedrus deodara</i>	12	46	10/8	10	11/8	9	Good	No	young, no concerns	Save
12	Western red cedar	<i>Thuja plicata</i>	29	70	14/14	14/14	16	16/12	Good	Yes, Grove	exposed surface roots, good vigor	Remove
13	Douglas fir	<i>Pseudotsuga menziesii</i>	38	101	16/16	15/15	15	13/5	Fair-good	Yes	topped in past, large cambial rupture, 4 feet to house	Save
14	bigleaf maple	<i>Acer macrophyllum</i>	18	60	6/8	18/12	8	14/8	Fair	Yes, Grove	asymmetric crown to south	Remove
15	Douglas fir	<i>Pseudotsuga menziesii</i>	21	95	6/10	11/11	6	10/10	Fair	Yes, Grove	natural lean south, topped in past	Remove
16	Douglas fir	<i>Pseudotsuga menziesii</i>	27	62	7/10	12/12	12	5/10	Fair	Yes, Grove	broken top, small crown	Save
17	Douglas fir	<i>Pseudotsuga menziesii</i>	26	103	14/10	8/10	12	8/10	Fair	Yes, Grove	topped in past, crook, regenerated top	Remove
18	bigleaf maple	<i>Acer macrophyllum</i>	9,7 (11)	51	12/8	8/8	14	6/8	Fair	Yes, Grove	poor taper, some dead cambium on 12 inch stem	Remove
19	horse chestnut	<i>Aesculus hippocastanum</i>	14	47	15/10	12/10	8/8	16/10	Fair-good	No	decent form	Remove
20	bigleaf maple	<i>Acer macrophyllum</i>	12,9,8 (17)	61	12/10	4/10	18/10	8/10	Fair	No	somewhat suppressed	Remove
21	Douglas fir	<i>Pseudotsuga menziesii</i>	19	86	7/10	7/10	9/10	7/10	Fair	No	narrow crown, large cambial rupture	Save
22	Douglas fir	<i>Pseudotsuga menziesii</i>	40	94	16/12	15/15	16/16	17/16	Fair-good	Yes	topped in past, crook, regenerated top	Save
24	Western red cedar	<i>Thuja plicata</i>	10	20	8/8	12/12	10/8	10/10	Fair	No	suppressed, under pine	Save
25	Douglas fir	<i>Pseudotsuga menziesii</i>	30	118	10/12	13/13	16	12/12	Fair-good	Yes	topped in past, good vigor	Save
NEIGHBORING TREES												
23	shore pine	<i>Pinus contorta</i>	22	65	10/10	16/12	10/10	11/10	Fair	Yes	forked tops	Save
101	Western red cedar	<i>Thuja plicata</i>	32	88	2/0	NA	12/8	NA	Fair-good	Yes	sparse top foliage, sound	Protect
102	Western red cedar	<i>Thuja plicata</i>	13	45	8	10	10/8	NA	Good	No	boundary line tree, good vigor	Protect

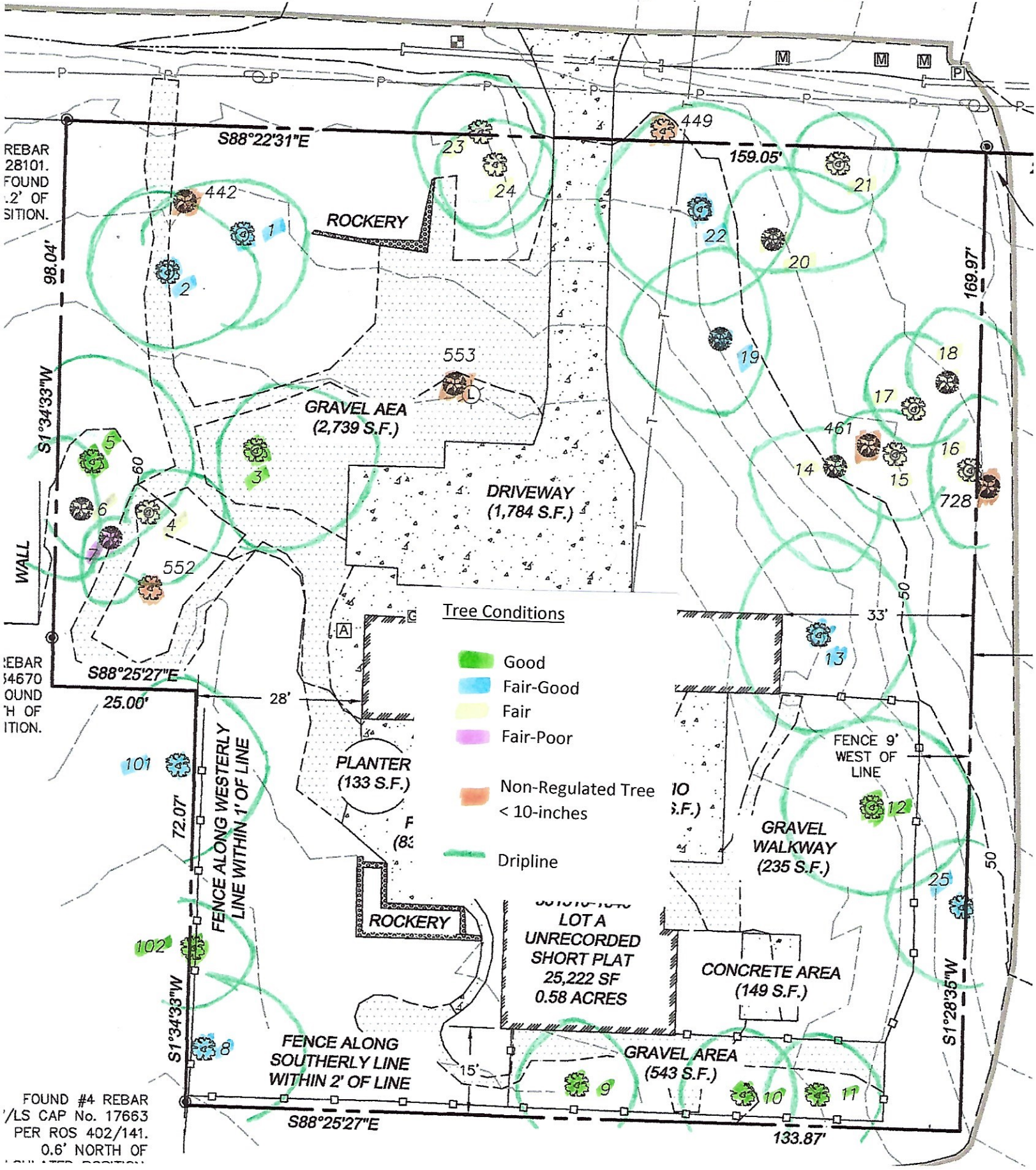
Drip-Line measurements from face of trunk

Measurements for neighboring trees from property line

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]).

TBD - to be determined

7621 SE 22ND ST - TREE CONDITIONS/DRIPLINE MAP



APPROX. SCALE
1" = 21'