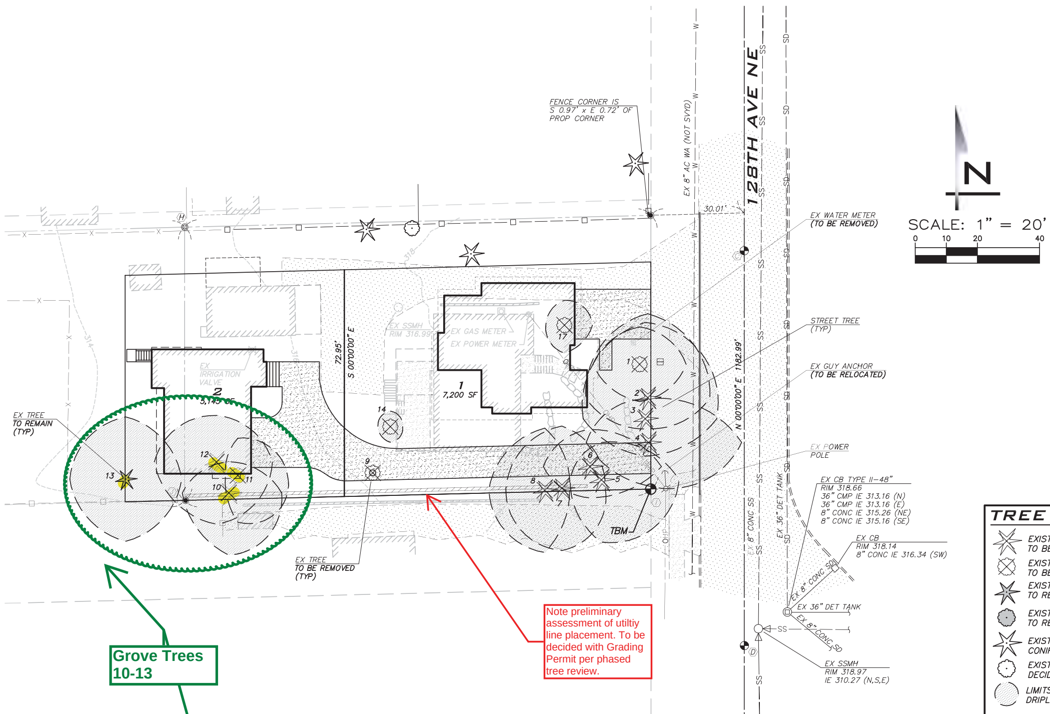
Exhibit F

Attachment 4 Tree Retention Plan and Arborist Report
SUB14-01032

Exhibit F--Grove (trees 10-13) per approved
Tree Retention Plan
Appeal of two short plats:
Avalon East : SUB14-01032
Avalon West: SUB14-01033

SW 1/4, SEC 17, TWP 25N, RGE 3E , W.M.

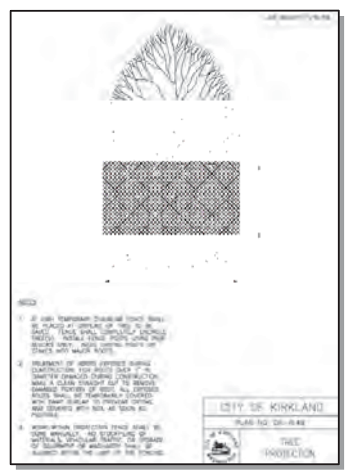


TREE LEGEND

- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE REMOVED
- EXISTING CONIFEROUS TREE TO REMAIN
- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING OFF-SITE CONIFEROUS TREE
- EXISTING OFF-SITE DECIDUOUS TREE
- LIMITS OF DISTURBANCE/ DRIPLINE

TREE TABLE

TREE #	BOTANICAL NAME	COMMON NAME	DSH (INCHES)	HEALTH CONDITION	STRUCTURAL CONDITION	LIMITS OF DISTURBANCE	DRIP LINE RADIUS (FEET)				PROPOSED ACTION	CREDITS	NOTES
							W	E	N	S			
1	ACER CIRCINATUM	VINE MAPLE	9	FAIR	POOR	DRIP LINE	15	15	12	12	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	CLUSTER, WIDE SPREAD, NO CENTRAL LEAD & MULTIPLE DEAD LEADS
2	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	22.9	GOOD	FAIR	DRIP LINE	20	23	27	10	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED AT APPX. 20 FEET, 2 NEW CENTRAL LEADS 40 FEET TALL-1 SUBORDINATED WITH GIRDLING BRANCH
3	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	21.9	GOOD	FAIR	DRIP LINE	20	23	31	12	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED-NEW LEAD APPX. 50 FEET TALL
4	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	26.9	GOOD	POOR	DRIP LINE	20	30	14	14	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	SOUTH SIDE-LOOKS TO BE DAMAGED ON COMPRESSION SIDE, BARK POP AT SHEAR PLAIN ON NORTH LEAD
5	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	22.5	GOOD	FAIR	DRIP LINE	10	25	12	20	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED, 3 LEADS-1 DAED, TALLEST 50 FEET TALL, DECAYED STUMP, SLIGHT RESIN STREAM, STUB CUT & KINK ON TOP OF MAIN LEAD
6	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	17	GOOD	POOR	DRIP LINE	15	12	23	10	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED, NEW 40 FOOT LEAD-MAJOR STRESS RISER
7	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	22.3	GOOD	FAIR	DRIP LINE	18	14	20	20	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED, GROWTH 60 FEET TALL, RIDGE BETWEEN LEADS & U-SHAPED
8	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	17.2	GOOD	FAIR	DRIP LINE	18	8	20	20	REMOVE (NONVIABLE STRUCTURAL CONDITIONS)	0	TOPPED, 2 NEW LEADS 50 FEET TALL, FIBER BUCKLING ON COMPRESSION SIDE OF MAIN NEW LEAD
9	PRUNUS SPECIES	CHERRY	7	POOR	POOR	DRIP LINE	1	1	1	1	REMOVE (HEALTH)	0	OVER MATURE & IN DECLINE, DISEASED
10	TSUGA HETEROPHYLLA	WESTERN HEMLOCK	20	GOOD	FAIR	DRIP LINE	15	17	10	20	REMOVE (DRIVEWAY)	0	MULTIPLE TOPS-NARROW ANGLE OF ATTACHMENT
11	CORNUS FLORIDA	FLOWERING DOGWOOD	8.5	FAIR	FAIR	DRIP LINE	4	16	12	15	REMOVE (DRIVEWAY)	0	CANOPY OVERWHELMED BY ADJACENT CONIFERS, ANTHRACNOSE
12	THUJA PLICATA	WESTERN RED CEDAR	28	GOOD	GOOD	DRIP LINE	20	18	15	20	REMOVE (DRIVEWAY)	0	N/A
13	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	29.5	GOOD	GOOD	DRIP LINE	18	18	20	20	REMAIN	11	HANGERS-CROWN CLEANING NEEDED IF RETAINED
14	ACER PALMATUM	JAPANESE MAPLE	6.4	FAIR	FAIR	DRIP LINE	4	4	5	5	REMOVE (GRADING)	0	MULTIPLE TOPS-NARROW ANGLE OF ATTACHMENT WITH INCLUDED BARK
17	CORNUS FLORIDA	FLOWERING DOGWOOD	7.2	GOOD	GOOD	DRIP LINE	6	9	8	9	REMOVE (HOME)	0	SLOW GROW



TREE PROTECTION MEASURES

1. TREE PROTECTION FENCES WILL NEED TO BE PLACED AROUND EACH TREE OR GROUP OF TREES TO BE RETAINED.
   A. TREE PROTECTION FENCES ARE TO BE PLACED ACCORDING TO CITY STANDARD PLAN NO. CK-R.49 AND AS NOTED IN THE TREE INVENTORY/CONDITIONS SPREADSHEET, COLUMN 7 – LIMITS OF DISTURBANCE (SEE ARBORIST REPORT DATED 3/3/14).
   B. TREE PROTECTION FENCES MUST BE INSPECTED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION WORK/ACTIVITIES.
   C. NOTHING MUST BE PARKED OR STORED WITHIN THE TREE PROTECTION FENCES--NO EQUIPMENT, VEHICLES, SOIL, DEBRIS, OR CONSTRUCTION SUPPLIES OF ANY SORTS.

2. CEMENT TRUCKS MUST NOT BE ALLOWED TO DEPOSIT WASTE OR WASH OUT MATERIALS FROM THEIR TRUCKS WITHIN THE TREE PROTECTION FENCES.

3. THE TREE PROTECTION FENCES NEED TO BE CLEARLY MARKED WITH THE FOLLOWING OR SIMILAR TEXT IN FOUR INCH OR LARGER LETTERS:

   TREE PROTECTION AREA, ENTRANCE PROHIBITED
   TO REPORT VIOLATIONS CONTACT
   CITY CODE ENFORCEMENT AT
   425-587-3225

4. THE AREA WITHIN THE TREE PROTECTION FENCING MUST BE COVERED WITH WOOD CHIPS, HOG FUEL, OR SIMILAR MATERIALS TO A DEPTH OF 8 TO 10 INCHES. THE MATERIALS SHOULD BE PLACED PRIOR TO BEGINNING CONSTRUCTION AND REMAIN UNTIL THE TREE PROTECTION FENCING IS TAKEN DOWN.

5. WHEN EXCAVATION OCCURS NEAR TREES THAT ARE SCHEDULED FOR RETENTION, THE FOLLOWING PROCEDURE MUST BE FOLLOWED TO PROTECT THE LONG TERM SURVIVABILITY OF THE TREE:
   A. AN INTERNATIONAL SOCIETY OF ARBORICULTURE, (ISA) CERTIFIED ARBORIST MUST BE WORKING WITH ALL EQUIPMENT OPERATOR.
      I. THE CERTIFIED ARBORIST SHOULD BE OUTFITTED WITH A SHOVEL, HAND PRUNERS, A PAIR OF LOPPERS, A HANDSAW, AND A POWER SAW (A "SAWSALL" IS RECOMMENDED).
   B. THE HOE MUST BE PLACED TO "COMB" THE MATERIAL DIRECTLY AWAY FROM THE TRUNK AS OPPOSED TO CUTTING ACROSS THE ROOTS.
      I. COMBING IS THE GRADUAL EXCAVATION OF THE GROUND COVER PLANTS AND SOIL IN DEPTHS THAT ONLY EXTEND AS DEEP AS THE TINES OF THE HOE.
   C. WHEN ANY ROOTS OF ONE INCH DIAMETER OR GREATER, OF THE TREE TO BE RETAINED, IS STRUCK BY THE EQUIPMENT, THE CERTIFIED ARBORIST SHOULD STOP THE EQUIPMENT OPERATOR.
   D. THE CERTIFIED ARBORIST SHOULD THEN EXCAVATE AROUND THE TREE ROOT BY HAND/SHOVEL AND CLEANLY CUT THE TREE ROOT.
      I. THE CERTIFIED ARBORIST SHOULD THEN INSTRUCT THE EQUIPMENT OPERATOR TO CONTINUE.

6. PUTTING UTILITIES UNDER THE ROOT ZONE:
   A. BORING UNDER THE ROOT SYSTEMS OF TREES (AND OTHER VEGETATION) SHALL BE DONE UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. THIS IS TO BE ACCOMPLISHED BY EXCAVATING A LIMITED TRENCH OR PIT ON EACH SIDE OF THE CRITICAL ROOT ZONE OF THE TREE AND THEN HAND DIGGING OR PUSHING THE PIPE THROUGH THE SOIL UNDER THE TREE. THE CLOSEST PIT WALLS SHALL BE A MINIMUM OF 7 FEET FROM THE CENTER OF THE TREE AND SHALL BE SUFFICIENT DEPTH TO LAY THE PIPE AT THE GRADE AS SHOWN ON THE PLAN AND PROFILE.
   B. TUNNELING UNDER THE ROOTS OF TREES SHALL BE DONE UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST IN AN OPEN TRENCH BY CAREFULLY EXCAVATING AND HAND DIGGING AROUND AREAS WHERE LARGE ROOTS ARE EXPOSED. NO ROOTS 1 INCH IN DIAMETER OR LARGER SHALL BE CUT.
   C. THE CONTRACTOR SHALL VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF EXISTING UTILITIES TO AVOID CONFLICTS AND MAINTAIN MINIMUM CLEARANCES; ADJUSTMENT SHALL BE MADE TO THE GRADE OF THE NEW UTILITY AS REQUIRED.

7. WATERING:
   A. THE TREES WILL REQUIRE SIGNIFICANT WATERING THROUGHOUT THE SUMMER AND EARLY FALL IN ORDER TO SURVIVE LONG-TERM. AN EASY AND ECONOMICAL WATERING CAN BE DONE USING SOAKER HOSES PLACED THREE FEET FROM THE TRUNK OF THE TREE AND SPIRALED AROUND THE TREE. ONE 75-FOOT SOAKER HOSE PER TREE IS ADEQUATE. IT IS BEST TO PLACE THE SOAKERS USING LANDSCAPE STAPLES, (AVAILABLE FROM HD FOWLER IN BELLEVUE FOR PENNIES APIECE) THEN COVER THE AREA WITH TWO TO THREE INCHES COMPOSED MATERIALS. THE COMPOSTED MATERIAL WILL ACT AS A MULCH TO MINIMIZE EVAPORATION AND WILL ALSO STIMULATE THE MICROBIAL ACTIVITY OF THE SOIL WHICH IS ANOTHER BENEFIT TO THE HEALTH OF THE TREE.
   B. WATER THE TREE TO A DEPTH OF 18 TO 20 INCHES. I RECOMMENDED LEAVING THE WATER ON THE SOAKER HOSES FOR SIX TO EIGHT HOURS AND THEN DIGGING DOWN TO DETERMINE HOW DEEP YOUR WATER IS PENETRATING. THEN ADJUST ACCORDINGLY. IT MAY TAKE A GOOD TWO DAYS OF WATERING TO REACH THE PROPER DEPTH.
   C. ONCE THE WATER REACHES THE PROPER DEPTH, TURN OFF THE HOSES FOR FOUR WEEKS AND THEN WATER AGAIN. WATER MORE OFTEN WHEN TEMPERATURES INCREASE--EVERY THREE WEEKS WHEN TEMPERATURES EXCEED 80 DEGREES AND EVERY TWO WEEKS WHEN TEMPERATURES EXCEED 90 DEGREES. THIS DRYING OUT OF THE SOIL IN BETWEEN WATERING IS IMPORTANT TO PREVENT SOIL PATHOGENS FROM ATTACKING THE TREES.

TREE RETENTION CALCULATIONS:

REQUIRED MIN. DENSITY = 30 CREDITS / ACRES * (0.28 AC) = 9 CREDITS

PROPOSED DENSITY = 11 CREDITS (AT PRELIMINARY SHORT PLAT SUBMITTAL)

ARBORIST NOTE

ARBORIST MAY BE REQUIRED TO BE ONSITE FOR WORK WITHIN TREE FENCING/LIMITS OF DISTURBANCE. CONTRACTOR TO FOLLOW ARBORIST'S RECOMMENDATIONS (IF REQUIRED) FOR WORK WITHIN THIS AREA.

DUST CONTROL

WHEN EXPOSED SOILS ARE DRY TO THE POINT THAT WIND TRANSPORT IS POSSIBLE, EXPOSED SOILS SHALL BE SPRAYED UNTIL WET BUT RUNOFF SHALL NOT BE GENERATED.

TESC NOTE

CONSTRUCTION DRAINAGE CONTROL SHALL BE MAINTAINED BY THE DEVELOPER AND WILL BE SUBJECT TO PERIODIC INSPECTIONS. DURING THE PERIOD FROM APRIL 1 TO OCTOBER 31, ALL DENUDED SOILS MUST BE COVERED WITHIN 15 DAYS; BETWEEN NOVEMBER 1 AND MARCH 31, ALL DENUDED SOILS MUST BE COVERED WITHIN 12 HOURS. IF AN EROSION PROBLEM ALREADY EXISTS ON THE SITE, OTHER COVER PROTECTION AND EROSION CONTROL WILL BE REQUIRED.

UNDERGROUND UTILITY NOTE

UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

BLUELINE
25 CENTRAL WAY, SUITE 400, KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.THEBLUELINEGROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: DEANNA L. MARTIN, PE
PROJECT ENGINEER: DEANNA L. MARTIN, PE
DESIGNER: A.J. O'NEILL
ISSUE DATE: 6/5/2014

NO	DATE	BY	REVISIONS

TREE RETENTION PLAN
AVALON EAST
PARCEL # 6743700370
CITY OF KIRKLAND WASHINGTON

DEANNA L. MARTIN, STATE OF WASHINGTON, 42124, REGISTERED PROFESSIONAL ENGINEER
6/5/2014

JOB NUMBER: 14-101
SHEET NAME: TR-01
SHT 2 OF 2

22x34
Jun 05, 2014 – 9:57am – User aoneill
E:\Projects\14101\DWG\Preliminary\14101 TR-01.dwg

Exhibit G--Grove with buildable area
Appeal of two short plats:
Avalon East : SUB14-01032
Avalon West: SUB14-01033

Attachment 2 Plans
SUB14-01032

SHEET: 1 OF 1

AVALON EAST - EAST

PORTION OF SE 1/4 OF SEC 33, TWP 26N, RGE 5E, WM

Subdivision
City of Kirkland

FILE NO:

LEGEND

- FOUND CONCRETE MONUMENT
- SET 1/2" REBAR/CAP #40524
- FOUND 1/2" REBAR/CAP AS NOTED
- SET AS NOTED
- UTILITY POLE
- UTILITY POLE WITH LUMINARE
- POWER METER
- GUY ANCHOR
- WATER METER
- HYDRANT
- WATER VALVE
- CATCH BASIN
- SANITARY SEWER MANHOLE
- GAS VALVE
- GAS METER
- W - APPROX. WATER LINE LOCATION
- S - APPROX. SANITARY SEWER LINE LOCATION
- OH- APPROX. OVERHEAD UTILITY LINE LOCATION
- (M) MEASURED DIMENSION
- (C) CALCULATED DIMENSION
- DECIDUOUS TREE
- CONIFEROUS TREE

CONTROL LEGEND

Ⓐ FOUND 4" x 4" CONCRETE MONUMENT WITH TACK IN LEAD IN CASE DOWN 0.60'

Ⓑ FOUND CONCRETE MONUMENT WITH TACK IN LEAD IN CASE DOWN 0.40'

Ⓒ FOUND CONCRETE MONUMENT WITH TACK IN LEAD IN CASE DOWN 0.40'

Ⓓ FOUND CONCRETE MONUMENT WITH BRASS TACK IN LEAD IN CASE DOWN 0.40'

Ⓔ FOUND 4" x 4" CONCRETE MONUMENT WITH 3" BRASS DISK WITH PUNCH IN CASE DOWN 0.60'

Ⓕ FOUND 4" x 4" CONCRETE MONUMENT WITH 2" BRASS DISK WITH PUNCH IN CASE DOWN 0.40'

Ⓖ SET 1/2" REBAR/CAP #40524 AT 0.30' OFFSET TO THE EAST. PROPERTY CORNER IS THE FENCE POST

Ⓗ FOUND 1/2" REBAR/CAP #14490 WITH TACK AT CALCULATED POSITION

Ⓘ FOUND 1/2" REBAR/CAP #40524 AT CALCULATED POSITION

ZONING

RSX 7.2

BASIS OF BEARINGS

NORTH ALONG THE MONUMENTED CENTER LINE OF 128TH AVENUE NORTHEAST.

DATUM

NAVD88
DESIGNATION: RED48
DB ID: 43315
DESCRIPTION: BRASS DISK IN CONCRETE STAMPED "CITY OF REDMOND BM 48 C.O.R."
LOCATION: IN THE SOUTHEAST ANGLE OF THE INTERSECTION OF NORTHEAST 104TH STREET AND 132ND AVENUE NORTHEAST.
ELEVATION: 334.247

REFERENCES

-LEE STREET SHORT PLAT RECORDED IN VOLUME 209,
-PLAT OF H.C. PETTIT'S ALDER GROVE RECORDED IN VO

NOTES

INSTRUMENTATION FOR THIS SURVEY WAS A SOKKIA 530R TOTAL STATION.

PROCEDURES USED WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090.

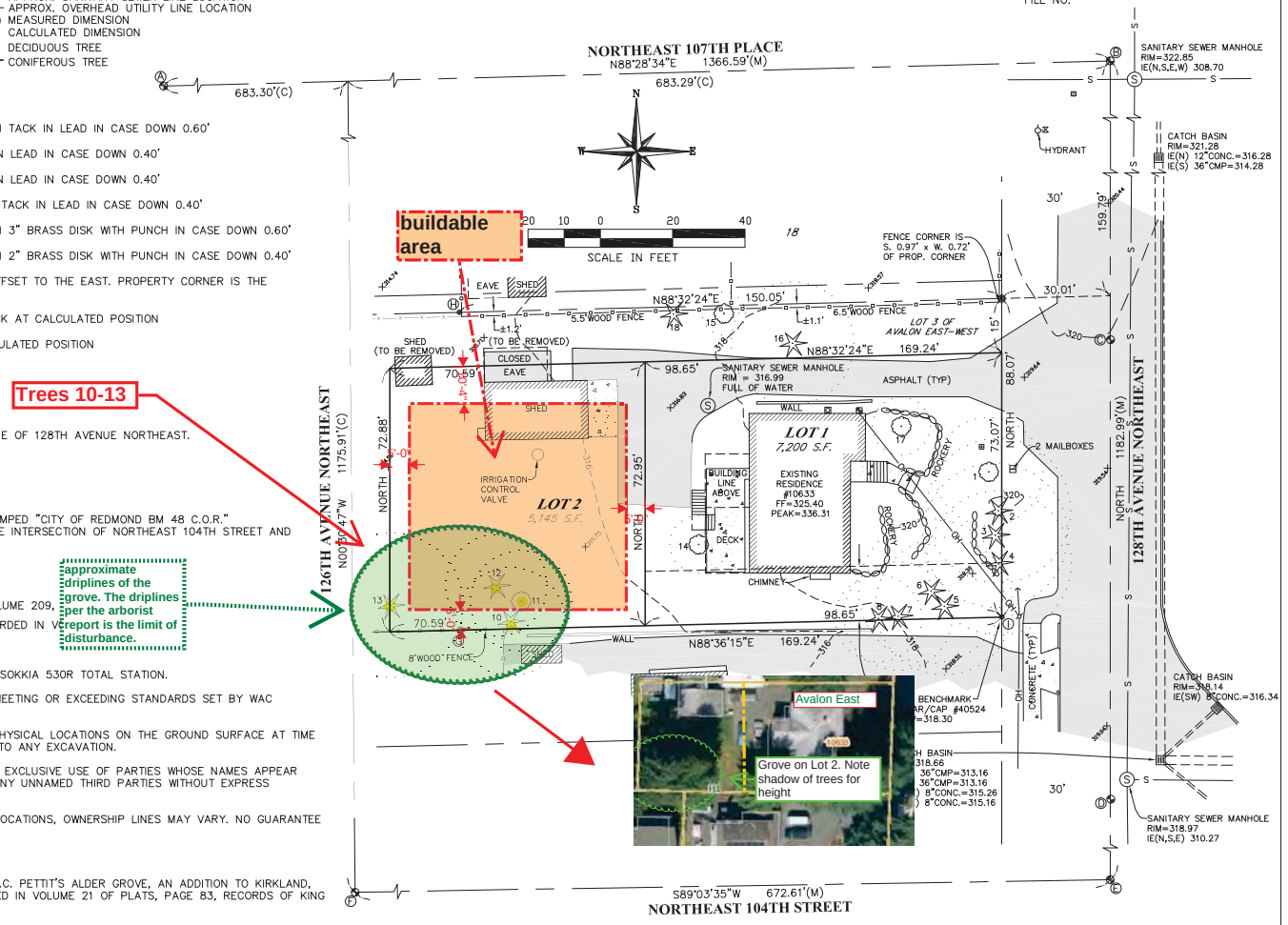
ALL UTILITIES SHOWN WERE DERIVED FROM PHYSICAL LOCATIONS ON THE GROUND SURFACE AT TIME OF SURVEY. CONTRACTOR TO VERIFY PRIOR TO ANY EXCAVATION.

THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PARTIES WHOSE NAMES APPEAR HEREON ONLY, AND DOES NOT EXTEND TO ANY UNNAMED THIRD PARTIES WITHOUT EXPRESS RECERTIFICATION BY THE LAND SURVEYOR.

BOUNDARY LINES SHOWN REPRESENT DEED LOCATIONS, OWNERSHIP LINES MAY VARY. NO GUARANTEE OF OWNERSHIP IS EXPRESSED OR IMPLIED.

LEGAL DESCRIPTION

THE EAST 150 FEET OF LOT 17, BLOCK 4, H.C. PETTIT'S ALDER GROVE, AN ADDITION TO KIRKLAND, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 21 OF PLATS, PAGE 83, RECORDS OF KING COUNTY, WASHINGTON.
EXCEPT THE NORTH 5 FEET;
AND EXCEPT THE SOUTH 31.66 FEET THEREOF.



approximate driplines of the grove. The driplines per the arborist report is the limit of disturbance.

SURVEYOR'S CERTIFICATE

This map correctly represents a survey, made by me or under my direction, in conformance with the requirements of the Survey Recording Act at the request of Merit Homes, Inc. in February, 2014.

Surveyor

Certificate No. 40524

JAMES R. WATKINSON — STATE OF WASHINGTON — 40524 — REGISTERED PROFESSIONAL LAND SURVEYOR — EXPIRES: 1/4/15 — 10/23/2014

CITY OF KIRKLAND WASHINGTON

PRELIMINARY SUBDIVISION
FOR
MERIT HOMES, INC.

SCALE: 1" = 20'
DATE: 10/23/2014

JOB NO.: 14007

Allied Land Surveying, Inc.
2312 168th Street Southeast
Bothell, Washington 98012
(P) 425-482-0223 (F) 425-482-0224

Exhibit H--initial arborist report Tree Solutions
Appeal of two short plats:
Avalon East : SUB14-01032
Avalon West: SUB14-01033

Tree Solutions Inc
Consulting Arborists

TO:	Josh Lysen, Vice President Merit Homes
JOB SITE:	Avalon East & West - 10633 128th Ave NE, Kirkland, WA 98033
SUBJECT:	Tree Inventory & Assessment
DATE:	March 3, 2014; Revised May 27, 2014
PREPARED BY:	Sean Dugan, Registered Consulting Arborist #457 ISA Certified Board Certified Master Arborist PN-5459B ISA Qualified Tree Risk Assessor

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Contents

Summary

I identified nineteen (19) significant size trees existing on the job site. Nine (9) of the trees are not viable due to poor health and/or non-viable structure. The total square footage of the two areas is 27,301 square feet. The Kirkland Zoning Code (95.33) requires a minimum tree density of 18.9 tree credits. I calculated the tree density credits for the remaining ten (10) trees to be 51 credits. Site development plans will need to be created to determine which trees can be preserved.

Two (2) trees on adjacent properties to the southwest and northeast have canopies that overhang the job site. These trees are unlikely to be negatively impacted due to being located far from the job site.

Assignment & Scope of Report

This report outlines the site inspection by Sean Dugan, of Tree Solutions Inc., on February 18, 2014. I was asked to conduct a site visit to inventory all significant trees with descriptions of species, diameter size, health and structural condition, limits of disturbance, drip line radius, proposed action, tree credit values and notes for each tree. I was asked to develop a formal arborist report addressing city of Kirkland requirements for tree preservation.

Included in the report are observations from the site located at 10633 128th Ave NE, discussion, and recommendations. Josh Lysen, Vice President of Merit Homes, requested these services to acquire information for project planning in accordance with requirements set by the city of Kirkland.

Limits of Assignment

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

I did not have permission to access the adjacent properties. Additional Assumptions and Limiting Conditions can be found in Appendix A.

Methods

I was provided with a site survey showing tree locations, which can be found in Appendix B. Numbers on the site survey correspond to those in the attached Table of Trees. Trees on adjacent properties with overhanging canopies are labeled on the survey using letters A and B. Measurements provided for these two trees are estimates as I did not have permission to access those sites.

I measured the diameter of each tree at standard height (DSH), typically 54-inches above grade. For multi-stemmed trees I calculated the equivalent single-stem equivalent diameter using the Guide to Trunk Area outlined in the Guide for Plant Appraisal (9th Edition).

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. Trees react to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. (Mattheck & Breloer 1994) Understanding uniform stress allows me to make informed judgments about the condition of a tree.

Observations & Discussion

The Site

The site is comprised of two areas running east and west. The total square footage of both lots is 27,301 square feet. The lots are located in a residential neighborhood in the city of Kirkland. There are no environmentally critical areas or sensitive areas listed for the property.

The west lot is undeveloped and measured to be 14,104 square feet in size. The topography of the site is generally flat. The lot contains two of the nineteen significant trees inventoried.

The east lot is developed with an existing single family structure. The total area of this lot measures 13,197 square feet in size. The topography of this site is generally flat. There are seventeen significant-sized trees.

The adjacent site trees are located to the northeast and the southwest. Only a small portion of the canopies overhang the job site. The trees stand sufficiently away from the job site and the potential for them to be negatively impacted by proposed site development is very low.

The Trees

Nineteen (19) significant-sized trees stand on site. Tree species include Douglas-fir (*Pseudotsuga menziesii*), Japanese maple (*Acer palmatum)*, Vine maple (*Acer circinatum*), Flowering dogwood (*Cornus florida*), Black pine (*Pinus nigra*), Western red cedar (*Thuja plicata)*, and Western hemlock (*Tsuga heterophylla*) trees. Information specific to each tree can be found in the attached Table of Trees.

Ten of the trees I assessed are potentially viable and retention will be based on the site development plans.

The east and southeast portion of this site has a stand of Douglas-fir trees that are located in the front property of the existing dwelling. Due to the location, the City considers these to be high retention value trees. Unfortunately, it is my opinion that these are poor candidates for retention.

All of these trees have been topped in the past and the reiterative leads are approximately 40 to 60 feet tall. Several of the leads are poorly structured and are showing symptoms that indicate decay possibly exists at the point of the topping. (See Figure 1)

Figure 1. View looking southwest at trees 5, 6 and 7; white arrows point to the past topping cuts.

Each of the Douglas-fir trees in the stand currently present a moderate level of risk to the surrounding targets due to the potential for failure of the new leads. The likelihood of these failing will increase over time and so will the risk potential. Long-term management will be required to prevent a failure from contacting the future structure. Options for management are limited.

If any of the trees are removed I believe that it will have a negative impact on the adjacent trees. During my assessment, I was able to evaluate how the trees react in moderate wind gusts. Each tree relies on the adjacent trees for support during the bending moment of the leads. If a tree is removed, the support will go with it and there will be a greater likelihood of the remaining trees to fail.

Tree Density Credits

The Kirkland Zoning Code (95.33) requires tree density to satisfy 30 tree credits per acre. The property is 27,301 sq. ft., or 0.63 acres. Therefore, a tree density worth 18.9 tree credits (0.63 x 30 = 18.9) is required in order to meet the minimum requirement. Using viable trees, I calculated **51** tree credits are available on the site.

Adjacent Site Trees

Trees A and B are unlikely to be negatively impacted by site development.

Recommendations

- Create a site development plan that shows the location of all improvements, which can then be used to determine which trees can be retained.
- Plans should indicate basic tree protection measures for preserved trees on site and to assure minimal damage to the root systems of adjacent site trees.
- If 18.9 tree credits cannot be retained a supplemental tree planting plan will be required.
- Obtain all necessary permits and approval from the City prior to commencement of site work.

Glossary

Basal (root) flare: the rapid increase of diameter that occurs at the junction of the trunk and root crown, associated with stem and root tissues. (Dunster 1996)

DBH or DSH: diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)

drip line: perimeter of the area under a tree delineated by the crown (Lilly 2001)

ISA: International Society of Arboriculture

References

ANSI A300 (Part 1) – 2008 American National Standards Institute. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance: Standard Practices (Pruning). New York: Tree Care Industry Association, 2008.

Dunster, Julian & Katherine. Dictionary of Natural Resource Management. Vancouver: UBC Press, 1996

ISA Pacific Northwest Chapter. Tree Risk Assessment in Urban Areas and The Urban/Rural Interface (Course Manual). British Columbia, Canada, 2009

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994

Appendix A – Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.

2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.

3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.

4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.

5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.

6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.

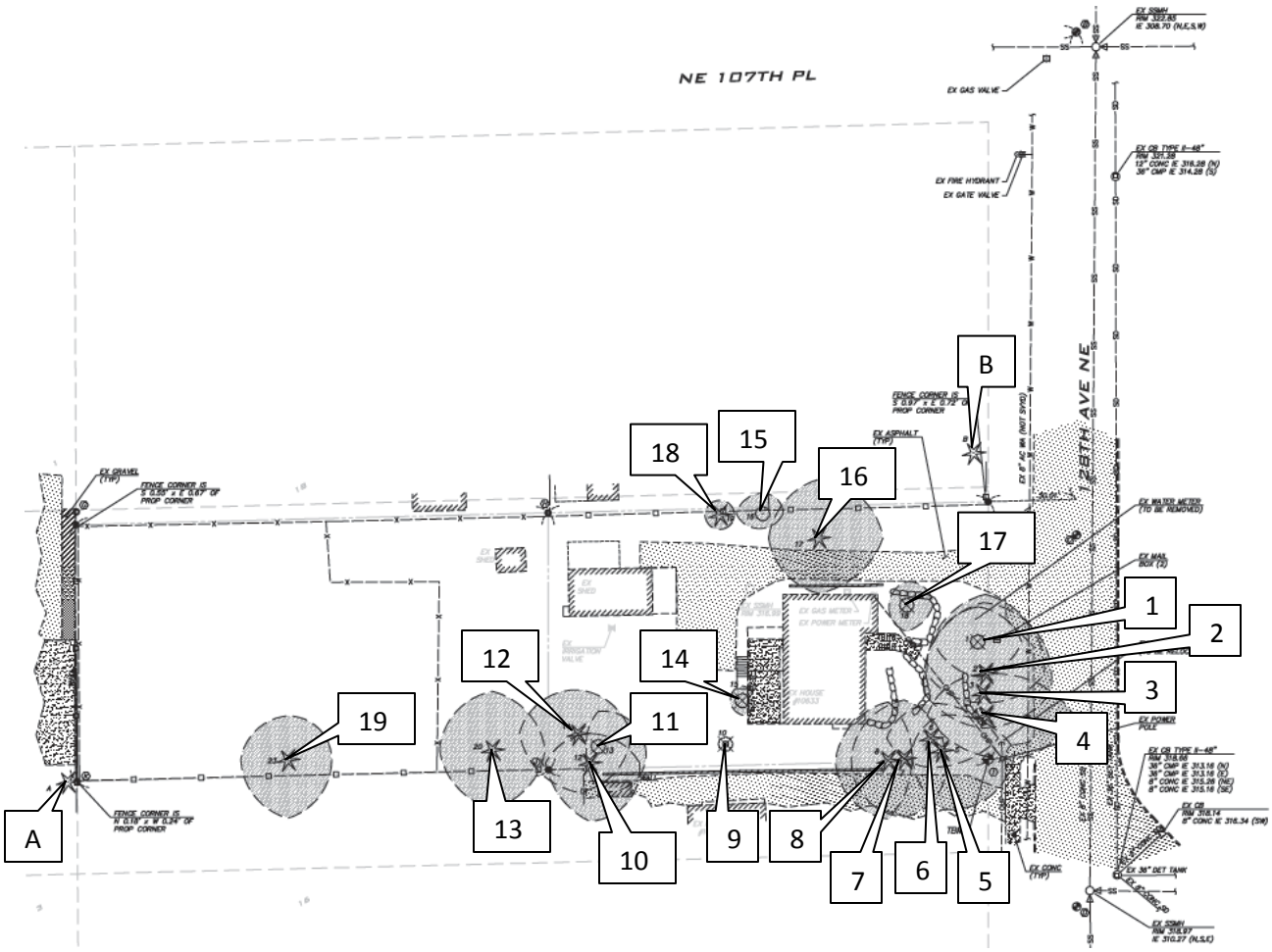
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.

8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.

9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.

10. Loss or alteration of any part of this Agreement invalidates the entire report.

Appendix B – Site Survey with Tree Locations



Attachments:

Table of Trees

Exhibit H
Date of Inventory- 02.18.2014
Table Prepared- 02.20.2014
Table Revised- 05.21.2014

Table of Trees

10633 128th Ave NE, Kirkland, WA 98033

Tree #	Common/ Scientific Name	DSH (inches)	Mult DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Viability	Risk	Proposed Action	Tree Credits	Notes
1	Vine maple/ *Acer circinatum*	9*	2, 4, 2, 4, 2.5, 2.5, 3, 1.5, 3, 3	Fair	Poor	Drip Line	No	Low	Remove - Structure	0	cluster, wide spread, no central lead, multiple dead leads
2	Douglas-fir/ *Pseudotsuga menziesii*	22.9		Good**	Fair-	Drip Line	No	Moderate/ High	Remove - Structure	0	topped at approx. 20 feet, 2 new central leads 40 feet tall- one subordinated with girdling branch
3	Douglas-fir/ *Pseudotsuga menziesii*	21.9		Good**	Fair	Drip Line	No	Moderate/ High	Remove - Structure	0	topped- new lead approximately 50 feet tall
4	Douglas-fir/ *Pseudotsuga menziesii*	26.9		Good**	Poor	Drip Line	No	Moderate/ High	Remove - Structure	0	topped, 2 new leads on 50 feet tall north & south side- south side looks to be damaged on compression side, bark pop at shear plain on north lead
5	Douglas-fir/ *Pseudotsuga menziesii*	22.5		Good**	Fair-	Drip Line	No	Moderate/ High	Remove - Structure	0	topped, 3 leads- 1 dead, tallest 50 feet tall, decayed stump, slight resin stream, stub cut, kink on top main lead
6	Douglas-fir/ *Pseudotsuga menziesii*	17		Good**	Poor	Drip Line	No	Moderate/ High	Remove - Structure	0	topped, new 40 foot lead- major stress riser
7	Douglas-fir/ *Pseudotsuga menziesii*	22.3		Good**	Fair	Drip Line	No	Moderate/ High	Remove - Structure	0	topped, growth 60 feet tall, ridge between new leads, U-shaped
8	Douglas-fir/ *Pseudotsuga menziesii*	17.2		Good**	Fair-	Drip Line	No	Moderate/ High	Remove - Structure	0	topped, 2 new leads 50 feet tall, fiber buckling on compression side of main new lead
9	Cherry/ *Prunus* spp.	7		Poor	Poor	Drip Line	No	Low	Remove - Health	0	over mature & in decline, diseased
10	Western hemlock/ *Tsuga heterophylla*	20		Good	Fair	Drip Line	Yes	Low		6	multiple tops-narrow angle of attachment

Tree Solutions Inc
Consulting Arborists

Table of Trees

10633 128th Ave NE, Kirkland, WA 98033

11	Flowering dogwood/ *Cornus florida*	8.5		Fair	Fair	Drip Line	Yes	Low		1	canopy over whelmed by adjacent conifers, anthracnose
12	Western red cedar/ *Thuja plicata*	28		Good	Good	Drip Line	Yes	Low		10	
13	Japanese maple/ *Acer palmatum*	6.4*	5.5, 1, 1, 1, 2, 2	Fair	Fair	Drip Line	Yes	Low		1	multiple tops- narrow angle of attachment with included bark
14	*Japanese maple/ Acer palmatum*	6.9		Good	Good	Drip Line	Yes	Low	Remove - driveway & utilities	1	odd shrub form tree/bush, coral fungus, multiple pruning/ sheering events
15	Douglas-fir/ *Pseudotsuga menziesii*	32.5		Good	Good	Drip Line	Yes	Low	Remove - driveway & utilities	12	drive 2 west
16	Flowering dogwood/ *Cornus florida*	7.2		Good	Good	Drip Line	Yes	Low		1	slow grow
17	Black pine/ *Pinus nigra*	7.3		Fair	Fair	Drip Line	Yes	Low	Remove - driveway & utilities	1	sheared to small tree, topped in past
18	Douglas-fir/ *Pseudotsuga menziesii*	29.5		Good	Good	Drip Line	Yes	Low	Retain & Protect	10	hangers- crown cleaning needed if retained
19	Western hemlock/ *Tsuga heterophylla*	24.6		Fair	Fair	Drip Line	Yes	Moderate	Remove - utilities	8	unusual basal structure on west lower trunk- restricting growth, internal foliage sparse, significant debris in root zone
									Total Tree Credits	51	
Adjacent Site Trees											
A	Western red cedar/ *Thuja plicata*	~10		Good	Good	Drip Line					canopy overhangs site by ten feet
B	Douglas-fir/ *Pseudotsuga menziesii*	~12+		Good	Good	Drip Line					canopy overhangs site by four feet

Additional Notes:

**Single stem equivalent DSH calculated using Guide to Trunk Area; **Internal decay likely*