CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.kirklandwa.gov

ADVISORY REPORT
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

To: Kirkland Hearing Examiner

From: _____ Tony Leavitt, Project Planner

_____ Paul Stewart, AICP, Deputy Planning Director

Date: September 19, 2012

File: **WISTI PRELIMINARY SUBDIVISION, FILE NO. PSB12-00001**

Hearing Date and Place: September 20, 2012
City Hall Council Chamber
123 Fifth Avenue, Kirkland

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I. INTRODUCTION

A. APPLICATION

1. Applicant: Josh Lysen of Merit Homes, Inc. for Eva Stewart, Property Owner
2. Site Location: 10611 Slater Avenue NE (See Attachment 1)
3. Request: Proposal to subdivide one 159,429 square foot parcel into 18 separate lots (see Attachment 2). Access to lots will be provided via a new access road off of Slater Avenue NE. The applicant is also requesting approval of an Integrated Development Plan to address tree retention on the site.
4. Review Process: Process IIA, Hearing Examiner conducts public hearing and makes final decision on Integrated Development Plan and Preliminary Subdivision.
5. Summary of Key Issues
   a. Compliance with Kirkland Municipal and Zoning Code Approval Criteria (see Section II.D).
   b. Tree Retention as part of the Integrated Development Plan (see Section II.E).

B. RECOMMENDATIONS

Based on Statements of Fact and Conclusions (Section II), and Attachments in this report, we recommend approval of this application subject to the following conditions:

1. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 3, Development Standards, is provided in this report to familiarize the applicant with some of the additional development regulations. This attachment does not include all of the additional regulations. When a condition of approval conflicts with a development regulation in Attachment 3, the condition of approval shall be followed.
2. The proposed Integrated Development Plan is approved subject to the additional conditions noted in Attachment 3. The applicant shall retain all trees identified in the final tree retention plans. Modifications of the approved tree retention plan shall be subject to the requirements of KZC section 95.30.6.b (see Conclusion II.E.1).
3. As part of the building permit for each lot, the applicant shall meet the tree density requirements of KZC section 95.33 (see Conclusion II.E.1).

II. FINDINGS OF FACT AND CONCLUSIONS

A. SITE DESCRIPTION

1. Site Development and Zoning:
   a. Facts:
      (1) Size: 159,429 Square Feet (3.66 acres)
      (2) Land Use: The subject property contains a single family residence. This structure is proposed to be removed as part of the proposal.
      (3) Zoning: RSX 7.2, Residential single-family with a minimum lot size of 7,200 square feet.

(4) Terrain: The site slopes significantly upwards from Slater Avenue NE and then gradually slopes downward to the west and south.

(1) Vegetation: The site contains approximately 222 significant trees.

b. Conclusions: Size, land use, zoning and terrain are not constraining factors in the review of this application. Retention of significant trees is addressed in Section II.E.

2. Neighboring Development and Zoning:

a. Facts: The subject property is surrounded by RSX 7.2 zoned properties that are developed with single-family residences.

b. Conclusion: The neighboring development and zoning are not factors in the review of this application.

B. PUBLIC COMMENT

1. Facts:

The initial public comment period for this application ran from May 18 to June 14th. One letter was received and is included as Attachment 4. The issues raised in the letter along with staff responses are summarized below. Additionally, the applicant responded to the letter with a response letter (see Attachment 5).

Tree Retention Along I-405:

The neighbor is concerned about retention of trees along I-405 that help to reduce freeway noise.

Staff Response: The applicant is proposing retention of viable significant trees in the northwest and southwest corners of the lot along I-405. A number of the trees in the center of the lot are not viable trees due to health and proximity to proposed improvements.

Sight Distance on Slater Avenue NE:

The neighbor is concerned about sight distance at the intersection of the proposed access road and Slater Avenue NE.

Staff Response: The City's Traffic Engineer reviewed the proposed plans and concluded that the project meets sight distance standards for the City (see Attachment 6).

C. STATE ENVIRONMENTAL POLICY ACT (SEPA) & CONCURRENCY

1. Facts:

a. A Determination of Nonsignificance (DNS) was issued on August 21, 2012. The Environmental Determination is included as Attachment 9.

b. The project passed Traffic Concurrency on February 15, 2012 (see Attachment 6).

2. Conclusion: The applicant and the City have satisfied the requirements of SEPA and Concurrency.

D. APPROVAL CRITERIA

1. PRELIMINARY PLATS

a. Facts: Kirkland Municipal Code section states that the Hearing Examiner may approve a proposed plat only if:

(1) There are adequate provisions for open spaces, drainage ways, rights-of-way, easements, water supplies, sanitary waste, power service, parks, playgrounds, and schools; and

(2) It will serve the public use and interest and is consistent with the public health, safety, and welfare. The Hearing Examiner shall be guided by the policy and standards and may exercise the powers and authority set forth in RCW 58.17.

(3) Zoning Code section 150.65 states that the Hearing Examiner may approve a proposed plat only if it is consistent with the all applicable development regulations, including but not limited to the Zoning Code and Subdivision Code, and to the extent there is no applicable development regulation, the Comprehensive Plan.

b. Conclusion: The proposal complies with Municipal Code section 22.12.230 and Zoning Code section 150.65. It is consistent with the Comprehensive Plan (see Section II.F). With the recommended conditions of approval, it is consistent with the Zoning Code and Subdivision regulations (see Sections II.D & E) and there are adequate provisions for open spaces, drainage ways, rights-of-way, easements, water supplies, sanitary waste, power service, parks, playgrounds, and schools. It will serve the public use and interest and is consistent with the public health, safety, and welfare because the proposal will create infill residential development while meeting the goals of the Comprehensive Plan for the North Rose Hill neighborhood.

E. DEVELOPMENT REGULATIONS

1. Natural Features - Significant Vegetation

a. Facts:

(1) Regulations regarding the retention of trees can be found in Chapter 95 of the Kirkland Zoning Code.

(2) The applicant is requesting that the City approve an Integrated Development Plan (rather than phased review) as part of this review process. The applicant has submitted detailed engineering plans for the project including utility locations, finished topography details, and proposed house footprints (see Attachment 7).

(3) The applicant has submitted a final tree retention plan and associated report prepared by a certified arborist (see Attachment 7). The final plan was based on preliminary comments from the City's Arborist after review of the initial tree retention plans.

(4) The City's Arborist reviewed the final plans and the report. She recommends approval of the final plan, but recommends a few revisions to the tree protection fencing. These recommendations are included in Attachment 3.

(5) KZC section 95.33 requires new developments to meet a minimum tree density for individual lots in a short subdivision or subdivision with an approved Tree Retention Plan. The tree density shall be calculated for each lot within the short plat or subdivision and for the entire site. The tree density may consist of existing trees pursuant to the tree's retention value, supplemental trees or a combination of existing and supplemental trees. Tree density calculations for each lot are included in Attachment 3. The applicant will be required to meet tree density requirements as part of the building permit for each lot.

(6) KZC section 95.30.6.b outlines the tree retention plan modification requirements (see Attachment 3).

b. Conclusions:

(1) The proposed Integrated Development Plan is approved subject to the additional conditions noted in Attachment 3. The applicant should retain all trees identified in the final tree retention plans.

(2) Modifications of the approved tree retention plan should be subject to the requirements of KZC section 95.30.6.b.

(3) As part of the building permit for each lot, the applicant should meet the tree density requirements of KZC section 95.33.

F. COMPREHENSIVE PLAN

1. Fact: The subject property is located within the North Rose Hill neighborhood. Figure NRH-4 on page XV.F-11 designates the subject property for low density residential use (see Attachment 8).

2. Conclusion: The proposal is consistent with the low density residential use designation within the Comprehensive Plan.

G. DEVELOPMENT STANDARDS

1. Fact: Additional comments and requirements placed on the project are found on the Development Standards, Attachment 3.

2. Conclusion: The applicant should follow the requirements set forth in Attachment 3.

III. SUBSEQUENT MODIFICATIONS

Modifications to the approval may be requested and reviewed pursuant to the applicable modification procedures and criteria in effect at the time of the requested modification.

IV. APPEALS AND JUDICIAL REVIEW

The following is a summary of the deadlines and procedures for appeals. Any person wishing to file or respond to an appeal should contact the Planning Department for further procedural information.

A. APPEALS

1. Appeal to City Council:

   Section 150.80 of the Zoning Code allows the Hearing Examiner's decision to be appealed by the applicant and any person who submitted written or oral testimony or comments to the Hearing Examiner. A party who signed a petition may not appeal unless such party also submitted independent written comments or information. The appeal must be in writing and must be delivered, along with any fees set by ordinance, to the Planning Department by 5:00 p.m., _____, fourteen (14) calendar days following the postmarked date of distribution of the Hearing Examiner's decision on the application.

B. JUDICIAL REVIEW

Section 150.130 of the Zoning Code allows the action of the City in granting or denying this zoning permit to be reviewed in King County Superior Court. The petition for review must be filed within 21 calendar days of the issuance of the final land use decision by the City.

V. LAPSE OF APPROVAL

Under Section 22.16.130 of the Subdivision Ordinance, the owner must submit a final plat application to the Planning Department, meeting the requirements of the Subdivision Ordinance and the preliminary plat approval, and submit the final plat for recording, within four years following the date the preliminary plat was approved or the decision becomes void; provided, however, that in the event judicial review is initiated per Section 22.16.110, the running of the four years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the recording of the plat.

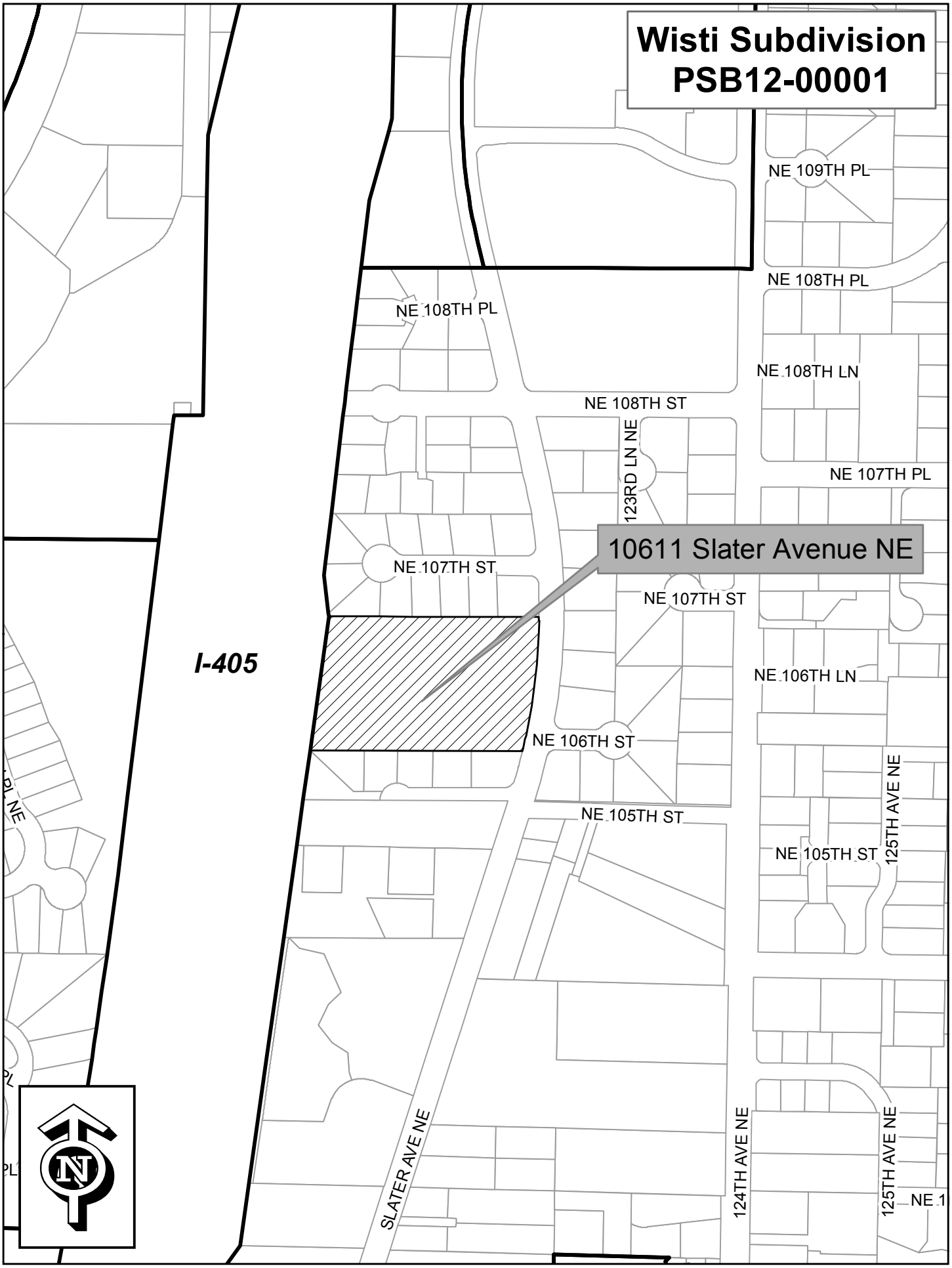
VI. APPENDICES

Attachments 1 through 9 are attached.
1. Vicinity Map
2. Development Plans
3. Development Standards
4. Chan Comment Letter
5. Applicant's Response Letter
6. Traffic Review Memo SEPA Determination
7. Tree Retention Plan
8. North Rose Hill Neighborhood Land Use Map
9. SEPA Determination

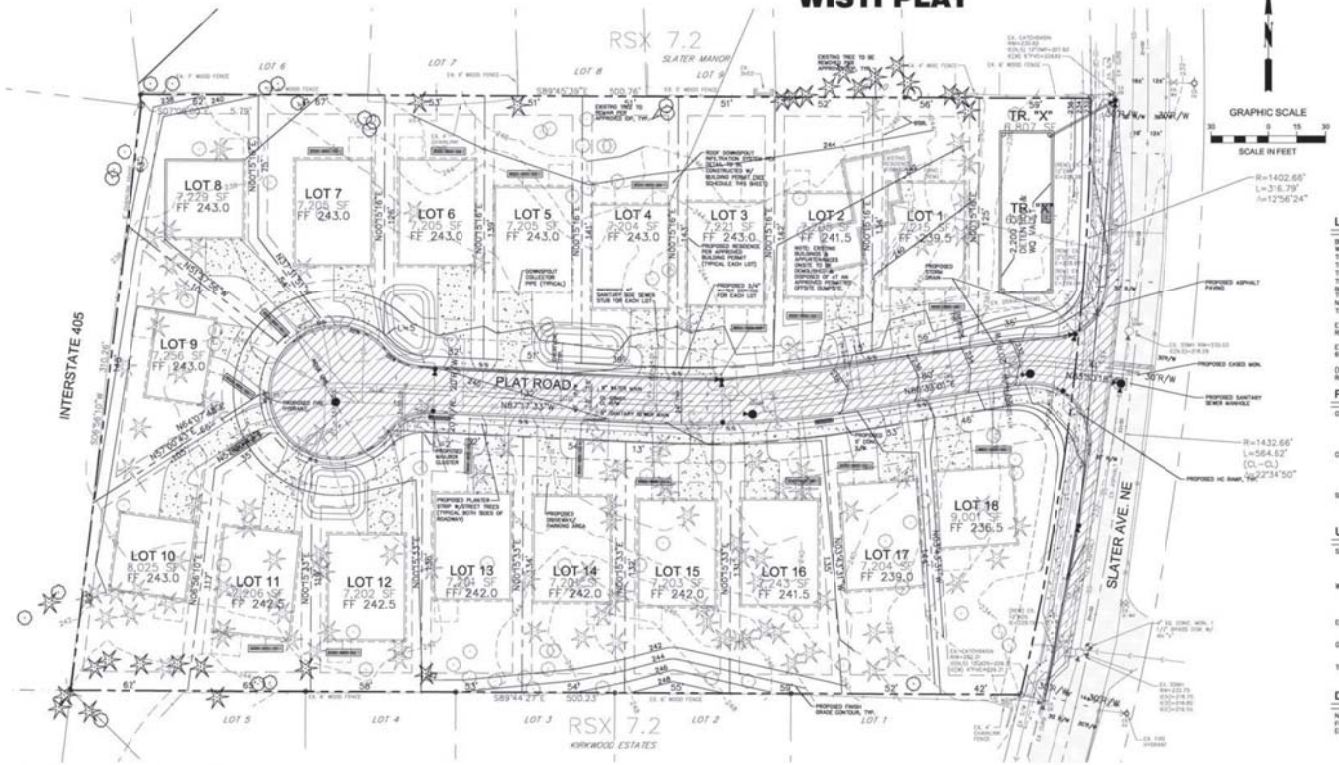
VII. PARTIES OF RECORD

Applicant
Parties of Record
Department of Planning and Community Development
Department of Public Works
Department of Building and Fire Services

A written decision will be issued by the Hearing Examiner within eight calendar days of the date of the open record hearing.


Wisti Subdivision
PSB12-00001
NE 109TH PL
NE 108TH PL
NE 108TH PL
NE 108TH LN
NE 108TH ST
123RD LN NE
NE 107TH PL
10611 Slater Avenue NE
NE 107TH ST
NE 107TH ST
I-405
NE 106TH LN
NE 106TH ST
NE 105TH ST
NE 105TH ST
125TH AVE NE
SLATER AVE NE
124TH AVE NE
125TH AVE NE
N

PORTION OF SW 1/4 OF SECTION 33, TOWNSHIP 26N, RANGE 5E, WM
WISTI PLAT



VICINITY MAP
N.T.S.

LEGAL DESCRIPTION

BEGINNING AT THE QUARTER CORNER ON THE SOUTH LINE OF SECTION 33, TOWNSHIP 26 NORTH, RANGE 5 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON;
THENCE SOUTH 89°30'00" WEST 1321.86 FEET;
THENCE NORTH 01°23'45" WEST 1813.30 FEET TO THE TRUE PINT OF BEGINNING OF THE TRACT HEREIN DESCRIBED;
THENCE CONTINUING NORTH 01°23'45" WEST 316.80 FEET;
THENCE NORTH 88°08'00" EAST 835.32 FEET, MORE OR LESS, TO THE WESTERLY LINE OF ROAD RIGHT OF WAY KNOWN AS 90TH AVENUE (ALSO KNOWN AS 19 A 37TH STREET);
THENCE SOUTHERLY ALONG SAID WESTERLY LINE OF SAID ROAD RIGHT OF WAY AS DEED TO KING COUNTY, TO A POINT NORTH 88°08'00" EAST OF THE TRUE POINT OF BEGINNING;
THENCE SOUTH 88°08'00" WEST 802.09 FEET TO THE TRUE POINT OF BEGINNING;

EXCEPT THAT PORTION CONVEYED TO THE STATE OF WASHINGTON FOR SECONDARY STATE HIGHWAY NO. 2-A, BY DEED RECORDED UNDER RECORDING NUMBER 4564533, ALSO

EXCEPT THAT PORTION CONDEMNED FOR PRIMARY STATE HIGHWAY 1 UNDER KING COUNTY SUPERIOR COURT CAUSE NUMBER 698317;

(BEING PORTIONS OF LOTS 3 AND 4, PARRISH'S GARDEN TRACTS, ACCORDING TO THE UNRECORDED PLAT THEREOF; EXCEPT ROADS).

PROJECT CONTACT LIST:

OWNER/DEVELOPER:	MERIT HOMES 7545 126TH AVENUE NE KIRKLAND, WA 98033 CONTACT: GREG GRIFFIS PHONE: (425) 444-4041
CIVIL ENGINEER:	LITCHFIELD ENGINEERING 12840 81ST AVENUE NE KIRKLAND, WASHINGTON 98033 CONTACT: KEITH LITCHFIELD, P.E. PHONE: (425) 821-3038
SURVEYOR:	ALLIED LAND SURVEYING, INC. 20811 BOTHELL-EVERETT HWY, #C211 BOTHELL, WASHINGTON 98012 PHONE: 425-485-7877

UTILITY CONTACT LIST:

SANITARY SEWER:	NORTHSHORE UTILITY DISTRICT 6830 NE 185TH STREET KENMORE, WA 98028
WATER:	NORTHSHORE UTILITY DISTRICT 6830 NE 185TH STREET KENMORE, WA 98028
ELECTRIC:	PUGET SOUND ENERGY PHONE: 1-800-321-4123
GAS:	PUGET SOUND ENERGY PHONE: 1-800-321-4123
TELEPHONE:	VERIZON CONTACT: MIKE FESKENS PHONE: 425-710-4111

DATUM

NAVD 88
FOUND 3" BRASS DISK IN CONCRETE MONUMENT AT INTERSECTION OF 124TH AVE.-100TH ST.
ELEVATION = 258.020

LEGEND

- FOUND CONCRETE MONUMENT
- SET 1/2" REBAR/CAP #40524
- FOUND 1/2" REBAR/CAP AS NOTED
- SET LINE STAKE
- SET TACK WITH SHINER #40524
- UTILITY POLE
- YARD LIGHT
- UTILITY POLE WITH LUMINARE
- WATER METER
- HYDRANT
- WATER VALVE
- CATCH BASIN
- SANITARY SEWER MANHOLE
- GAS VALVE
- APPROX. GAS LINE LOCATION
- APPROX. WATER LINE LOCATION
- APPROX. SANITARY SEWER LINE LOCATION
- APPROX. OVERHEAD UTILITY LINE LOCATION
- DECIDUOUS TREE TO REMAIN
- CONIFEROUS TREE TO REMAIN
- DECIDUOUS TREE TO BE REMOVED
- CONIFEROUS TREE TO BE REMOVED
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER MAIN
- PROPOSED WATER MAIN

DRAINAGE MITIGATION CONCEPTS

1. DRIVEWAY AREA FROM LOTS 4 AND 5 PLUS PUBLIC ROADWAY SHEET FLOW DRAINAGE TO BE CONVEYED TO BIORETENTION CELL 1. TOTAL TRIB AREA = 4,500 SF. ROOF DOWNSPOUTS, WALKWAY, AND PATIO TO BE CONVEYED TO AN INFILTRATION SYSTEM SIZED FOR 2,200 SF. LOT IMPERVIOUS AREA TO BE ALLOWED TO NATURALLY INFILTRATE INTO SURFACE SOIL.

2. DRIVEWAY AREA FROM LOTS 6 AND 7 PLUS PUBLIC ROADWAY SHEET FLOW DRAINAGE TO BE CONVEYED TO BIORETENTION CELL 2. TOTAL TRIB AREA = 4,400 SF. ROOF DOWNSPOUTS, WALKWAY, AND PATIO TO BE CONVEYED TO AN INFILTRATION SYSTEM SIZED FOR 2,200 SF. LOT IMPERVIOUS AREA TO BE ALLOWED TO NATURALLY INFILTRATE INTO SURFACE SOIL.

3. DRIVEWAY AREA FROM LOTS 11 AND 12 PLUS PUBLIC ROADWAY SHEET FLOW DRAINAGE TO BE CONVEYED TO BIORETENTION CELL 3. TOTAL TRIB AREA = 3,500 SF. ROOF DOWNSPOUTS, WALKWAY, AND PATIO TO BE CONVEYED TO AN INFILTRATION SYSTEM SIZED FOR 2,200 SF. LOT IMPERVIOUS AREA TO BE ALLOWED TO NATURALLY INFILTRATE INTO SURFACE SOIL.

4. LOTS 8, 9, 10, 13, AND 14 TO HAVE COMBINED LOT INFILTRATION TRENCH SYSTEMS FOR DRIVEWAY, ROOF DOWNSPOUTS, PATIO, AND WALKWAY. TOTAL TRIB IMPERVIOUS AREA = 2,800 SF. LOT IMPERVIOUS AREA TO BE ALLOWED TO NATURALLY INFILTRATE INTO SURFACE SOIL.

5. IMPERVIOUS ROOF AREA, WALKWAY, AND PATIO AREA FOR LOTS 1, 2, 3, 15, 16, 17, AND 18 TO BE CONVEYED TO INFILTRATION TRENCH SYSTEM. ROAD DRAINAGE (FROM STATION 12+50 EAST) TO DRAIN TO VAULT. LOT IMPERVIOUS AREA TO BE ALLOWED TO NATURALLY INFILTRATE INTO SURFACE SOIL.

6. TARGETED DRAINAGE AREA OFF-SITE TO BE CONVEYED TO WATER QUALITY/DETENTION VAULT. A TREATMENT/DETENTION TRADE WILL BE EXERCISED FOR THIS AREA.

DRAINAGE MITIGATION SYSTEMS

LOT NO.	ROOF	WALKS	DRIVEWAY	IMPERV	PERV.
1	INFILT	INFILT	WQ VAULT	2,950 SF	4,270 SF
2	INFILT	INFILT	WQ VAULT	2,950 SF	4,255 SF
3	INFILT	INFILT	WQ VAULT	2,950 SF	4,254 SF
4	INFILT	INFILT	BIOCELL 1	2,950 SF	4,255 SF
5	INFILT	INFILT	BIOCELL 1	2,950 SF	4,255 SF
6	INFILT	INFILT	BIOCELL 2	2,950 SF	4,255 SF
7	INFILT	INFILT	BIOCELL 2	2,950 SF	4,255 SF
8	INFILT	INFILT	FS + INFILT	2,800 SF	4,429 SF
9	INFILT	INFILT	FS + INFILT	2,350 SF	4,906 SF
10	INFILT	INFILT	FS + INFILT	2,350 SF	5,675 SF
11	INFILT	INFILT	BIOCELL 3	2,800 SF	4,406 SF
12	INFILT	INFILT	BIOCELL 3	2,950 SF	4,252 SF
13	INFILT	INFILT	FS + INFILT	2,950 SF	4,251 SF
14	INFILT	INFILT	FS + INFILT	2,950 SF	4,251 SF
15	INFILT	INFILT	WQ VAULT	2,950 SF	4,253 SF
16	INFILT	INFILT	WQ VAULT	2,950 SF	4,293 SF
17	INFILT	INFILT	WQ VAULT	2,950 SF	4,254 SF
18	INFILT	INFILT	WQ VAULT	1,850 SF	6,051 SF

NOTES:
1. INFILT => ROOF DOWNSPOUT INFILTRATION TRENCH SYSTEM
2. BIOCELL => WQ BIORETENTION CELL WITH INFILTRATION
3. FS + INFILT => FILTER STRIP COMBINED WITH INFILTRATION TRENCH
4. IMPERVIOUS AREA INCLUDES DRIVEWAY, ROOF, PATIO, & WALK
5. ALL PERVIOUS

BUILDING SETBACK (BSBL) NOTE:

SETBACKS: FRONT: 20' (SEE NOTE 1.); REAR: 10'; SIDE: 5'

1. IF ANY LOTS HAVE GARAGE DOORS FACING THE STREET, THE SETBACK FOR THE GARAGE ONLY IS INCREASED TO 24'.

FOOTING DRAIN NOTE:

FOOTING DRAINS CONNECTING TO THE DETENTION VAULT SHALL BE SET ABOVE THE MAXIMUM WATER SURFACE ELEVATION "WSEL" AS SHOWN ON THE DETENTION VAULT PLANS.

EXISTING UTILITY NOTE:

LOCATION OF EXISTING UTILITIES SHOWN, IF ANY, IS APPROXIMATE AND MAY NOT BE ACCURATE OR ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. AGENCIES INVOLVED SHALL BE NOTIFIED WITHIN A REASONABLE TIME PRIOR TO THE START OF CONSTRUCTION.

SURVEY NOTE:

EXISTING SURVEY FEATURES, BOUNDARY AND TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS HAS BEEN PREPARED, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, LITCHFIELD ENGINEERING CANNOT ENSURE THE ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF DATA/INFORMATION PROVIDED BY OTHERS, OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

ADDITIONAL SURVEY NOTE:

TOPOGRAPHY NOTE: THE ON-SITE TOPOGRAPHICAL MAPPING WAS PROVIDED BY ALLIED LAND SURVEYING, INC. SEE SURVEY FOR SECTION BREAKDOWN.

EXISTING TREE NOTE:

EXISTING TREES ONSITE ARE TO BE REMOVED PER THE APPROVED INTEGRATED DEVELOPMENT TREE REMOVAL SCHEDULE FOR THIS PROJECT.

PROJECT SITE DATA

OWNER: MERIT HOMES
SITE ADDRESS: 10611O SLATER AVENUE NE, KIRKLAND, WA 98033
TAX ACCT. NO.'S: 66-3999-000-0
TOTAL LOT AREA: 158,810 SF± (BEFORE R.O.W. DEDICATION)
R.O.W. DEDICATION AREA: 19,572 SF
NEW AREA AFTER DEDICATION: 139,238 SF
ZONE DESIGNATION: RSX 7.2
MINIMUM LOT AREA PER ZONING: 7,200 SF
NUMBER OF LOTS PROPOSED: 18

PROJECT REF: PRE11-00065

THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KIRKLAND'S ENGINEERING REQUIREMENTS.

APPROVED BY:_____

DATE APPROVED:_____

NOTES	DATE	CHKD BY	DWN BY
REVISED PER 2ND COMMENTS	4-24-12	KAL	KAL

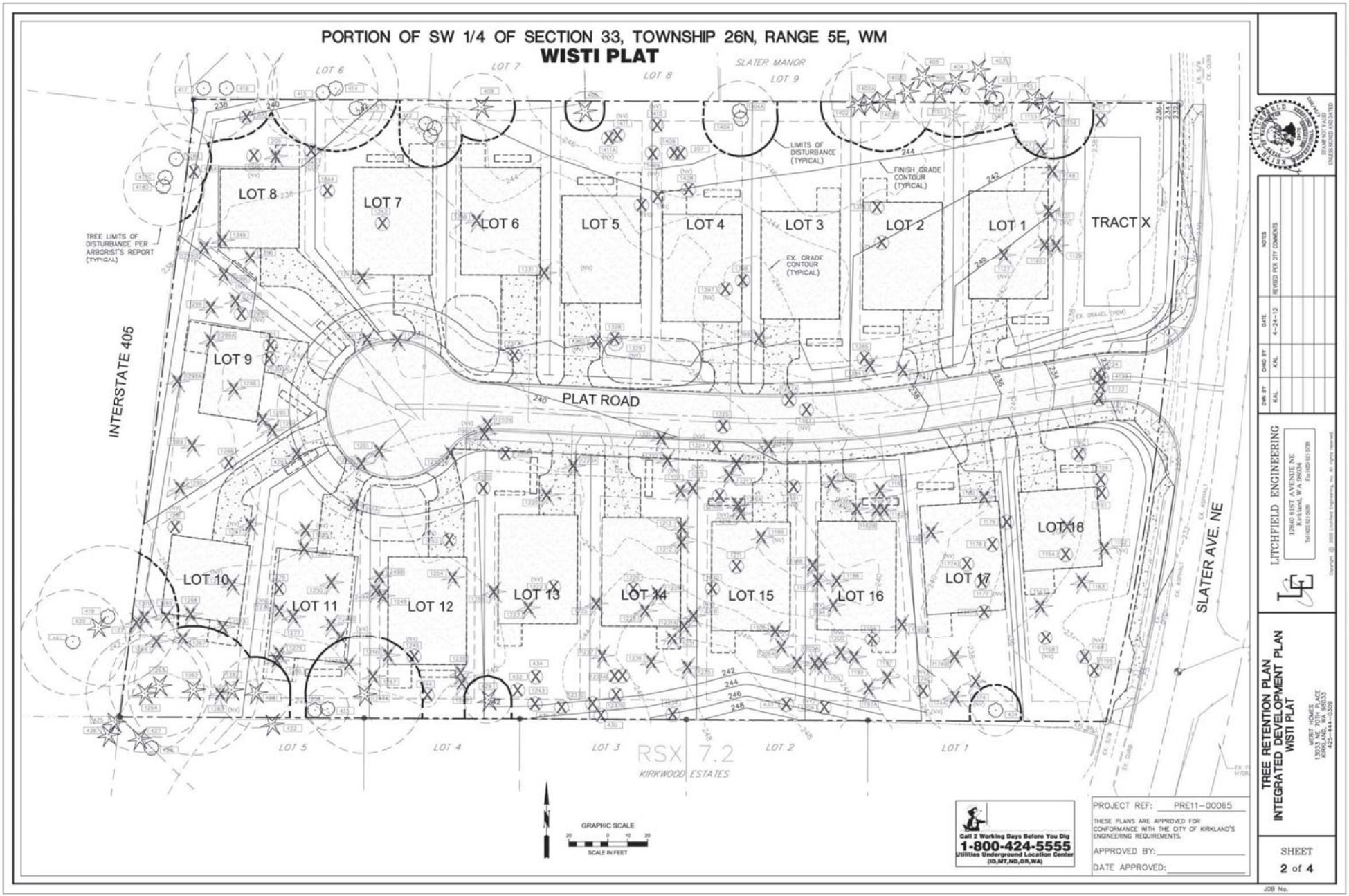
LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
KIRKLAND, WA 98033
Tel (425) 821-3038 Fax (425) 821-3039

SITE IMPROVEMENT PLAN
INTEGRATED DEVELOPMENT PLAN
WISTI PLAT

MERIT HOMES
13033 NE 128TH PLACE
KIRKLAND, WA 98033
425-444-0309

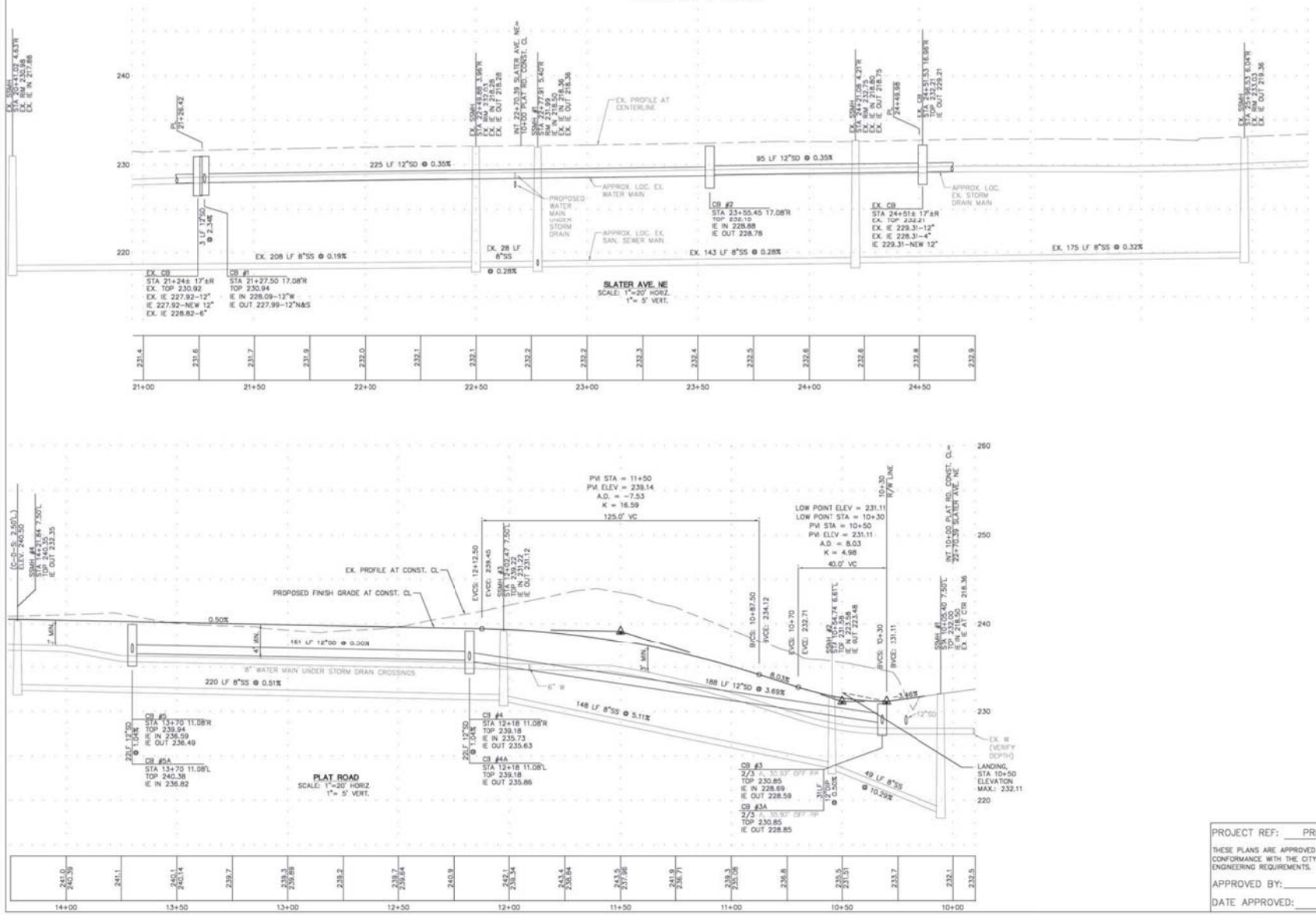
SHEET
1 of 4

JOB No.


PORTION OF SW 1/4 OF SECTION 33, TOWNSHIP 26N, RANGE 5E, WM
WISTI PLAT
SLATER MANOR
LOT 6
LOT 7
LOT 8
LOT 9
LIMITS OF DISTURBANCE (TYPICAL)
FINISH GRADE CONTOUR (TYPICAL)
EX. GRADE CONTOUR (TYPICAL)
TREE LIMITS OF DISTURBANCE PER ARBORIST'S REPORT (TYPICAL)
LOT 8
LOT 7
LOT 6
LOT 5
LOT 4
LOT 3
LOT 2
LOT 1
TRACT X
LOT 9
INTERSTATE 405
PLAT ROAD
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
SLATER AVE. NE
LOT 5
LOT 4
LOT 3
LOT 2
LOT 1
KIRKWOOD ESTATES
GRAPHIC SCALE
SCALE IN FEET
Call 2 Working Days Before You Dig
1-800-424-5555
Utilities Underground Location Center
(ID,MT,ND,OR,WA)
PROJECT REF: PRE11-00065
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KIRKLAND'S ENGINEERING REQUIREMENTS.
APPROVED BY:
DATE APPROVED:
DWN. BY KAL
CHKD BY KAL
DATE 4-24-12
NOTES REVISED PER 2TY COMMENTS
LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
KIRKLAND, WA 98034
TEL (425) 821-0128 FAX (425) 821-0129
TREE RETENTION PLAN
INTEGRATED DEVELOPMENT PLAN
WISTI PLAT
MERIT HOMES
13033 NE 126TH PLACE
KIRKLAND, WA 98033
425-444-0309
SHEET
2 of 4
JOB No.

PORTION OF SW 1/4 OF SECTION 33, TOWNSHIP 26N, RANGE 5E, WM

WISTI PLAT



PROJECT REF: PRE11-00065

THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KIRKLAND'S ENGINEERING REQUIREMENTS.

APPROVED BY:

DATE APPROVED:

DWN. BY	CHKD BY	DATE	NOTES
KAL	KAL	4-24-12	REVISED PER 2ND COMMENTS

LITCHFIELD ENGINEERING
12640 81ST AVENUE NE
KIRKLAND, WA 98034
Tel (425) 821-0328 Fax (425) 821-0328

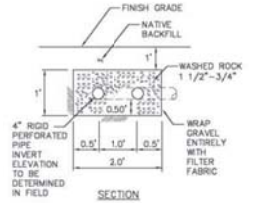
PROFILES
INTEGRATED DEVELOPMENT PLAN
WISTI PLAT

MERIT HOMES
13531 NE 90TH PLACE
KIRKLAND, WA 98033
425-444-0309

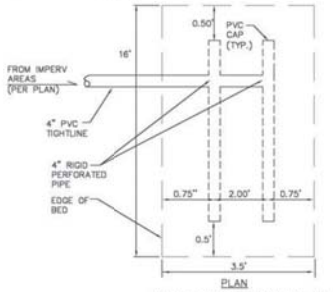
SHEET
3 of 4

JOB No.

PORTION OF SW 1/4 OF SECTION 33, TOWNSHIP 26N, RANGE 5E, WM
WISTI PLAT



SECTION

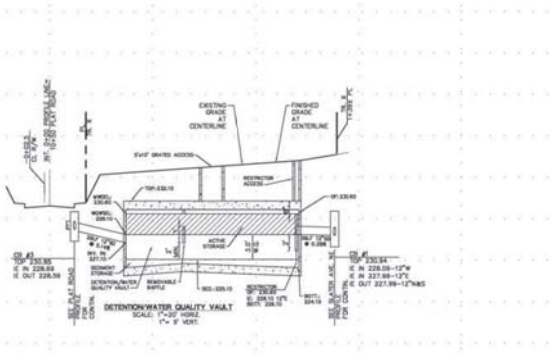


PLAN

INFILTRATION TRENCH DETAIL
NO SCALE

GENERAL INFILTRATION SYSTEM NOTES

1. THE INFILTRATION BED MUST BE CONSTRUCTED LEVEL AND USED FOR CLEAN WATER ONLY (SEE NOTE 6 BELOW).
2. MINOR ADJUSTMENT TO THE ALIGNMENT MAY BE MADE IF NECESSARY DURING CONSTRUCTION. ENGINEER TO BE NOTIFIED PRIOR TO MAKING REVISIONS.
3. TIGHTLINES TO INFILTRATION BED SHALL BE MINIMUM 4-INCH DIAMETER PVC OR POLYETHYLENE DRAIN PIPE.
4. BED SHALL BE CONSTRUCTED IN ACCORDANCE TO THE DETAILS, ELEVATIONS, AND GEOMETRIC DATA PROVIDED. CHANGES TO THE CONFIGURATION OR LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD. PIPING WITHIN TRENCH SECTION TO BE 4" PERFORATED PVC WITH HOLES POINTED DOWN. TWO PIPES PER DETAIL ARE REQUIRED. THE PERFORATED PIPES SHALL RUN THE COMPLETE LENGTH OF THE BED AND BE INSTALLED SUCH THAT 0.50 FOOT CLEAR DISTANCE IS PROVIDED FROM TRENCH SIDEWALLS AND BED ENDS. CONTRACTOR TO PROVIDE FITTINGS AS NECESSARY TO MANIFOLD THE TWO PIPES. INTENT: TO EVENLY DISCHARGE EQUALLY TO ALL PIPES DURING STORM EVENTS.
5. THE INFILTRATION DESIGN IS BASED ON RECOMMENDATIONS PROVIDED BY THE PROJECT GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL REVIEW THEIR REPORT AND BE FAMILIAR WITH ITS CONTENTS PRIOR TO BEGINNING WORK DURING CONSTRUCTION IF SUBSURFACE CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY THAN WHAT'S EXPECTED OR ANTICIPATED, ENGINEER TO BE NOTIFIED.
6. THE INFILTRATION SYSTEM SHALL NOT BE PLACED INTO OPERATION UNTIL ALL SITE WORK IS COMPLETED AND THE SITE IS COMPLETELY STABILIZED (I.E. WELL ESTABLISHED GRASS, STRUCTURES COMPLETED, ROAD PAVED, ETC.). USE OF THE INFILTRATION SYSTEM PRIOR TO COMPLETELY STABILIZING THE SITE IS LIKELY TO REDUCE THE CAPACITY OF THE SYSTEM TO PERFORM AS DESIGNED.



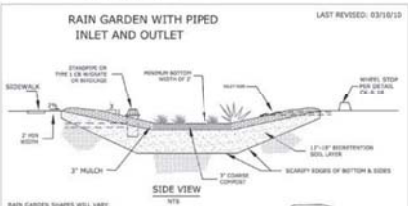
DETENTION/WATER QUALITY VAULT
SCALE: 1"=20' HORIZ.
1"= 5' VERT.

RAIN GARDEN NOTES:

1. THE BIORETENTION / RAIN GARDEN AREAS HAVE BEEN SIZED BASED ON AN INFILTRATION RATE OF 3.78 MIN/INCH PER RECOMMENDATIONS BY RIM & ASSOCIATES, INC.
2. ROOF DRAINAGE, PATIOS, AND WALKWAY TO BE ROUTED TO AN INFILTRATION TRENCH SYSTEM PER PLAN..
3. STORM DRAINAGE OVERFLOW FROM THE BIORETENTION CELL / RAIN GARDEN TO BE DIRECTED TO THE DETENTION SYSTEM ONCE THE BIORETENTION SYSTEM REACHES DESIGN WATER SURFACE ELEVATION (WSEL). CONNECT THE OVERFLOW/OUTFALL TO THE PROPOSED STORM DRAIN STUB FOR EACH LOT.

RAIN GARDEN WITH PIPED INLET AND OUTLET

LAST REVISED: 03/10/10



SIDE VIEW
NTS

RAIN GARDEN SHAPES WILL VARY. SHAPE AND PLANTS SHOWN IN DIAGRAM ARE FOR ILLUSTRATION PURPOSES ONLY. SEE PLANT REQUIREMENTS ON SHEETS L.02 AND L.04.

PLANTING ZONES

ZONE 1: FOR PLANTS THAT TOLERATE WETTER CONDITIONS.

ZONE 2: FOR PLAN'S THAT TOLERATE OCCASIONAL STANDING WATER.

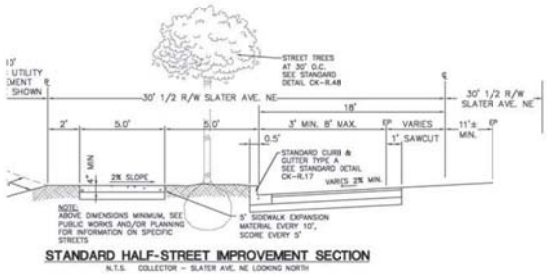
ZONE 3: FOR PLAN'S THAT PREFER DRIER CONDITIONS.

PLAN VIEW
NTS

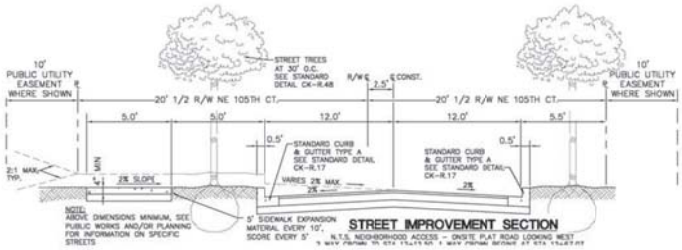
NOTES

1. INSTALL MULCH AT 3" DEPTH, SHREDDED OR CHIPPED WOOD ON ON SIDE SLOPES AND AROUND EDGES OF GARDEN. DO NOT USE LARGE CHUNKS OF BARK OR GRASS CLIPPINGS.
2. INSTALL 3" DEPTH OF COARSE COMPOST ON BOTTOM OF RAIN GARDEN. COMPOST SHOULD BE WEED-FREE, DECOMPOSED, NON-WOODY PLANT MATERIAL, WITH NO ANIMAL WASTE; MEETING WAC 173-350-220.
3. TILL AMENDED SOIL INTO THE TOP 12" TO 18" OF SOIL FOR BIORETENTION SOIL LAYER IN ALL PLANTING ZONES. AMENDED SOIL SHOULD BE A SAND/COMPOST BLEND HAVING 8 TO 13% ORGANIC MATERIAL BY DRY WEIGHT.
4. MINIMUM 1' DEPTH BETWEEN BOTTOM OF RAIN GARDEN AND WATER TABLE.
5. 6-12" PONDING DEPTH AT OVERFLOW. THE OVERFLOW POINT SHALL BE AT LEAST 6" BELOW ANY ADJACENT PAVEMENT AREA.
6. 3:1 MAXIMUM SIDE SLOPE (H:V).
7. MAXIMUM BOTTOM SLOPE OF RAIN GARDEN IS 0.5%.
8. MINIMUM OVERALL BOTTOM WIDTH IS 2'.
9. PIPE INLET SHALL BE ANGLE CUT (SEE DETAIL CK-D.30).
10. MINIMUM SETBACK OF 5' FROM BUILDING STRUCTURES. DO NOT LOCATE IMMEDIATELY UPSLOPE OF BUILDING STRUCTURES.
11. INSTALL ROCK AT INLET TO DISSIPATE RUNOFF.

CITY OF KIRKLAND
PLAN NO. CK-L.01
RAIN GARDEN WITH PIPED I/O



STANDARD HALF-STREET IMPROVEMENT SECTION
N.T.S. COLLECTOR – SLATER AVE. NE LOOKING NORTH



STREET IMPROVEMENT SECTION
N.T.S. NEIGHBORHOOD ACCESS – ON-SITE PLAT ROAD LOOKING WEST

PROJECT REF: PRE11-00065

THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KIRKLAND'S ENGINEERING REQUIREMENTS.

APPROVED BY: _____

DATE APPROVED: _____

NOTES	DATE	CHKD BY	DWG BY
REVISED PER CITY COMMENTS	4-24-12	KAL	KAL

LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
KIRKLAND, WA 98034
Tel: (425) 821-3281 Fax: (425) 821-3218

DETAILS & NOTES
INTEGRATED DEVELOPMENT PLAN
WISTI PLAT

MERIT HOMES
13033 NE 20TH PLACE
KIRKLAND, WA 98033
425-444-0309

SHEET
4 of 4

JOB No.

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.kirklandwa.gov

DEVELOPMENT STANDARDS LIST
FILE: WISTI PRELIMINARY SUBDIVISION, PSB12-00001

TREE RETENTION STANDARDS

A Tree Retention Plan was submitted with the short plat in which the locations of all proposed improvements were known. There are 141 viable trees on the site, 7 of which are High Retention Value trees and 134 of which are Moderate Retention Value trees. The approved tree retention plan is included as Attachment 7 of the Staff Advisory Report.

Modifications to the Tree Retention Plan must be approved per KZC 95.30(6)(b).

As part of the land surface modification permit, the applicant shall incorporate the following comments into the plans:

- Increase the LOD fencing around 424 to 20 feet.
- Trees 410, 411, and 412 are non viable trees and proposed for retention. Retention of these trees does not count towards the tree density requirement for Lot 7.
- The retention of tree 1247 is questionable due to its proximity to tree 1247A (which is proposed for removal). This tree should be reevaluated for retention. This tree does not count towards the tree density requirement for Lot 11.
- Show Kirkland protection fence specifications and add tree protection instructions on a sheet that accompanies construction documents. Applicant's arborist can provide them from his report. Include the following: a. During clearing and grading equipment must stay to the outside of the canopies of the retained trees and not drive beneath them, b. If there will be any incursion into the tree protection area, first apply Roadbed fabric throughout root zone to existing grade conditions and apply 14" layer of hog fuel. Or bridge beneath root zones with continuous steel plates, and c. Save the understory plants beneath the trees in the southwest corner of the site. They contribute to root health. Blackberry can be pulled out.

KZC 95.33 requires new developments to meet a minimum tree density for individual lots in a short subdivision or subdivision with an approved Tree Retention Plan. The tree density shall be calculated for each lot within the short plat or subdivision and for the entire site. The tree density may consist of existing trees pursuant to the tree's retention value, supplemental trees or a combination of existing and supplemental trees.

Tree Density Requirements per Lot:

Lot	Lot Size (SqFt)	Required Tree Credits	Existing IDP Tree Credits	Supplemental Tree Credits Needed
1	7,215	5	11	0
2	7,205	5	28	0
3	7,221	5	0	5
4	7,204	5	8	0
5	7,205	5	1	4
6	7,205	5	4	1
7	7,205	5	4	1
8	7,229	5	0	5
9	7,256	5	0	5
10	8,025	6	43	0
11	7,206	5	5	0
12	7,202	5	0	5
13	7,201	5	2	3
14	7,201	5	0	5
15	7,203	5	0	5
16	7,243	5	0	5
17	7,204	5	4	1
18	9,001	6	0	6

SUBDIVISION STANDARDS

22.28.030 Lot Size. Unless otherwise approved in the preliminary subdivision or short subdivision approval, all lots within a subdivision must meet the minimum size requirements established for the property in the Kirkland zoning code or other land use regulatory document.

22.28.130 Vehicular Access Easements. The applicant shall comply with the requirements found in the Zoning Code for vehicular access easements or tracts.

22.32.010 Utility System Improvements. All utility system improvements must be designed and installed in accordance with all standards of the applicable serving utility.

22.32.030 Stormwater Control System. The applicant shall comply with the construction phase and permanent stormwater control requirements of the Municipal Code.

22.32.050 Transmission Line Undergrounding. The applicant shall comply with the utility lines and appurtenances requirements of the Zoning Code.

22.32.060 Utility Easements. Except in unusual circumstances, easements for utilities should be at least ten feet in width.

27.06.030 Park Impact Fees. New residential units are required to pay park impact fees prior to issuance of a building permit. Please see KMC 27.06 for the current rate. Exemptions and/or credits may apply pursuant to KMC 27.06.050 and KMC 27.06.060. If a property contains an existing unit to be removed, a "credit" for that unit shall apply to the first building permit of the subdivision.

Prior to Recording:

22.16.030 Final Plat - Lot Corners. The exterior plat boundary, and all interior lot corners shall be set by a registered land surveyor.

22.16.040 Final Plat - Title Report. The applicant shall submit a title company certification which is not more than 30 calendar days old verifying ownership of the subject property on the date that the property owner(s) (as indicated in the report) sign(s) the subdivision documents; containing a legal description of the entire parcel to be subdivided; describing any easements or restrictions affecting the property with a description, purpose and reference by auditor's file number and/or recording number; any encumbrances on the property; and any delinquent taxes or assessments on the property.

22.16.150 Final Plat - Improvements. The owner shall complete or bond all required right-of-way, easement, utility and other similar improvements.

22.32.020 Water System. The applicant shall install a system to provide potable water, adequate fire flow and all required fire-fighting infrastructure and appurtenances to each lot created.

22.32.040 Sanitary Sewer System. The developer shall install a sanitary sewer system to serve each lot created.

22.32.080 Performance Bonds. In lieu of installing all required improvements and components as part of a plat or short plat, the applicant may propose to post a bond, or submit evidence that an adequate security device has been submitted and accepted by the service provider (City of Kirkland and/or Northshore Utility District), for a period of one year to ensure completion of these requirements within one year of plat/short plat approval.

Prior to occupancy:

22.32.020 Water System. The applicant shall install a system to provide potable water, adequate fire flow and all required fire-fighting infrastructure and appurtenances to each lot created.

22.32.040 Sanitary Sewer System. The developer shall install a sanitary sewer system to serve each lot created.

22.32.090 Maintenance Bonds. A two-year maintenance bond may be required for any of the improvements or landscaping installed or maintained under this title. A maintenance bond will be required for @.

ZONING CODE STANDARDS

95.50 Tree Installation Standards. All supplemental trees to be planted shall conform to the Kirkland Plant List. All installation standards shall conform to Kirkland Zoning Code Section 95.45.

95.52 Prohibited Vegetation. Plants listed as prohibited in the Kirkland Plant List shall not be planted in the City.

105.47 Required Parking Pad. Except for garages accessed from an alley, garages serving detached dwelling units in low density zones shall provide a minimum 20-foot by 20-foot parking pad between the garage and the access easement, tract, or right-of-way providing access to the garage.

110.60.5 Street Trees. All trees planted in the right-of-way must be approved as to species by the City. All trees must be two inches in diameter at the time of planting as measured using the standards of the American Association of Nurserymen with a canopy that starts at least six feet above finished grade and does not obstruct any adjoining sidewalks or driving lanes.

115.25 Work Hours. It is a violation of this Code to engage in any development activity or

to operate any heavy equipment before 7:00 am. or after 8:00 pm Monday through Friday, or before 9:00 am or after 6:00 pm Saturday. No development activity or use of heavy equipment may occur on Sundays or on the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day. The applicant will be required to comply with these regulations and any violation of this section will result in enforcement action, unless written permission is obtained from the Planning official.

115.40 Fence Location. Fences over 6 feet in height may not be located in a required setback yard. A detached dwelling unit abutting a neighborhood access or collector street may not have a fence over 3.5 feet in height within the required front yard. No fence may be placed within a high waterline setback yard or within any portion of a north or south property line yard, which is coincident with the high waterline setback yard.

A detached dwelling unit may not have a fence over 3.5 feet in height within 3 feet of the property line abutting a principal or minor arterial except where the abutting arterial contains an improved landscape strip between the street and sidewalk. The area between the fence and property line shall be planted with vegetation and maintained by the property owner.

115.42 Floor Area Ratio (F.A.R.) Limits. Floor area for detached dwelling units is limited to a maximum floor area ratio in low density residential zones. See Use Zone charts for the maximum percentages allowed. This regulation does not apply within the disapproval jurisdiction of the Houghton Community Council.

115.43 Garage Requirements for Detached Dwelling Units in Low Density Zones. Detached dwelling units served by an open public alley, or an easement or tract serving as an alley, shall enter all garages from that alley. Whenever practicable, garage doors shall not be placed on the front façade of the house. Side-entry garages shall minimize blank walls. For garages with garage doors on the front façade, increased setbacks apply, and the garage width shall not exceed 50% of the total width of the front façade. These regulations do not apply within the disapproval jurisdiction of the Houghton Community Council. Section 115.43 lists other exceptions to these requirements.

115.75.2 Fill Material. All materials used as fill must be non-dissolving and non-decomposing. Fill material must not contain organic or inorganic material that would be detrimental to the water quality, or existing habitat, or create any other significant adverse impacts to the environment.

115.90 Calculating Lot Coverage. The total area of all structures and pavement and any other impervious surface on the subject property is limited to a maximum percentage of total lot area. See the Use Zone charts for maximum lot coverage percentages allowed. Section 115.90 lists exceptions to total lot coverage calculations See Section 115.90 for a more detailed explanation of these exceptions.

115.95 Noise Standards. The City of Kirkland adopts by reference the Maximum Environmental Noise Levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173-60 WAC. Any noise, which injures, endangers the comfort, repose, health or safety of persons, or in any way renders persons insecure in life, or in the use of property is a violation of this Code.

115.115 Required Setback Yards. This section establishes what structures, improvements and activities may be within required setback yards as established for each use in each zone.

115.115.3.g Rockeries and Retaining Walls. Rockeries and retaining walls are limited to a maximum height of four feet in a required yard unless certain modification criteria in this section are met. The combined height of fences and retaining walls within five feet of each other in a required yard is limited to a maximum height of 6 feet, unless certain modification criteria in this section are met.

115.115.3.n Covered Entry Porches. In residential zones, covered entry porches on dwelling units may be located within 13 feet of the front property line if certain criteria in this section are met. This incentive is not effective within the disapproval jurisdiction of the Houghton Community Council.

115.115.3.o Garage Setbacks. In low density residential zones, garages meeting certain criteria in this section can be placed closer to the rear property line than is normally allowed in those zones.

115.115.3.p HVAC and Similar Equipment: These may be placed no closer than five feet of a side or rear property line, and shall not be located within a required front yard; provided, that HVAC equipment may be located in a storage shed approved pursuant to subsection (3)(m) of this section or a garage approved pursuant to subsection (3)(o)(2) of this section. All HVAC equipment shall be baffled, shielded, enclosed, or placed on the property in a manner that will ensure compliance with the noise provisions of KZC 115.95.

115.115.5.a Driveway Width and Setbacks. For a detached dwelling unit, a driveway and/or parking area shall not exceed 20 feet in width in any required front yard, and shall be separated from other hard surfaced areas located in the front yard by a 5-foot wide landscape strip. Driveways shall not be closer than 5 feet to any side property line unless certain standards are met.

150.22.2 Public Notice Signs. Within seven (7) calendar days after the end of the 21-day period following the City's final decision on the permit, the applicant shall remove all public notice signs.

Prior to recording:

110.60.6 Mailboxes. Mailboxes shall be installed in the development in a location approved by the Postal Service and the Planning Official. The applicant shall, to the maximum extent possible, group mailboxes for units or uses in the development.

Prior to issuance of a grading or building permit:

95.30(4) Tree Protection Techniques. A description and location of tree protection measures during construction for trees to be retained must be shown on demolition and grading plans.

95.34 Tree Protection. Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities. Protection measures for trees to be retained shall include (1) placing no construction material or equipment within the protected area of any tree to be retained; (2) providing a visible temporary protective chain link fence at least 6 feet in height around the protected area of retained trees or groups of trees until the Planning Official authorizes their removal; (3) installing visible signs spaced no further apart than 15 feet along the protective fence stating "Tree Protection Area, Entrance Prohibited" with the City code enforcement phone number; (4) prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional; and (5) ensuring that approved landscaping in a protected zone shall be done with light machinery or by hand.

27.06.030 Park Impact Fees. New residential units are required to pay park impact fees prior to issuance of a building permit. Please see KMC 27.06 for the current rate. Exemptions and/or credits may apply pursuant to KMC 27.06.050 and KMC 27.06.060. If a property contains an existing unit to be removed, a "credit" for that unit shall apply to the first building permit of the subdivision.

Prior to occupancy:

95.51.2.b Tree Maintenance. For detached dwelling units, the applicant shall submit a 5-year tree maintenance agreement to the Planning Department to maintain all pre-existing trees designated for preservation and any supplemental trees required to be planted.

110.60.5 Landscape Maintenance Agreement. The owner of the subject property shall sign a landscape maintenance agreement, in a form acceptable to the City Attorney, to run with

the subject property to maintain landscaping within the landscape strip and landscape island portions of the right-of-way (see Attachment @). It is a violation to pave or cover the landscape strip with impervious material or to park motor vehicles on this strip.

110.60.6 Mailboxes. Mailboxes shall be installed in the development in a location approved by the Postal Service and the Planning Official. The applicant shall, to the maximum extent possible, group mailboxes for units or uses in the development.

110.75 Bonds. The City may require or permit a bond to ensure compliance with any of the requirements of the Required Public Improvements chapter. A @ shall be submitted for @.

DEVELOPMENT STANDARDS

PSB12-00001

BUILDING DEPARTMENT

1. Prior to issuance of Building, Demolition or Land surface Modification permit applicant must submit a proposed rat baiting program for review and approval. Kirkland Municipal Ordinance 9.04.040
2. Building permits must comply with the 2009 editions of the International Building, Residential and Mechanical Codes and the Uniform Plumbing Code as adopted and amended by the State of Washington and the City of Kirkland.
3. Structure must comply with the 2009 Washington State Energy Code.
4. Structures must be designed for seismic design category D, wind speed of 85 miles per hour and exposure B.
5. Plumbing meter and service line shall be sized in accordance with the current UPC.
6. Demolition permit required for removal of existing structures, if applicable.
7. Geotechnical report required to address development activity. The report must be prepared by a Washington State licensed Professional Engineer. Recommendations contained within the report shall be incorporated into the design of the subsequent structures.

FIRE DEPARTMENT

One new hydrant is required to be installed as shown on the plans submitted. It shall be equipped with a 5" Storz fitting.

PUBLIC WORKS DEPARTMENT

You can review your permit status and conditions at www.kirklandpermits.net

PUBLIC WORKS CONDITIONS

Permit #: PSB12-00001
Project Name: Merit Homes - Wisti 18 lot Plat
Project Address: 10611 Slater Ave. NE
Date: May 23, 2012

Public Works Staff Contacts
Land Use and Pre-Submittal Process:
Rob Jammerman, Development Engineering Manager
Phone: 425-587-3845 Fax: 425-587-3807
E-mail: rjammer@ci.kirkland.wa.us

Building and Land Surface Modification (Grading) Permit Process:
John Burkhalter, Development Engineer Supervisor
Phone: 425-587-3846 Fax: 425-587-3807
E-mail: jburkhalter@ci.kirkland.wa.us

General Conditions:

1. All public improvements associated with this project including street and utility improvements, must meet the City of Kirkland Public Works Pre-Approved Plans and Policies Manual. A Public Works Pre-Approved Plans and Policies manual can be purchased from the Public Works Department, or it may be retrieved from the Public Works Department's page at the City of Kirkland's web site at www.ci.kirkland.wa.us.

2. This project will be subject to Public Works Permit and Connection Fees. It is the applicant's responsibility to

contact the Public Works Department by phone or in person to determine the fees. The fees can also be review the City of Kirkland web site at www.ci.kirkland.wa.us. The applicant should anticipate the following fees:

- o Water and Sewer connection Fees (paid with the issuance of a Building Permit)
- o Side Sewer Inspection Fee (paid with the issuance of a Building Permit)
- o Septic Tank Abandonment Inspection Fee (if applicable)
- o Water Meter Fee (paid with the issuance of a Building Permit)
- o Right-of-way Fee
- o Review and Inspection Fee (for utilities and street improvements).
- o Traffic, Park and School Impact Fee (paid with the issuance of Building Permit). For additional information, see notes below.

3. All street and utility improvements shall be permitted by obtaining a Land Surface Modification (LSM) Permit. If a Building Permit for a new house is applied for prior to applying for the LSM Permit, the Building Permit will not be issued until a complete LSM Permit is applied for.

4. Prior to submittal of a Building or Zoning Permit, the applicant must apply for a Traffic Concurrency Test Notice. Contact Thang Nguyen, Transportation Engineer, at 425-587-3869 for more information. In conjunction with SEPA, a transportation study will be required.

5. Building Permits associated with this proposed project will be subject to the traffic, park, and school impact fees per Chapter 27 of the Kirkland Municipal Code. The impact fees shall be paid prior to issuance of the Building Permit(s).

6. Any existing single family homes within this project which are demolished will receive a Traffic Impact Fee credit, Park Impact Fee Credit and School Impact Fee Credit. This credit will be applied to the first Building Permit that is applied for within the subdivision (and subsequent Building Permits if multiple houses are demolished). The credit amount for each demolished single family home will be equal to the most currently adopted Fee schedule.

7. All civil engineering plans which are submitted in conjunction with a building, grading, or right-of-way permit must conform to the Public Works Policy titled ENGINEERING PLAN REQUIREMENTS. This policy is contained in the Public Works Pre-Approved Plans and Policies manual.

8. All street improvements and underground utility improvements (storm, sewer, and water) must be designed by a Washington State Licensed Engineer; all drawings shall bear the engineers stamp.

9. All plans submitted in conjunction with a building, grading or right-of-way permit must have elevations which are based on the King County datum only (NAVD 88).

10. A completeness check meeting is required prior to submittal of any Building Permit applications.

11. The required tree plan shall include any significant tree in the public right-of-way along the property frontage.

12. Prior to issuance of any commercial or multifamily Building Permit, the applicant shall provide a plan for garbage storage and pickup. The plan shall be approved by Waste Management and the City.

13. All subdivision recording mylar's shall include the following note:

Utility Maintenance: Each property owner shall be responsible for maintenance of the sanitary sewer or storm water stub from the point of use on their own property to the point of connection in the City sanitary sewer main or storm water main. Any portion of a sanitary sewer or surface water stub, which jointly serves more than one property, shall be jointly maintained and repaired by the property owners sharing such stub. The joint use and maintenance shall “run with the land” and will be binding on all property owners within this subdivision, including their heirs, successors and assigns.

Public Right-of-way Sidewalk and Vegetation Maintenance: Each property owner shall be responsible for keeping

the sidewalk abutting the subject property clean and litter free. The property owner shall also be responsible for the maintenance of the vegetation within the abutting landscape strip. The maintenance shall “run with the land” and will be binding on all property owners within this subdivision, including their heirs, successors and assigns.

Sanitary Sewer Conditions:

1. The existing sanitary sewer main within the Slater Ave. right-of-way along the front of the property is adequate.

2. The applicant shall extend the public sewer system to provide sanitary sewer service for each lot within the proposed project. Extend an 8" sewer main along the new access road and terminate with a manhole.

3. A Sanitary Sewer Latecomers Agreement may be recorded with the sewer extension

4. Provide a plan and profile design for the sewer line extension

5. Provide a 6-inch minimum side sewer stub to each lot.

Water System Conditions:

1. The existing water main in the Slater Ave. right-of-way along the front of the subject property is adequate to serve this proposed development.

2. The applicant shall extend the existing public water system to provide water service for each lot. Extend an 8" water main along the new access road, install new fire hydrants per Fire dept direction, and terminate the extension with a blow-off.

3. Provide a separate 1" minimum water service from the water main to the meter for each lot; City of Kirkland will set the water meter.

Surface Water Conditions:

2009 KCSWDM

1. Provide temporary and permanent storm water control per the 2009 king County Surface Water Design Manual and the Kirkland Addendum. See Policies D-2 and D-3 in the PW Pre-Approved Plans for drainage review information, or contact city of Kirkland Surface Water staff at (425) 587-3800 for help in determining drainage review requirements. Summarized below are the levels of drainage review based on site and project characteristics:

- Full Drainage Review
- A full drainage review is required for any proposed project, new or redevelopment, that will:
- Add or replaces 5,000ft2 or more of new impervious surface area,
- Propose 7,000ft2 or more of land disturbing activity, or,
- Be a redevelopment project on a single or multiple parcel site in which the total of new plus replaced impervious surface area is 5,000ft2 or more and whose valuation of proposed improvements (including interior improvements but excluding required mitigation and frontage improvements) exceeds 50% of the assessed value of the existing site improvements.

2. Evaluate the feasibility and applicability of dispersion, infiltration, and other stormwater low impact development facilities on-site (per section 5.2 in the 2009 King County Surface Water Design Manual). If feasible, stormwater low impact development facilities are required. See PW Pre-Approved Plan Policy L-1 for more information on this requirement.

3. Because this project site is one acre or greater, the following conditions apply:

- Amended soil requirements (per Ecology BMP T5.13) must be used in all landscaped areas.
- If the project meets minimum criteria for water quality treatment (5,000ft2 pollution generating impervious surface area), the enhanced level of treatment is required if the project is multi-family residential, commercial, or industrial. Enhanced treatment targets the removal of metals such as copper and zinc.
- The applicant is responsible to apply for a Construction Stormwater General Permit from Washington State Department of Ecology. Provide the City with a copy of the Notice of Intent for the permit. Permit Information can be found at the following website: http://www.ecy.wa.gov/programs/wq/stormwater/construction/
  - Among other requirements, this permit requires the applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) and identify a Certified Erosion and Sediment Control Lead (CESCL) prior to the start of construction. The CESCL shall attend the City of Kirkland PW Dept. pre-construction meeting with a completed SWPPP.
- Turbidity monitoring by the developer/contractor is required if a project contains a lake, stream, or wetland.
- A Stormwater Pollution Prevention and Spill (SWPPS) Plan must be kept on site during all phases of construction and shall address construction-related pollution generating activities. Follow the guidelines in the 2009 King County Surface Water Design Manual for plan preparation.

4. The storm water detention system shall be designed to Level II standards. Historic (forested) conditions shall be used as the pre-developed modeling condition.

5. This project is creating or replacing more than 5000 square feet of new impervious area that will be used by vehicles (PGIS - pollution generating impervious surface). Provide storm water quality treatment per the 2009 King County Surface Water Design Manual.

6. Storm detention calculations for the entire site are required.

7. Provide a level one off-site analysis (based on the King County Surface Water Design Manual, core requirement #2).

8. The developer has been given notice (with this condition) that the Army Corps of Engineers (COE) has asserted jurisdiction over upland ditches draining to streams. Either an existing Nationwide COE permit or an Individual COE permit may be necessary for work within ditches, depending on the project activities. Applicants should obtain the applicable COE permit; information about COE permits can be found at: U.S. Army Corps of Engineers, Seattle District Regulatory Branch http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_NWPs

Specific questions can be directed to: Seattle District, Corps of Engineers, Regulatory Branch, CENWS-OD-RG, Post Office Box 3755, Seattle, WA 98124-3755, Phone: (206) 764-3495

9. Provide an erosion control report and plan with Building or Land Surface Modification Permit application. The plan shall be in accordance with the 2009 King County Surface Water Design Manual.

10. Construction drainage control shall be maintained by the developer and will be subject to periodic inspections. During the period from May 1 and September 30, all denuded soils must be covered within 7 days; between October 1 and April 30, all denuded soils must be covered within 12 hours. Additional erosion control measures may be required based on site and weather conditions. Exposed soils shall be stabilized at the end of the workday prior to a weekend, holiday, or predicted rain event.

11. Provide collection and conveyance of right-of-way storm drainage

12. As part of the roof and driveway drainage conveyance system for each new house, each lot shall contain a 10 ft. long (min.) perforated tight line connection with an overflow to the public storm drain system (COK Plan No. CK-D.39). The tight line connections shall be installed with the individual new houses.

13. All roof and driveway drainage must be tight-lined to the storm drainage system or utilize low impact development techniques.

14. Provide a plan and profile design for the storm sewer system.

Street and Pedestrian Improvement Conditions:

1. The subject property abuts Slater Ave (a Collector type street) and will be dedicating a new access road which will be a neighborhood access type street. Zoning Code sections 110.10 and 110.25 require the applicant to make half-street improvements in rights-of-way abutting the subject property. Section 110.30-110.50 establishes that this street must be improved with the following:

Slater Avenue:
A. Widen the street to 18 ft. from centerline to face of curb.
B. Install storm drainage, curb and gutter, a 4.5 ft. planter strip with street trees 30 ft. on-center, and a 5 ft. wide sidewalk.
(street improvements should match existing improvements to the south).

New Access Road:
A. Install a 70 ft diameter cul-de-sac within an 80 ft diameter right-of-way dedication.
B. Install an R-24 type access road with landscape strips, street trees (planted 30 ft on-center) and 5 ft sidewalks along both sides. The 24 ft width is required to provide adequate on-street parking.
C. The Zoning Code allows for one sidewalk to be eliminated along the street if the developer participates in the sidewalk construction in-lieu program.
D. Dedicate 40 – 45 ft of ROW for the said improvements (width dependent on one or two sidewalks).

2. A 2-inch asphalt street overlay will be required where three or more utility trench crossings occur within 150 lineal ft. of street length or where utility trenches parallel the street centerline. Grinding of the existing asphalt to blend in the overlay will be required along all match lines.

3. The driveway for the southeast lot next to Slater Ave. shall be at least 50 ft back from the Slater Ave improvements (curb).

4. The driveway for each lot shall be long enough so that parked cars do not extend into the access easement or right-of-way (20 ft. min.)

5. All street and driveway intersections shall not have any visual obstructions within the sight distance triangle. See Public Works Pre-approved Policy R.13 for the sight distance criteria and specifications.

6. Prior to the final of the building or grading permit, pay for the installation of stop and street signs at the new intersections.

7. Install new monuments at: new intersection and cul-de-sac.

8. It shall be the responsibility of the applicant to relocate any above-ground or below-ground utilities which conflict with the project associated street or utility improvements.

9. Underground all new and existing on-site utility lines and overhead transmission lines.

10. Zoning Code Section 110.60.9 establishes the requirement that existing utility and transmission (power, telephone, etc.) lines on-site and in rights-of-way adjacent to the site must be underground. The Public Works Director may determine if undergrounding transmission lines in the adjacent right-of-way is not feasible and defer the undergrounding by signing an agreement to participate in an undergrounding project, if one is ever proposed. In this case, the Public Works Director has determined that undergrounding of existing overhead utility on Slater Ave is not feasible at this time and the undergrounding of off-site/frontage transmission lines should be deferred with a Local Improvement District (LID) No Protest Agreement. The final recorded subdivision mylar shall include a condition requiring all associated lots to sign a LID No Protest Agreement prior to the issuance of a building permit for said lot. In addition, if a house is to be saved on one of the lots within the subdivision, a LID No Protest Agreement shall be recorded against this lot at the time of subdivision recording.

11. New street lights will be required per Puget Power design and Public Works approval. Contact the INTO Light Division at PSE for a lighting analysis. If lighting is necessary, design must be submitted prior to issuance of a grading or building permit.

Tony Leavitt

From: Yuanshun Chan <ccruise63@gmail.com>
Sent: Tuesday, May 29, 2012 2:17 PM
To: Tony Leavitt
Subject: Permit# PSB12-00001

Dear Mr. Tony Leavitt:

My name is YUAN-SHUN CHAN, and I live right across the street of this lot, from PSB12-00001. I am writing to present my comment regarding to the upcoming development plan.

First of all, I do sincerely welcome new neighbors coming. And a new development of this lot is likely to bring more sunshine to where I live, which is better. However, after looking at the new lot planning, I also find some concerns.

1. Noise, I-405 is close to us, and as far as the original forest is there, it could significantly reduce the noise from I-405. So, I hope the final plan could consider this issue and at least keep certain buffer zone and original trees right by I-405.

2. Traffic, since Slater Ave curves and the lot base is higher than Slater Ave, there might be some blind spot for the cars driving out of the new street.

These are the two concerns I have. I guess this plan may still work out, but it will be a much better plan if planners could put some concerns about these two issues.

Thank you for reading this, and look forward to having new neighbors.

Best regards,

Yuanshun Chan
10654 Slater AVE NE
Kirkland, WA 98033

Tony Leavitt

From: Greg Griffis <Greg@merithomesinc.com>
Sent: Monday, July 16, 2012 3:08 PM
To: ccruise63@gmail.com
Cc: Tony Leavitt; Josh Lysen
Subject: Wisti Short Plat on Slater

Hello Mr. Chan

My name is Greg Griffis of Merit Homes, Inc. we will be the developers of the residential plat and builders the homes shortly thereafter. We requested from the city planner a copy of any comments so we can reply to concerned citizens.

Regarding your comments: Noise is of concern whenever we build near the freeway. All trees in the I405 corridor will remain plus trees in the SW corner of plat and along the North side of plat. As trees help in mitigating sound, they are not particular effective. The real difference to the positive will be the construction of the homes as they will become hardscape deflecting the sound much like the State's sound wall reflects sound wave. I wish we could make it go away, but at least it should be somewhat less annoying when completed.
Traffic line of site will be enhanced by what is called "half street" improvements. This will be excavating back the embankment to allow for sidewalk, bike lane and planter strip thereby opening the line of site. I would be happy to meet with you and go over your concern onsite if you would like.

Best regards,

Greg Griffis

425 444-0309

Greg Griffis
Merit Homes, Inc.

Owner / President
425-444-0309 – m | 206-600-4914 - f
Greg@MeritHomesInc.com | www.MeritHomesInc.com | Facebook
13023 NE 70th Place, Kirkland, WA 98033

CITY OF KIRKLAND
123 FIFTH AVENUE • KIRKLAND, WASHINGTON 98033-6189 • (425) 587-3800

DEPARTMENT OF PUBLIC WORKS MEMORANDUM

To: Tony Leavitt, Planner

From: Thang Nguyen, Transportation Engineer

Date: June 5, 2012

Subject: Wisti Short Plat Traffic Impact Analysis Review, Tran12-00529

This memo summarizes Public Works review of the traffic impact from the proposed development. This memo also summarizes staff recommendation of approval for the proposed project.

Project Description
The applicant proposes construct an 18 unit single-family subdivision. It is anticipated that the project will be built and fully occupied by the end of 2014.

Trip Generation
Based on ITE trip generation rate for single-family home, the proposed project is forecasted to generate 172 daily 14 AM peak hour and 18 PM peak hour net new trips. The ITE trip generation rate for single-family use is a widely use and accepted rate for estimating trip generation

Traffic Concurrency
All developments subject to SEPA review are required to pass traffic concurrency. The proposed project passed traffic concurrency. A traffic concurrency test notice was issued February 15, 2012 and will expire February 15, 2013 unless a building permit is issued or a traffic concurrency test extension is requested prior to February 15, 2013 and it is approved by the City.

Traffic Impacts
Project traffic distribution and assignment was estimated using the City's BKR Traffic Model.

The City ‘s Traffic Impact Analysis Guidelines (TIAG) requires a Level of Service (LOS) Analysis using the Highway Capacity Manual Operational Method for intersections that have proportionate share greater than 1%.

The City requires developers to mitigate traffic impacts when one of the following two conditions is met:

1. An intersection level of service is at E and the project traffic is more than 15% of the intersection traffic volumes.
2. An intersection level of service is at F and the project traffic is more than 5% of the intersection traffic volumes.

Based on the 1% proportionate share threshold no off-site intersection requires additional safety and operational analysis.

Given the proximity to the site, the intersection of Slater Avenue NE/NE 105th Street was analyzed for safety and operation. Based on the traffic analysis report, the intersection of Slater Avenue NE/NE 105th Street will operate at an acceptable level of service and traffic mitigation to the intersection is not warranted.

The project access to Slater Avenue NE was also analyzed for safety and operation. Based on the traffic analysis report, the site driveway with Slater Avenue NE will operate at an acceptable level of service and traffic mitigation to the intersection is not warranted

Sight distance was review for the site driveway to Slater Avenue NE and was found to meet City’s minimum standards of 250 feet. However, in final landscaping design, no fixed structure or landscaping shall be allowed to restrict safe sight distance.

Driveway into each lot shall meet the driveway spacing of 75 feet away from Slater Avenue NE and all driveways within the site shall have a minimum spacing of 10 feet.

Road Impact Fees
Per City’s Ordinance 3685, Road Impact Fees per Impact Fee Schedule in effect September 1, 2010 are required for all developments. Road impact fees are used to construct transportation improvements throughout the City. The road impact rate for single-family is $3,825 per unit. The calculated road impact fee for the proposed project is $68,850. Final impact fee shall be determined at building permit acceptance.

Staff Recommendations
Public Works Staff concludes that the proposed project will not create significant traffic impacts that would require specific off-site traffic mitigation. Staff recommends approval of the proposed project with the following conditions:

1. Pay Road Impact Fee.

2. Maintain 75-foot spacing between the driveways within the site from Slater Avenue NE.
3. All driveways within the site shall have a minimum spacing of 10 feet.
4. No fixed structure or landscaping shall be allowed to restrict safe sight distance at the project driveway and Slater Avenue NE.

If you have any questions, call me at (425) 587-3869.

cc: EnerGov file
Rob Jammerman, Development Engineer Manager
File

John Deutsch ISA Certified Arborist #3994 ISA Certified Tree Risk Assessor #577

Arborist Report

Date: Oct 11, 2011

Client: Josh Lysen, Merit Homes

Cell: 425-444-4041 Email: josh@merithomesinc.com

Site/Address: Slater Ave NE and Ne 106 ST, Kirkland, WA 98033

Arborist: E. John Deutsch

Site: Short plat, Residential, multi lots

SUMMARY: An arborist assessment of the significant trees (minimum 6 inch DBH) located on the property is presented in this report. The trees have been evaluated in terms of viability: overall health and safety.

Attached is a tree inventory that presents specific information for each tree.

Total number of significant trees in inventory:	**206**
Number of viable significant trees	**130**
Number of non-viable significant trees	**76**
Total tree credits of viable trees	**840**
Total tree credits of non-viable trees	**491**

TREE INVENTORY

A) #: Tree Number as stated in the tree inventory and in this report
B) Tree: Tag Number: the number marked/tagged on each tree
C) DBH: trunk diameter in inches at 4.5 ft from ground
D) Species **E) Drip: Dripline, radius of canopy (in feet)**
F) Height of tree (in feet)
G) Lim Dist: Limits of Disturbance: Distance recommended from trunk to protective fencing, in feet
H) LCR: Live Crown Ration in %, ratio of live crown to total height of tree
I) Crown Class: Dominant, Co-dominant, Intermediate, Suppressed
J) Struc: Overall structure and form of tree, rated 1) Poor, 2) Satisfactory, 3) Good
K) Hea: Overall health and vigor of tree, rated 1) Poor, 2) Satisfactory, 3) Good
L) Viable: Viability for retention: Yes or No **M) Tree Credits as per COK table**

SEE ATTACHED TREE INVENTORY

Photo File

The land is primarily natural growth forest, with perhaps 25% of the land area cleared. The remaining 75% has remained undeveloped for many decades.

Photo A: East end of land area, taken from Slater Ave NE. Five trees are numbered for reference purposes.

Photo B: gravel driveway entrance to the property, taken from Slater Ave NE looking westward.

Photo C: north property line area, with houses to the north shown (These houses to the north are in very close proximity, and potential targets of the trees on this property.)

Photo D: major cleared area in the north central area of the property (two trees are numbered for reference)

Photos E, F, G, and H: are all taken from the cleared area described above. A multitude of trees can be seen; the trees in these photos are typical of most of the trees on this property: satisfactory in terms of structure and aesthetic value.

Photos J, M and L are typical of the many trees on this property with significant structural problems (detailed in the attached tree inventory)

Photo I: The two trees (184 and 186) are a grouping of four large Douglas Firs. Due to the large mass of these trees, and due to their close proximity to the residences immediately to the north, these trees may be significant hazards if they are retained while other major trees to the south of this grouping are removed.

Recommendations:

Although there are many trees situated on this land parcel, there are very few that are of "good" or "excellent" structure. Typical of natural forested areas, most of the trees have little direct exposure to light, and as a result, live crown ratios are typically quite low. Such top-heavy trees greatly increase in hazard rating when other trees in the immediate vicinity are removed.

There are not any larger groupings of trees that I would recommend retaining. Even if some forest remnant stands are kept, there will be several issues affecting the viability of such stands. Again, many of the trees on this land parcel are top heavy, and falling due to wind-throw becomes a real threat. Major changes of surrounding soils caused by land modifications (heavy excavation, etc) weaken retained trees. Ecological functions are affected by the loss of understory.

Of particular concern are the tall trees close to all four property lines. Major targets are present along all property lines:

1) West: I 405 corridor
2) North and South: high density single family homes.
3) East: power lines along the east property lines.

There are many trees in excess of 100 ft along the entire perimeter of this property. As major land clearing occurs, retained trees, particularly those that are top heavy, are at much greater risk of being blown over in windstorms. As mentioned earlier, very few of these trees would be considered to have "good/excellent" overall structure.

APPENDIX:

Protective fencing.

Protective fencing must be installed for all significant trees that are going to be retained which are in close proximity of building construction. Protective fencing is also required for any significant trees that are close to construction related vehicle traffic (excavators, supply trucks etc) Protective fencing is not required for non-significant trees. **Protective fencing distances are indicated in Limits of Disturbance. They indicate the minimum distance of the protective fencing from the trunk of each tree.**

Note: The completed site plan (provided by the surveyor) should include

- a COK fencing detail,
- tree fence locations,
- tree #'s (corresponding with the arborist's report),
- and tree drip-lines.

Methods to determine limits of disturbance in this report:

In this report, limits of disturbance was done by a modification of the ISA Critical Root Zone Protection.

> **Critical Root Zone Protection:** A critical step in retaining healthy trees during construction and development is the protection of tree roots from disturbance. Each tree has a critical root zone (CRZ) that varies by species and site conditions. The International Society of Arboriculture (ISA) defines CRZ as an area equal to 1-foot radius from the base of the tree's trunk for each 1 inch of the tree's [DBH] diameter at 4.5 feet above grade (referred to as diameter at breast height).[1]

In an ideal situation, we adhere to the above recommendations of 1 foot for every one inch of DBH. However, on small urban lots with new construction activity, these distances are extremely impractical. With a conifer of 36" DBH, this would require that protective fencing be located at a distance of 36 ft from the trunk; the recommended protective zone would be 75 ft by 75 ft This would require that an area of approximately 5,625 sq ft be fenced off in order to protect the critical root zone. A common size for a urban lot is only 7,200 sq ft. Therefore, if the above ISA guidelines are used, in many situations, the lot is virtually "unbuildable," unable to be developed.

For this reason, on smaller urban lots, I generally recommend that the above guidelines be reduced by one-half (one foot for every TWO inches of trunk diameter) In the above example of 36" DBH, I would suggest that the protective fencing be placed 18 ft from the trunk. My making such a major reduction (39 ft by 39 ft = 1521 sq ft) in the area of the CRZ, clearly there is a significantly greater chance that the tree may decline due to root zone disturbance. However, the only alternative would be removal of the tree(s) when building on small urban lots. It is a calculated risk, and, I believe, an acceptable level of risk. Even with such a major reduction of CRZ area, the presence of larger diameter trees will still be frequently problematic.

Trees not viable for retention on small urban lots undergoing major development:

[1] Tree Protection on Construction and Development Sites (2009) A Best Management Practices Guidebook for the Pacific Northwest

Normally, we consider several factors for determining viability of "individual" trees (structure, health, defects, etc) However, in major developments that involve removal of numerous trees, the "wind-firmness" of the retained trees is of paramount importance. Particularly, the removal of larger trees has a profound effect on remaining trees.

Poor Stand Protection Zone [2]

Scattered trees with a highly disturbed or missing understory may not be worth saving. A poor stand protection zone has the following characteristics:

- Trees blow over easily due to lack of support.
- Soil dries out and soil erosion occurs due to disturbed soils and lack of understory.
- Forest microclimate is disturbed, Weeds and invasive species take over.
- Forest succession is interrupted and little regeneration occurs.
- The stand is visually unattractive.

As stated above "scattered trees… may not be worth saving." In urban development, it is imperative to not create situations where isolated (large diameter) trees remain after removal of adjacent larger trees. In addition, isolated rows of trees should not be created. These arrangements are often referred to as "idiot strips" The pejorative term aptly describe a common situation. Trees are removed from the building envelope (interior of the lot) and the trees along a property line (outside the building envelope) are retained. These narrow rows resemble a straight hedge row, and, of course, these trees are now exposed to direct winds. Windfall due to root or trunk failure is common. To compound the problem, in the Pacific Northwest, we often have situations where, for example, Douglas Firs, over 100 ft in height are retained in isolation or in rows. Because the trees may have been previously in a grove, the trunks are often quite bare as due to the lack of available light, canopy growth is confined to the upper canopy. These top-heavy trees may have a live crown ratio of only 30 or 40 percent. Such trees are unstable, and can cause major damage to targets, specifically houses. For example, if the lower or mid trunk area (that has no branches) makes a direct hit on a house, the bare trunk tends to slice through the roof, potentially creating a catastrophic situation. Generally, the hazard rating (tree risk assessment) of such trees is very high based on the three important criteria 1) size of defective part, 2) target area rating (houses etc) and 3) failure potential.

BMPs for Protecting Native Forest Remnants[3]

- Do not retain isolated single, tall, spindly trees; such trees are more likely to become structurally unstable, bend or blow over in storms, or become diseased and/or infested with insects.
- Avoid creating new forest edges that may not be wind-firm; retain large trees that are on the windward side of a stand to provide support and protection to the interior of the stand.

Preference for retaining trees in groupings (grove)

Generally, it is preferable to retain groupings of trees, as opposed to single trees or straight rows of trees. However, in smaller urban lots, the location of the building envelope, driveways, or roads will severely hamper the ability to retain groupings. Often such groupings can only be practically located in rear areas of the lot. Setbacks on the sides are usually shorter, and of course the building envelope often occupies a considerable area of the "width" of the lot.

Conservation of existing groves of native trees often provides greater economic and environmental benefit than preserving individual trees in the developing landscape.[4]

Excellent Stand Protection Zone

High tree densities with an undisturbed understory are characteristics of a high-quality forest remnant worth preserving. An excellent stand protection zone has the following characteristics:

- Trees structurally support one another.

[2] Tree Protection on Construction and Development Sites (2009)
[3] Tree Protection on Construction and Development Sites (2009)
[4] Tree Protection on Construction and Development Sites (2009

- Soil remains undisturbed.
- Wildlife uses are relatively unimpaired. Shady microclimate encourages natural woodland plants.
- Natural forest succession continues and forest regeneration is ongoing.
- The stand is visually attractive.

Appendix A:

Tree Protection on Construction and Development Sites (2009)
A Best Management Practices Guidebook for the Pacific Northwest

By
Oregon State University Extension Service
Washington State University Extensionregon Department of Forestry
Washington State Department of
USDA Forest Service Urban and Community Forestry Program
Pacific Northwest Chapter of the International Society of Arboriculture Natural Resources

Page 2 PROTECT FOREST REMNANT STANDS

Stands, groves, or patches of native Pacific Northwest trees, such as Oregon white oak, Western red cedar, red alder, bigleaf maple, and Douglas-fir, are often found in urban or urbanizing areas. These ecosystems are remnants of the larger forests that previously covered the area. They may range from less than a quarter acre to several acres in size. Conservation of existing groves of native trees often provides greater economic and environmental benefit than preserving individual trees in the developing landscape.

Excellent Stand Protection Zone

High tree densities with an undisturbed understory are characteristics of a high-quality forest remnant worth preserving. An excellent stand protection zone has the following characteristics:

1. Trees structurally support one another.
2. Soil remains undisturbed.
3. Wildlife uses are relatively unimpaired.
4. Shady microclimate encourages natural woodland plants.
5. Natural forest succession continues and forest regeneration is ongoing.
6. The stand is visually attractive.
7. Ecological functions are relatively unimpaired.

Poor Stand Protection Zone

Scattered trees with a highly disturbed or missing understory may not be worth saving. A poor stand protection zone has the following characteristics:

1. Trees blow over easily due to lack of support.
2. Soil dries out and soil erosion occurs due to disturbed soils and lack of understory.
3. Forest microclimate is disturbed.
4. Sunlight and temperature increase.
5. Weeds and invasive species take over.
6. Forest succession is interrupted and little regeneration occurs.
7. The stand is visually unattractive.
8. Ecological functions are severely interrupted.

BMPs for Protecting Native Forest Remnants

1. Fence the entire stand, grove, or patch to protect understory vegetation and soil as well as trees. Healthy soils require little if any fertilization, pesticides, or irrigation to support tree health.
2. Avoid removing vigorous, healthy trees and vegetation from the stand.
3. Do not retain isolated single, tall, spindly trees; such trees are more likely to become structurally unstable, bend or blow over in storms, or become diseased and/or infested with insects.
4. Avoid creating new forest edges that may not be wind-firm; retain large trees that are on the windward side of a stand to provide support and protection to the interior of the stand.

Page 3 Critical Root Zone Protection

A critical step in retaining healthy trees during construction and development is the protection of tree roots from disturbance. Each tree has a critical root zone (CRZ) that varies by species and site conditions. **The International Society of Arboriculture (ISA) defines CRZ as an area equal to 1-foot radius from the base of the tree's trunk for each 1 inch of the tree's diameter at 4.5 feet above grade (referred to as diameter at breast height).**

Tree diameter	Critical root zone radius	Total protection zone diameter, including trunk
2 inches	2 feet	4+ feet
6 inches	6 feet	13.5 feet
20 inches	20 feet	42 feet
46 inches	46 feet	96 feet

Page 4: Another common rule of thumb is to use a tree's dripline to estimate the CRZ . We recommend you evaluate both of these and choose whichever provides the larger CRZ.

Under certain circumstances, disturbing or cutting roots in a CRZ may be unavoidable. In such cases, the work should be done only under the onsite supervision of an ISA certified arborist.

Cutting or disturbing a large percentage of a tree's roots increases the likelihood of the tree's failure or death. Most tree roots over 4 inches in diameter are likely to be structural roots; cutting these roots may impact the structural stability of the tree, creating the potential for catastrophic failure (the tree may fall over).

The BMPs listed below retain good air and water supply to the critical roots of protected trees, as well as protect them from mechanical damage, to help trees remain as healthy and stable as possible during the construction process and beyond:

1. Establish a CRZ for both large and small trees.
2. Install strong fencing around the CRZ and require the fence to remain in place for the life of the development project to ensure protection.
3. Post appropriate signage to help convey the importance of the CRZ to workers.
4. Avoid cutting tree roots over 4 inches in diameter.
5. Make all necessary cuts to tree roots cleanly with sharp tools; never tear with a backhoe. A clean cut encourages good wound closure and confines the spread of decay.

To protect trees and tree roots within the fenced CRZ, do not do the following:

1. Stockpile construction materials or demolition debris.
2. Park vehicle or equipment.
3. Pile soil and/or mulch.
4. Trench for utilities installation or repair, or for irrigation system installation.
5. Change soil grade by cutting or filling.
6. Damage roots by grading, tearing, or grubbing.
7. Compact soil with equipment, vehicles, material storage, and/or foot traffic.
8. Contaminate soil from washing out equipment (especially concrete) and vehicle maintenance.
9. Install impervious parking lots, driveways, and walkways.
10. Attach anything to trees using nails, screws, and/or spikes.
11. Wound or break tree trunks or branches through contact with vehicles and heavy equipment.
12. Wound trunks with string weed trimmers and lawn mowers.
13. Cause injury by fire or excessive heat.

Page 5 Some tree species are more tolerant of damage and disturbance in the CRZ than others. A tree's tolerance depends not only upon the species but also upon conditions present prior to and at the time of the damage. Tree health, age of the tree, soil aeration and moisture, the time of year the damage occurs, its severity, and the weather conditions prior to, during, and after the damage all contribute to the tree's response. An experienced ISA certified arborist can analyze these variables and make specific recommendations to retain or recover a tree's health and safety during and after the construction process.

BMPs for Tree Protection Planning

1. Plan and budget for tree conservation and protection as part of the development process.
2. Plan for tree protection at least one growing season prior to the beginning of construction activities, where possible.
3. Employ an ISA certified arborist or an urban forester whenever possible to assist in tree protection planning, implementation, monitoring, and follow-up maintenance.
4. Plan to protect trees located on adjacent property, including those portions of the roots, trunk, and crown growing into or over the developing property.
5. Evaluate soil health and past site damage; incorporate that information into tree protection measures.
6. Evaluate existing trees on the site. Locate buildings, other structures and infrastructure through evaluation of the opportunities and constraints of existing trees. Select trees to be conserved and protected based upon their location, species, quality, health, and benefits such as energy savings by shade or wind protection.
7. Remove trees within 10 feet of the proposed building or structure.
8. Remove trees that cannot be adequately protected.
9. Remove trees that have less than one-quarter of their total height composed of tree crown (tall and spindly), or those with more than one-third of the trunk wounded.
10. Do not remove the best trees.
11. Conserve and protect trees in stands or groups where possible to facilitate their protection and maintenance, and to keep the forest structure intact.
12. Establish substantial penalties for tree damage and noncompliance with tree protection requirements.
13. Complete preconstruction tree maintenance, including mulch, fertilization, supplemental irrigation as necessary, and pruning to remove dead, structurally weak, and low-hanging branches.
14. Engage maintenance staff in early decision-making and education about care of retained trees.

Page 6 Implementation & Monitoring during Construction

1. Educate all workers on site about tree protection techniques and requirements during preconstruction meetings and by sharing this guidebook with them.
2. Establish a TPZ based on a tree's CRZ (discussed above).
3. Establish TPZs early, during site planning prior to construction.
4. Erect barriers or sturdy fencing around individual trees or groups of trees to define and protect CRZs (see figure).
5. Protect high-value trees with stem, branch, and root padding or wraps in addition to CRZ barriers.
6. Clearly identify the perimeter of TPZs with highly visible signs.
7. Establish one access route into the site and one exit route out of the site.
8. Confine construction offices, vehicular parking, worker break sites, and material storage to locations outside TPZs.
9. Avoid trenching through the CRZ of protected trees. Alter routes of underground infrastructure or use alternate methods such as pipe boring.
10. Do not trench or excavate the soil within CRZs. Tunnel or bore at least 18 inches beneath CRZs to install utility lines.
11. Where tree roots must be cut, make only sharp, clean cuts to promote root callusing and regeneration.
12. Remove badly damaged trees that may attract insects and disease.
13. Evaluate the potential of dead, damaged, or dying trees for wildlife habitat either as standing dead or woody debris if left onsite.
14. Monitor tree health and compliance with tree protection requirements regularly during construction.

Page 7 Protect individual trees Follow-up Maintenance

1. Complete post-construction tree maintenance, including mulch, fertilization, irrigation, soil aeration, and pruning where necessary.
2. In the absence of adequate rainfall, apply at least 1 inch of water per week by deep soaking methods.
3. Fertilize trees with phosphorus, potassium, calcium, magnesium, and other macro- and micro-nutrients as indicated by a soil test, but wait at least 1 year to apply any nitrogen.
4. Fertilize lightly with nitrogen after 1 year. If recommended by an arborist, light annual applications of nitrogen may be made for the next 3 to 5 years.
5. Inspect trees annually for at least 3 to 5 years after construction to look for changes in condition and signs of insects or disease, and to determine maintenance needs.
6. Remove trees that are badly damaged or are in irreversible decline if unsuitable for wildlife habitat.
7. Continue to protect not only the large, established trees on the site but also those newly planted in the landscape.
8. Mulch trees on a regular schedule, ensuring that mulch does not rest against tree trunk.
9. Develop a regular maintenance program that incorporates fertilization BMPs and integrated pest management techniques to get best results at lowest cost.

Page 14 PLANTING & ESTABLISHING NEW TREES

Proper Tree Planting

Proper tree planting is essential to long-term tree survival, health, and safety. Planting trees seems like a simple task, but if a tree is to thrive and not just survive, it is best to begin with the development of a planting plan designed to meet the objectives of the property owner or the requirements of local development regulations. The establishment process begins with the selection of good planting sites and appropriate tree species and varieties. Sites are prepared, trees are purchased and planted, and regular maintenance is scheduled for at least 3 years or until trees are established and growing well on their own.

A plan and schedule to plant new trees on a regular basis is useful to replace trees that are removed, to add to an existing group of trees, and to ensure that the community's urban forest remains diverse, dynamic, and stable.

Benefits of a planned planting program and protocol are as follows:

1. stable tree population with a diversity of ages, sizes, and species
2. tree canopy cover maintenance and development for future generations
3. opportunities for community involvement in tree planting and maintenance activities
4. better survival of young trees and lower tree establishment costs
5. Common mistakes made in tree planting and establishment include the following:
6. inadequate growing space (the tree grows too large for the available space)
7. inadequate soil volume, restricting root growth and potentially decreasing tree stability
8. selected species or variety not appropriate for the site conditions (available growing space, soil moisture and pH, sunlight, temperature, or general climate)
9. poor quality planting stock
10. tree planted in a hole that is too small
11. inappropriate soil amendments or mixtures added to the transplanting hole
12. roots of transplant stock not protected from heat and wind damage during transportation and pre-planting storage
13. tree planted too deep (root collar must be above soil level)
14. regular after-planting care, especially supplemental water, not provided during the 3-year establishment period
15. trees staked unnecessarily and/or incorrectly
16. stakes and guy wires are left on the tree too long

BMPs for Tree Establishment Tree Selection

1. Select a tree of appropriate mature size for the site.
2. Select native tree species for planting when appropriate for the location and if good quality stock is available.

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Use nonnative species and varieties if necessary where native soils may be severely impacted by long-term development, such as those found in many urban locations, and cannot support healthy native tree species. Choose noninvasive species and varieties appropriate to the development soils.

1. Select trees compatible with special site conditions, such as extremely wet (poor draining) or dry (excessive draining) soils.
2. Select only good quality planting stock.
3. Select nursery stock that meets the minimum standards for root ball size and quality as defined in ANSI A300 (Standards for Nursery Stock).
4. Protect trees from wind damage during transport by wrapping the whole tree including roots with a tarp or landscape fabric.
5. Protect the root ball of transplant stock with mulch or other protective measures during storage and planting activities.
6. Plan for a diversity of tree species and varieties to protect the urban forest from massive failure due to pest or disease infestation and to add visual interest.

Site Selection

1. Plant trees where they have plenty of room to grow to maturity without compromised health or form due to conflicts with adjacent infrastructure.
2. Provide trees with an adequate amount of soil volume for tree growth and stability. Adequate volumes range from 400 to 1,000 cubic feet depending on the mature canopy spread. To find the width and length of soil needed, assume a depth of 3 feet. A good rule of thumb is to assume 1.5 cubic feet of soil volume for each square foot of mature canopy.
3. Make sure there is now and will be at tree maturity adequate clearance from overhead utility lines, pedestrian and vehicular traffic, buildings, signs, and street lights. Local jurisdictions may have preferred guidelines for such setbacks.
4. Consult with local utilities for planting specifications to maintain adequate utility clearance.
5. Plant the right tree in the right place (for example, don't plant large trees that require constant pruning to maintain safety under overhead power lines).

Site Preparation

1. Call your local utility locate service before you dig. Always have utilities located prior to installing trees on any site.
2. Break up compacted soils in an area 5 to 10 times the width of the new tree's root ball or container.
3. Dig a planting hole that is at least twice the width of the new tree's root ball or container; more is even better.
4. Dig the planting hole no deeper than the height of the root ball from its base to the bottom of the root collar.
5. Do not add soil amendments such as peat moss or fertilizer to the planting hole; studies have shown no benefit from these expensive practices.

ADDENDUM: Major revision, April 23, 2012 WISTI project

Contact person: Josh Lysen, Merit Homes, Inc. Cell: 425-444-4041 Email: Josh@MeritHomesInc.com

Mailing address: 13023 NE 70th Place, Kirkland, WA 98033

Site project: NE 90 ST, South side between 124 Ave NE and 128 Ave NE.

Arborist: E. John Deutsch Email: certifiedarboristtreecare@gmail.com 425-739-6730

NOTE: Regarding limits of disturbance. The distance for protective fencing in the report is the **recommended ISA standard: One foot for each inch of DBH**. However, due to the extremely limited space available on these 18 proposed lots, I recommend that in all situations where it is desirable to retain a tree close to construction, that the limits of disturbance be **reduced up to 50% on the "contruction side" only.** For example, if the "Lim D" given below is 20 ft, and if the contruction activitiy is located north of that tree, then the limits of disturbance would be: 20 ft on the three non-construction sides (east, west, south of trunk).
On the north side of the trunk, the limits of disturbance could be reduced up to 10 ft. as required by construction.
This could be noted as: Lim Disturbance: E20, W20, S20, N10.
NOTE: It is assumed that all protective fencing will be erected in a linear fashion. Ideally, protective fencing should be placed so that all recommended limits of disturbance are followed.
There may be some specific situations that the 50% could be reduced even further. Such situations will require reassessment on an individual basis.
Reducing limits of disturbance is a calculated risk. The potential for decline of the tree must be weighed with the hazard rating of each tree. Trees with an inherently larger hazard ratings (large mass, great height, stand-alone dominant trees, recently exposed to wind after lot clearing, less than ideal structure, possible disease issues) will have less potential to significantly reduce conventional limits of disturbance.

	Tree #	DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
48 A	**201**	24	Douglas Fir	18	110	24	50	CD	2	2	YES	8	
171 a	**203**	15	Cottonwood	12	80	15	70	CD	2	2	NO	3	
175 A	**204**	*	Holly	8	40	10	90	CD	2	2	YES	3	Three trunks 8", 9", 10"
88 A	**205**	18	Maple	20	90	18	70	CD	2	2	YES	5	
171 B	**206**	18	W R Cedar	12	70	18	100	CD	2	2	YES	5	
191 a	**207**	18	Cottonwood	20	100	18	60	CD	2	2	NO	5	
191 b	**208**	11	Maple	16	70	11	70	SUPP	2	2	YES	1	
191 c	**209**	*	Maple	16	76	13	60	CD	2	2	NO	5	Three trunks: 10", 6", 13" Low aesthetic value
191 d	**210**	11	Maple	16	70	11	80	CD	1	2	NO	1	Trunk deformity at base
21 A	**211**	*	W R Cedar	12	70	20	95	INT	1	2	NO	8	Three trunks: 16", 18", and 20". Defective trunk base
30 A	**212**	20	Madronna	20	100	20	90	CD	1	2	NO	6	Major lean over neighbor's property. Hazardous End-weight 100% on south side. Not on Site Map
601	**402**	11	D Fir	12	70	11	70	supp	2	3	yes	1	2 trunks see pics, located on neighbor's property
602	**403**	32	D Fir	20	100	32	85	cd	2	3	yes	0	**located on neighbor's property**
603	**404**	28	D Fir	18	100	28	70	cd	2	3	yes	0	**located on neighbor's property**
	405	13	Maple	18	70	13	65	inter	2	3	yes	0	**located on neighbor's property**
604	**406**	9	D Fir	12	40	9	80	supp	2	3	yes	0	**End weight problem 85% North side, located on neighbor's property**
600	**407**	39/30	Maple	25	90	39	80	cd	1	2	no	15	
606	**408**	10	cherry	12	60	10	50	cd	1	2	no	1	End weight problem 95% North side
607	**409**	17	hemlock	15	70	17	95	dom	2	3	yes	4	Poor Root base

		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
	608S	**410**		*	Maple	20	90	16	80	cd	1	2	no	4	dbh 16,8.11 three trunks, Little aesthetic value, End weight problem 90% South side
	608ne	**411**		*	Maple	20	90	16	70	cd	1	2	no	4	twelve trunks (4 to 16") , Little aesthetic value
	608nw	**412**		*	Maple	20	90	14	70	cd	1	2	no	3	Three trunks (9,12,14")
	609	**413**		16	Maple	15	70	16	80	cd	1	3	yes	4	
	610	**414**		32	cottonwood	20	110	32	80	cd	2	3	yes	0	**located on neighbor's property**
	611	**415**		28	cottonwood	20	110	28	80	cd	2	3	yes	0	**located on neighbor's property**
	612	**416**		26	cottonwood	20	110	26	70	cd	2	3	yes	0	**located on neighbor's property**
	613	**417**		28	cottonwood	20	110	28	70	cd	2	3	yes	0	**located on neighbor's property**
	614	**418**		12	cottonwood	10	60	12	0	cd	1	1	no	0	dead
		418	A	26	cottonwood	12	110	26	80	cd	1	1	no	9	major dieback, declining heath
		418	B	18	cottonwood	10	80	18	70	cd	1	1	no	0	**located on ADJACENT property**
		418	C	18	cottonwood	12	90	18	70	cd	1	1	no	0	**located on ADJACENT property**
		418	D	20	cottonwood	12	90	20	90	cd	1	1	no	0	**located on ADJACENT property**
		419		36	Maple	30	100	36	65	CD	1	2	N	0	**located on ADJACENT property**
		420		14	west red ced	15	90	14	80	CD	2	2	Y	0	**located on ADJACENT property**
		421		27	Maple	25	100	27	65	cd	2	2	yes	0	**located on ADJACENT property**
		422		18	west red ced	18	70	18	85	cd	3	3	yes	0	**located on ADJACENT property**
		423		11	Maple	15	90	11	85	cd	2	2	yes	1	located west of 1259
	30 B	**424**		*	Maple	16	70	13	90	CD	2	2	YES	4	Five trunks: 6", 10", 11", 13", 12"
		425		29	west red ced	18	100	29	95	cd	3	3	yes	0	**located on ADJACENT property**
		426		25	west red ced	16	100	25	80	cd	3	3	yes	0	**located on ADJACENT property**
		427		20	west red ced	18	90	20	90	cd	2	2	yes	0	**located on ADJACENT property**
		428		16	Maple	16	70	16	70	cd	1	2	no	4	poor root base, growing from pre-existing stump, located on neighbor's property
		429		12	west red ced	10	60	12	85	cd	2	2	no	2	
		430		*	Maple	16	60	10	70	cd	1	2	no	1	* five trunks (5,6,5,10,10" dbh) Major end-weight problem, 90% canopy weight on south side
		431		15	cherry	20	60	15	70	cd	1	2	no	3	
		432		*	Maple	15	70	12	50	cd	1	1	no	2	* three trunks (12,12,11 dbh) major dieback
		433		14	cherry	12	80	14	30	cd	1	1	no	3	dying, very poor LCR
		434		10	Maple	12	70	10	40	cd	1	2	no	1	
.	1	**1121**		20	Cottonwood	14	100	20	50	CD	1	1	NO	6	Major dieback, Co-dominant trunks
.	3	**1123**		20	Cottonwood	18	100	20	80	CD	2	2	YES	6	Trees 1, 2, 3, 4: N22 tight grouping+N1
.	4	**1124**		14	Cottonwood	18	100	14	90	CD	2	2	YES	3	
.	5	**1127**		49	W R Cedar	18	90	49	90	CD	1	3	NO	20	codominant trunks, multiple leaders
.	6	**1128**		32	W R Cedar	18	90	32	95	CD	2	2	YES	12	End-weight problem: 80% canopy south side
.	7	**1129**		39	W R Cedar	18	95	39	95	CD	2	2	YES	15	End-weight problem: 80% canopy south-east side
.	8	**1131**		46	W R Cedar	18	95	46	95	CD	1	2	NO	19	Codominant trunks, multiple leaders

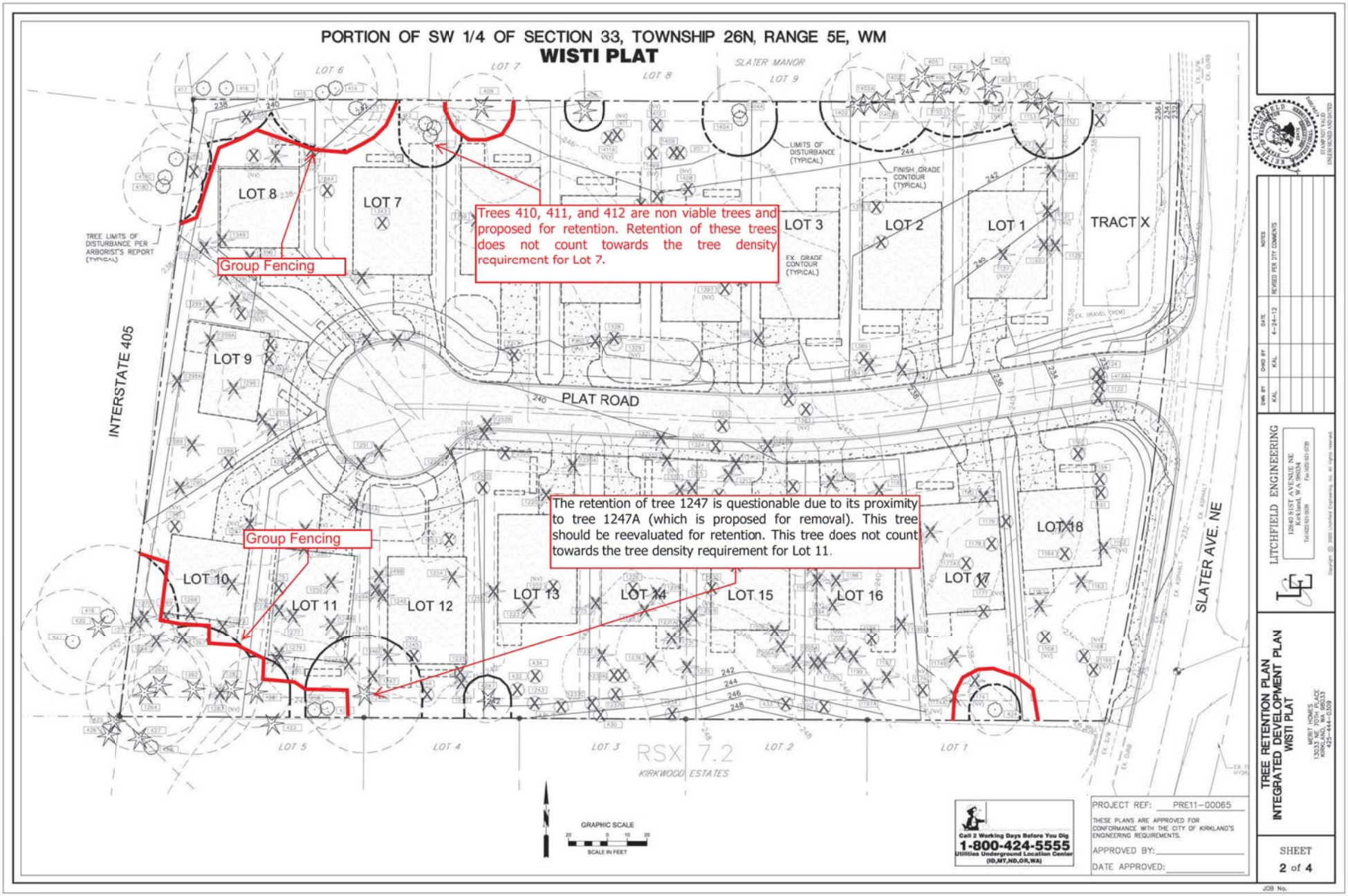
		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
.	9	**1143**		17	Maple	20	60	17	90	CD	1	2	NO	0	**End-weight problem: 95% canopy south side, located on neighbor's property**
.	10	**1145**		11	Douglas Fir	12	60	11	60	CD	2	2	YES	0	**located on neighbor's property**
.	11	**1147**		32	W R Cedar	16	90	32	100	CD	2	2	YES	12	
.	12	**1148**		36	Douglas Fir	18	110	36	60	CD	2	2	YES	14	End-weight problem: 65% canopy south-east side
.	13	**1152**		21	Douglas Fir	16	100	21	50	CD	2	2	YES	6	
.	14	**1153**		19	Douglas Fir	14	100	19	70	CD	2	2	YES	5	
.	15	**1155**		16	Pine	16	100	16	80	CD	2	2	YES	4	
.	16	**1159**		18	Cottonwood	18	100	18	50	CD	2	2	YES	5	
.	17	**1160**		*	Cottonwood	16	100	17	60	CD	2	2	YES	6	Two trunks: 18" and 17"
.	18	**1161**		13	Maple	18	60	13	85	INT	2	2	YES	2	
.	19	**1162**		20	Douglas Fir	16	100	20	95	CD	1	2	NO	6	Trunk deformity 20 ft high
.	20	**1163**		42	W R Cedar	20	100	42	95	CD	2	2	YES	17	
.	21	**1164**		16	Maple	18	80	16	70	INT	2	2	YES	4	
.	22	**1166**		29	Cottonwood	20	90	29	80	CD	1	2	NO	10	Codominant trunks at 20 ft high
.	23	**1167**		24	W R Cedar	14	80	24	100	CD	2	2	YES	8	End weight problem: 75% south side
.	24	**1168**		GRP	Maple	20	80	16	80	INT	1	2	NO	6	Four trunks: 13", 16", 9" 10"
.	25	**1169**		13	Maple	20	60	13	90	INT	1	2	NO	2	End weight problem: 95% east side
.	26	**1171**		15	Maple	18	80	15	50	CD	2	2	YES	3	
.	27	**1174**		26	W R Cedar	18	90	26	90	CD	1	2	NO	9	Multiple leaders
.	28	**1174**	A	12	W R Cedar	14	70	12	95	INT	1	2	NO	2	Trunk deformity at base
.	29	**1174**	B	31	W R Cedar	18	90	31	100	CD	2	2	YES	11	
.	30	**1174**	C	22	Cherry	20	90	22	90	CD	1	2	NO	7	Two trunk
.	31	**1177**		12	Cherry	14	70	12	50	INT	2	2	YES	2	
.	32	**1177**	A	16	Maple	18	70	16	60	INT	1	2	NO	4	two co-dominant trunks
.	33	**1178**		16	Maple	16	80	16	50	INT	2	2	YES	4	
.	34	**1179**		16	Maple	20	80	16	60	CD	2	2	YES	4	
.	35	**1180**		36	W R Cedar	18	100	36	100	CD	2	2	YES	14	
.	36	**1182**		19	W R Cedar	14	80	19	95	CD	2	2	YES	5	80% canopy weight pm east side
.	37	**1182**	A	17	W R Cedar	14	80	17	95	CD	2	2	YES	4	80% canopy weight on east side
.	38	**1182**	B	22	W R Cedar	14	80	22	95	CD	2	2	YES	7	
.	39	**1182**	C	30	Douglas Fir	24	110	30	85	CD	1	2	NO	11	
.	40	**1182**	D	23	W R Cedar	18	90	23	100	CD	2	2	YES	7	
.	41	**1185**		24	W R Cedar	18	100	24	100	INT	2	2	YES	8	
.	42	**1186**		14	W R Cedar	10	50	14	95	SUPP	2	2	YES	3	
.	43	**1187**		22	Douglas Fir	18	100	22	50	CD	2	2	YES	7	
.	44	**1188**		14	W R Cedar	10	70	14	100	SUPP	2	2	YES	3	
.	45	**1189**		60	W R Cedar	20	110	60	95	CD	1	3	N	21	
.	46	**1191**		11	Cherry	16	80	11	40	INT	1	2	NO	1	
.	47	**1194**		10	W R Cedar	10	60	10	85	SUPP	1	2	NO	1	

		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
.	48	**1195**		18	Douglas Fir	14	100	18	50	CD	2	2	YES	5	
.	49	**1197**		13	Douglas Fir	12	100	13	70	CD	1	2	NO	2	End weight problem; 90% canopy weight on east side
.	50	**1197**	A	16	W R Cedar	12	60	16	100	CD	3	3	YES	4	
.	51	**1198**		19	Maple	20	90	19	40	CD	2	2	YES	5	
.	52	**1199**		12	Douglas Fir	14	90	12	40	CD	2	2	YES	2	
.	53	**1200**		8	W R Cedar	8	40	8	95	SUPP	1	2	NO	1	
.	54	**1204**		20	Cherry	16	60	20	20	INT	1	1	NO	6	over 80% dieback
.	55	**1205**		27	Douglas Fir	18	110	27	50	CD	2	2	YES	9	
.	56	**1205**	A	12	W R Cedar	10	60	12	90	SUPP	2	2	YES	2	
.	57	**1205**	B	17	W R Cedar	12	80	17	95	CD	2	2	YES	4	
.	58	**1206**		20	W R Cedar	16	80	20	100	CD	2	2	YES	6	
.	59	**1206**	A	26	W R Cedar	16	90	26	100	CD	2	2	YES	9	
.	60	**1211**		12	Maple	20	80	12	80	INT	2	2	YES	2	
.	61	**1212**		13	W R Cedar	12	50	13	95	SUPP	3	2	YES	2	
.	62	**1213**		8	W R Cedar	10	40	8	90	SUPP	2	2	YES	1	
.	63	**1215**		20	W R Cedar	12	70	20	60	CD	1	1	NO	6	
.	64	**1216**		10	W R Cedar	12	80	10	90	INT	2	2	NO	1	
.	65	**1216**	A	12	Douglas Fir	18	90	12	60	INT	2	2	YES	2	
.	66	**1216**	B	14	Maple	25	80	14	50	INT	2	2	YES	3	
.	67	**1217**		20	W R Cedar	16	80	20	90	INT	2	2	YES	6	
.	68	**1217**	A	24	W R Cedar	16	80	24	95	INT	2	2	YES	8	
.	69	**1217**	B	44	W R Cedar	20	90	44	95	CD	3	3	YES	18	
.	70	**1220**		14	W R Cedar	12	60	14	95	SUPP	2	2	YES	3	
.	71	**1220**	A	21	W R Cedar	14	50	21	90	SUPP	2	2	YES	6	
.	2	**1222**		16	Cottonwood	16	100	16	90	CD	2	2	YES	4	
.	72	**1222**		12,16	Maple	20	80	16	60	CD	1	2	NO	5	Two trunks 12" and 16"
.	73	**1223**		28	Douglas Fir	18	110	28	60	CD	2	2	YES	10	
.	74	**1225**		18	Douglas Fir	14	110	18	40	CD	2	2	YES	5	SERPENTINE TRUNK
.	75	**1226**		21	Maple	20	90	21	50	CD	2	3	YES	6	
.	76	**1228**		31	Douglas Fir	20	110	31	60	CD	1	2	NO	11	Major cavity rot at trunk base
.	77	**1229**		12	W R Cedar	12	60	12	100	SUPP	2	3	YES	2	
.	78	**1230**		*	Maple	20	80	18	60	INT	2	2	YES	6	Two trunks: 6" and 18"
.	79	**1231**		16	W R Cedar	14	80	16	90	INT	2	2	YES	4	
.	80	**1231**	A	12	W R Cedar	14	70	12	95	INT	2	2	YES	2	
.	81	**1231**	B	*	W R Cedar	16	90	20	100	INT	1	1	NO	9	*4 TRUNKS, 20", 18", 14", 10"
.	82	**1234**		12	Maple	18	70	12	60	CD	3	3	YES	2	
.	83	**1235**		40	W R Cedar	18	100	40	100	CD	2	2	YES	16	
.	84	**1236**		9	W R Cedar	12	50	9	100	SUPP	2	2	NO	1	
.	85	**1237**		21	W R Cedar	14	70	21	95	INT	1	2	NO	6	Multiple leaders, broken trunk 25 ft high
.	86	**1237**	A	11	Maple	16	60	11	90	INT	2	2	YES	1	

		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
.	87	1237	B	14	Maple	18	80	14	80	INT	2	2	YES	3	
.	88	1237	C	22	Maple	20	80	22	90	INT	1	1	NO	5	Major cavity rot at trunk base
.	89	1239		36	W R Cedar	20	100	36	80	CD	2	2	YES	14	
.	90	1240		52	W R Cedar	20	100	52	95	CD	2	2	YES	21	Serpentine trunk
.	91	1243		14	Cherry	16	80	14	90	INT	2	2	YES	3	
.	92	1244		14	Maple	16	60	14	80	INT	2	2	YES	3	
.	93	1245		12,14	Maple	20	70	14	80	INT	1	2	NO	4	Two trunks 12" and 14"
.	94	1246		34	W R Cedar	16	100	34	90	CD	2	2	YES	13	
.	95	1247		29	W R Cedar	16	100	29	95	CD	2	2	YES	10	
.	96	1247	A	30	Douglas Fir	20	100	30	70	CD	2	2	YES	11	End Weight problem: 70% canopy weight on south side
.	97	1248		33	W R Cedar	18	100	33	80	CD	2	2	YES	12	
.	98	1248	A	28	W R Cedar	18	100	28	90	CD	1	2	NO	10	Two co-dominant trunks
.	99	1248	B	15	W R Cedar	16	90	15	95	INT	2	2	YES	3	
.	100	1249		19	Douglas Fir	16	100	19	50	CD	2	2	YES	5	
.	101	1249	A	27	Douglas Fir	16	110	27	50	CD	2	2	YES	9	
.	102	1249	B	19	W R Cedar	16	100	19	90	INT	2	2	YES	5	
.	103	1250		37	Douglas Fir	20	110	37	65	CD	2	2	YES	14	
.	104	1251		19	W R Cedar	14	100	19	85	CD	2	2	YES	5	
.	105	1251	A	22	W R Cedar	12	60	22	100	INT	2	2	YES	7	
.	106	1251	B	9	Hemlock	12	50	9	85	INT	2	2	YES	1	
.	107	1252		16	Hemlock	14	70	16	95	INT	3	3	YES	4	
.	108	1252	A	12	Douglas Fir	12	80	12	60	SUPP	1	2	NO	2	
.	109	1252	B	19	Hemlock	14	90	19	90	INT	2	2	YES	5	
.	110	1252	C	*	Maple	25	90	24	60	INT	1	2	NO	11	LARGE GROUPING 4 TRUNKS, 24", 12", 12", 10"
.	111	1252	D	grp	Maple	25	90	16	70	INT	1	2	NO	8	LARGE GROUPING 5 TRUNKS, 16", 14", 14", 12", 10"
.	112	1253		26	Maple	25	90	26	60	INT	1	2	NO	9	
.	113	1254		13	W R Cedar	10	60	13	95	SUPP	2	2	YES	2	
.	114	1255		13	W R Cedar	12	60	13	95	INT	2	2	YES	2	
.	115	1258		16	Maple	20	80	16	70	CD	2	2	YES	4	
.	116	1262		33	W R Cedar	16	100	33	90	CD	2	2	YES	12	End Weight problem: 70% canopy weight on south side
.	117	1263		26	W R Cedar	16	100	26	80	CD	2	2	YES	9	
.	118	1264		30	W R Cedar	16	100	30	95	CD	2	2	YES	11	End Weight problem: 70% canopy weight on west side
.	119	1266		18	W R Cedar	12	100	18	85	CD	2	2	YES	5	
.	120	1267		17	W R Cedar	12	100	17	70	INT	2	2	YES	4	
.	121	1268		10	W R Cedar	10	50	10	90	SUPP	2	2	YES	1	
.	122	1269		33	W R Cedar	18	110	33	95	CD	2	2	YES	12	
.	123	1270		21	W R Cedar	16	100	21	95	CD	2	2	YES	6	
.	124	1271		11	W R Cedar	10	60	11	90	SUPP	2	2	NO	1	
.	125	1273		36	W R Cedar	16	100	36	80	INT	2	2	YES	14	

		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
.	126	**1274**		32	W R Cedar	16	100	32	95	CD	1	2	NO	12	Codominant trunks, fork 40ft high
.	127	**1275**		24	Maple	25	90	24	60	INT	2	2	YES	8	
.	128	**1276**		29	W R Cedar	12	100	29	70	INT	1	2	NO	10	Codominant trunks, fork 40ft high
.	129	**1277**		18	W R Cedar	12	100	18	90	INT	2	2	YES	5	
.	130	**1279**		22	W R Cedar	14	90	22	90	INT	2	2	YES	7	
.	131	**1280**		24	W R Cedar	16	100	24	100	INT	2	2	YES	8	End Weight problem: 70% canopy weight on south side
.	132	**1281**		18	Douglas Fir	16	100	18	70	INT	2	2	YES	5	
.	133	**1282**		29	Douglas Fir	16	100	29	50	CD	2	2	YES	10	
.	134	**1283**		10	W R Cedar	10	40	10	90	SUPP	1	2	NO	1	
.	135	**1285**		48	W R Cedar	16	100	48	95	cd	1	2	NO	20	Codominant trunks, fork 10ft high, 16" and 20" trunks
.	136	**1286**		10	W R Cedar	10	60	10	95	SUPP	2	2	YES	1	
.	137	**1287**		18,22	W R Cedar	16	100	22	95	CD	1	2	NO	9	
.	138	**1288**		22	Maple	25	90	22	80	CD	1	2	NO	7	Deformity at base of trunk
.	139	**1289**		23	Hemlock	16	100	23	90	CD	1	2	NO	7	Cavity rot at trunk base
.	140	**1290**		6,20	Hemlock	16	100	20	95	CD	1	2	NO	7	Cavity rot at trunk base
.	141	**1291**		15	Mountain Ash	16	70	15	60	CD	1	2	NO	3	Deformity at base of trunk
.	142	**1293**		48	W R Cedar	16	80	48	95	CD	2	2	YES	20	
.	143	**1294**		18	W R Cedar	12	70	18	95	CD	2	2	YES	5	
.	144	**1295**		17	Douglas Fir	12	90	17	80	CD	2	2	YES	4	
.	145	**1296**		10	Douglas Fir	12	60	10	60	SUPP	1	2	NO	1	Deformity at upper trunk
.	146	**1298**	A	24	Douglas Fir	16	100	24	50	CD	2	2	YES	8	
.	147	**1299**		23	Douglas Fir	14	100	23	40	CD	2	2	NO	7	
.	148	**1299**	A	18	W R Cedar	14	70	18	100	INT	3	3	YES	5	
.	149	**1299**	B	30	Maple	20	90	30	60	CD	1	2	NO	11	Cavity rot at trunk base
.	150	**1299**	C	13	W R Cedar	10	40	13	100	SUPP	2	3	YES	2	
.	151	**1299**	D	20	Douglas Fir	12	100	20	40	CD	2	2	NO	6	Serpentine trunk
.	152	**1299**	E	20	Douglas Fir	12	100	20	60	CD	2	2	NO	6	
.	153	**1303**		14	Maple	20	90	14	70	CD	1	2	NO	3	Joined to 154 at base
.	154	**1303**	A	18	Maple	20	90	18	70	CD	1	2	NO	5	Cavity rot at trunk base
.	155	**1317**		15	Alder	22	50	15	60	CD	1	2	NO	3	
.	156	**1321**		10	W R Cedar	10	50	10	95	CD	2	2	YES	1	
.	157	**1322**		16	W R Cedar	12	55	16	95	CD	2	2	YES	4	
.	158	**1323**		16	W R Cedar	10	55	16	90	CD	1	2	NO	4	
.	159	**1324**		16	Maple	15	70	16	50	CD	1	1	NO	4	Major dieback
.	160	**1325**		16	Maple	20	80	16	60	CD	3	3	YES	4	
.	161	**1328**		16	Maple	16	80	16	50	CD	1	2	NO	4	
.	162	**1329**		12	Maple	16	70	12	40	CD	2	2	NO	2	

		Tree #		DBH	Species	Drip Line	Height	LOD	LCR%	CR CL	Struc	Heal	Viabile	Credits	Comments
.	163	1330		12	Maple	16	68	12	50	CD	2	2	NO	2	
.	164	1331		23	W R Cedar	16	70	23	95	CD	2	2	YES	7	
.	165	1340		20	Douglas Fir	20		20	60	CD	2	3	YES	6	
.	166	1341		48	W R Cedar	20	102	48	95	CD	2	3	NO	20	Multiple leaders
.	167	1342		22	Douglas Fir	12	100	22	65	CD	2	2	YES	7	
.	168	1343		33	Cottonwood	25	113	33	60	CD	2	2	NO	12	
.	169	1344		grp	Maple	25	80	16	50	CD	1	2	NO	7	Four trunks: 12", 16", 14" 10"
.	170	1345		29	Cottonwood	25	110	29	40	CD	2	2	NO	10	
.	171	1346		14	Maple	16	60	14	80	INT	1	2	NO	3	
.	172	1349		22	Douglas Fir	14	100	22	70	CD	2	2	YES	7	
.	173	1350		22	Douglas Fir	14	100	22	60	CD	2	2	YES	7	
.	174	1359		18	W R Cedar	12	60	18	100	CD	3	3	YES	5	
.	175	1376		16	Holly	12	45	16	95	CD	3	3	YES	4	
.	176	1383		45	W R Cedar	20	90	45	90	CD	3	3	YES	18	
.	177	1384		40	W R Cedar	18	90	40	95	CD	3	3	YES	16	
.	178	1385		18	Maple	16	90	18	70	CD	2	3	YES	5	
.	179	1387		18	Maple	20	70	18	95	CD	2	2	NO	5	
.	180	1387	A	*	Maple	12	80	14	60	CD	1	1	NO	5	Three trunks 12", 9", 14" Major dieback
.	181	1397		20	Maple	25	80	20	75	CD	2	2	NO	6	
.	182	1398		grp	Maple	30	85	grp	16	CD	2	2	NO	6	
.	183	1399		32	W R Cedar	18	90	32	95	CD	3	3	YES	12	
.	184	1402		28	Douglas Fir	16	110	28	90	CD	2	2	YES	10	Potentially hazardous after major lot clearing
.	185	1402	A	16	Douglas Fir	14	90	16	70	INT	2	2	YES	4	Potentially hazardous after major lot clearing,
.	186	1402	B	26	Douglas Fir	16	110	26	70	CD	2	2	YES	0	**Potentially hazardous after major lot clearing, located on neighbor's property**
.	187	1402	C	19	Douglas Fir	16	110	19	80	CD	2	2	YES	0	**Potentially hazardous after major lot clearing, located on neighbor's property**
.	188	1404		19	Maple	20	80	19	60	CD	2	2	YES	5	
.	189	1404	A	*	Maple	16	70	12	80	CD	2	2	YES	3	Two trunk 10", 12"
.	190	1408		grp	Maple	20	83	14	80	CD	1	2	NO	7	Cavity rot at trunk base, 8 trunks: 7" to 14"
.	191	1409		18	Cottonwood	10	100	18	50	CD	1	2	NO	5	Major lean
.	192	1410		*	Maple	20	90	18	90	CD	1	2	NO	6	Trunk deformity at base, Two trunks: 9" and 18"
.	193	1411		24	Maple	20	92	24	70	CD	1	2	NO	8	Joined to 194 at base
.	194	1411	A	13	Maple	20	70	13	80	CD	1	2	NO	2	Deformity at base of trunk


PORTION OF SW 1/4 OF SECTION 33, TOWNSHIP 26N, RANGE 5E, WM
WISTI PLAT
SLATER MANOR
LOT 6
LOT 7
LOT 8
LOT 9
LIMITS OF DISTURBANCE (TYPICAL)
FINISH GRADE CONTOUR (TYPICAL)
EX. GRADE CONTOUR (TYPICAL)
TREE LIMITS OF DISTURBANCE PER ARBORIST'S REPORT (TYPICAL)
Group Fencing
Trees 410, 411, and 412 are non viable trees and proposed for retention. Retention of these trees does not count towards the tree density requirement for Lot 7.
LOT 3
LOT 2
LOT 1
TRACT X
INTERSTATE 405
PLAT ROAD
The retention of tree 1247 is questionable due to its proximity to tree 1247A (which is proposed for removal). This tree should be reevaluated for retention. This tree does not count towards the tree density requirement for Lot 11.
Group Fencing
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
SLATER AVE. NE
LOT 5
LOT 4
LOT 3
LOT 2
LOT 1
KIRKWOOD ESTATES
GRAPHIC SCALE
SCALE IN FEET
Call 2 Working Days Before You Dig
1-800-424-5555
Utilities Underground Location Center
(ID,MT,ND,OR,WA)
PROJECT REF: PRE11-00065
THESE PLANS ARE APPROVED FOR CONFORMANCE WITH THE CITY OF KIRKLAND'S ENGINEERING REQUIREMENTS.
APPROVED BY:
DATE APPROVED:
LITCHFIELD ENGINEERING
12840 81ST AVENUE NE
KIRKLAND, WA 98034
TREE RETENTION PLAN
INTEGRATED DEVELOPMENT PLAN
WISTI PLAT
MERIT HOMES
13033 NE 128TH PLACE
KIRKLAND, WA 98033
425-444-0309
SHEET
2 of 4
JOB No.

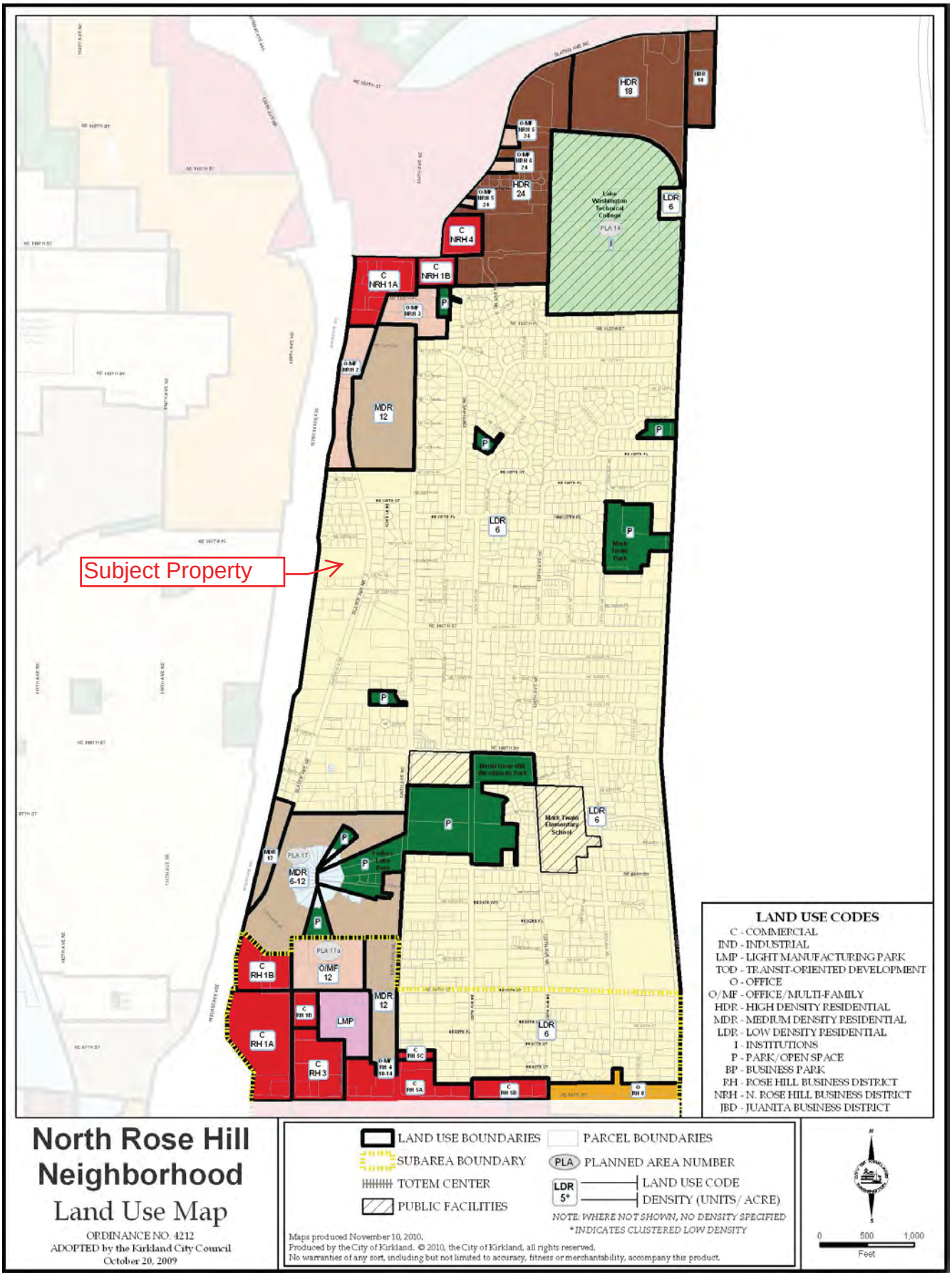


Figure NRH-4: North Rose Hill Land Use

CITY OF KIRKLAND
123 FIFTH AVENUE
KIRKLAND, WA 98033-6189
425.587.3225

Determination Of Nonsignificance

CASE #: SEP12-00003

DATE ISSUED: August 21, 2012

DESCRIPTION OF PROPOSAL: Proposal to subdivide one 159,429 square foot parcel into 18 separate lots. Access to lots will be provided via a new access road off of Slater Avenue NE.

PROPONENT: MERIT HOMES INC

PROJECT LOCATION: 10611 SLATER AVE NE

LEAD AGENCY IS THE CITY OF KIRKLAND

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21.030 (2) (c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request. Comments must be submitted by 5:00 p.m.

Responsible Official: _____ 8/20/12
Eric Shields, Director — Date
Department of Planning and Community Development
425-587-3225

Address: City of Kirkland
123 Fifth Avenue
Kirkland, WA 98033-6189

You may appeal this determination to the Planning Department at Kirkland City Hall, 123 Fifth Avenue, Kirkland, WA 98033 no later than 5:00 p.m., September 04, 2012 by WRITTEN NOTICE OF APPEAL

You should be prepared to make specific factual objections. Contact the Planning Department at 425-587-3225 to read or ask about the procedures for SEPA appeals.

Please reference case # SEP12-00003

Publish in the Seattle Times (date): August 23, 2012

Distribute this form with a copy of the checklist to the following:

Environmental Review Section
Department of Ecology
PO Box 47703
Olympia, WA 98504-7703

Shirley Marroquin
Environmental Planning Supervisor
King County Wastewater Treatment Division
201 South Jackson Street, MS KSC-TR-0431
Seattle, WA 98104-3856

Director of Support Services Center
Lake Washington School District No. 414
PO Box 97039
Redmond, WA 98073-9739

David B. Johnson and Lillian Cruz
Livengood, Fitzgerald and Alskog PLLC
PO Box 908
Kirkland WA 98083-0908

John Sutherland
Developer Services

Washington State Department of Transportation
15700 Dayton Ave. N. MS 240
PO Box 330310
Seattle, WA 98133-9710

Attn: Environmental Reviewer
Muckleshoot Indian Tribe Fisheries Division
39015 172nd Avenue SE
Auburn, WA 98092

cc: Case # PSB12-00001

Distributed By: _____ Date: 6/21/12