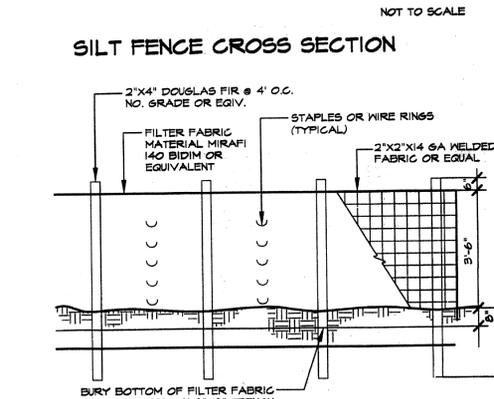
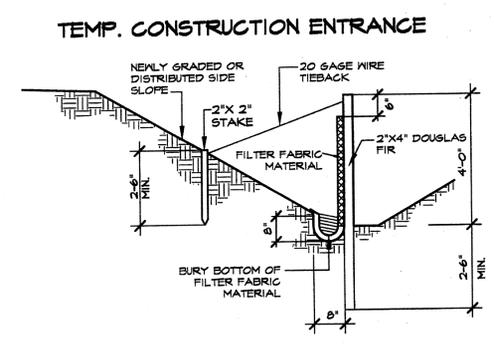
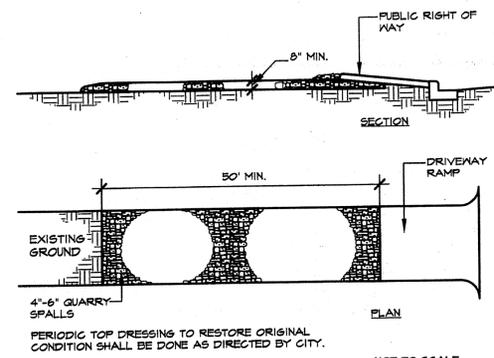


**Osewalt Setback Modification  
File Number: 11-110690-LO**





LINE	BEARING	DISTANCE
L1	N 88°31'44\"	13.00'
L2	N 87°38'32\"	16.12'
L3	N 78°53'05\"	16.53'
L4	N 66°32'20\"	17.02'
L5	N 85°07'29\"	30.42'
L6	N 60°33'35\"	31.79'
L7	N 09°23'24\"	31.30'
L8	N 01°56'26\"	21.05'
L9	N 06°54'12\"	12.85'
L10	N 01°28'16\"	32.02'
L11	N 86°16'03\"	21.32'

**OWNER**  
Patrick Osewalt  
2119 NE 6th Circle  
Renton, WA 98056  
206 390 1872  
patrickosewalt@gmail.com

**ZONING**  
R-5

**SITE ADDRESS**  
LOT 8, PARKWOOD LANE  
BELLEVUE, WA

**LEGAL DESCRIPTION**  
LOT 8, CITY OF BELLEVUE BLA NO. LW-01-106944,  
RECORDED IN VOLUME 156 OF SURVEYS,  
PAGES 39 AND 39A TO 39D, UNDER KING COUNTY,  
WASHINGTON RECORDING NO. 20021105900008

**LOT COVERAGE**  
LOT AREA: 19,200 S.F.  
LOT AREA MINUS 40% SLOPE AREA: 14,905 S.F.  
HOUSE/GARAGE AREA: 2,472 S.F.  
PORCH/PATIO/DECK AREA: 218 S.F.  
TOTAL AREA: 2,690 S.F.  
(2,690/14,905) = 18.05%

**HEIGHT CALC**

POINT	ELEVATION	POINT	ELEVATION
A	192.20	AA	0.00
B	191.00	BB	0.00
C	189.90	CC	0.00
D	187.10	DD	0.00
E	184.20	EE	0.00
F	181.00	FF	0.00
G	178.80	GG	0.00
H	177.80	HH	0.00
I	176.90	II	0.00
J	175.70	JJ	0.00
K	174.10	KK	0.00
L	173.80	LL	0.00
M	173.00	MM	0.00
N	173.50	NN	0.00
O	175.00	OO	0.00
P	178.60	PP	0.00
Q	178.50	QQ	0.00
R	180.50	RR	0.00
S	181.90	SS	0.00
T	184.10	TT	0.00
U	185.90	UU	0.00
V	187.80	VV	0.00
W	189.80	WW	0.00
X	191.40	XX	0.00
Y	192.10	YY	0.00
Z	0.00	ZZ	0.00
TOTALS:			4552.90

AVERAGE EXG GRADE = TOTAL PRODUCTS / TOTAL WALL LENGTHS:  
4552.90 / 35.00 = 130.11

MAX. ALLOWABLE RIDGE ELEV. 217.12  
PROPOSED RIDGE ELEVATION 216.96  
0.16 BELOW HT. LIMIT

**Buildable Area**  
Lot AREA: 19,200 S.F.  
Buildable: 5,500 S.F.

**NOTE:**  
HOUSE ADDRESS SHALL BE VISIBLE FROM THE STREET

**IMPERVIOUS AREA**  
LOT AREA: 19,200 S.F.  
ROOF OVERHANG AREA: 3,181 S.F.  
(INCLUDES COVD PORCH/PATIO)  
DRIVEWAY/WALKWAY AREA: 2,183 S.F.  
TOTAL AREA: 5,564 S.F.  
= 27.94%

**SLOPE AREA**  
LOT AREA: 19,200 S.F.  
AREA OF SLOPE ≥ 40%: 4,295 S.F.  
AREA OF 25' SLOPE BUFFER: 4,633 S.F.

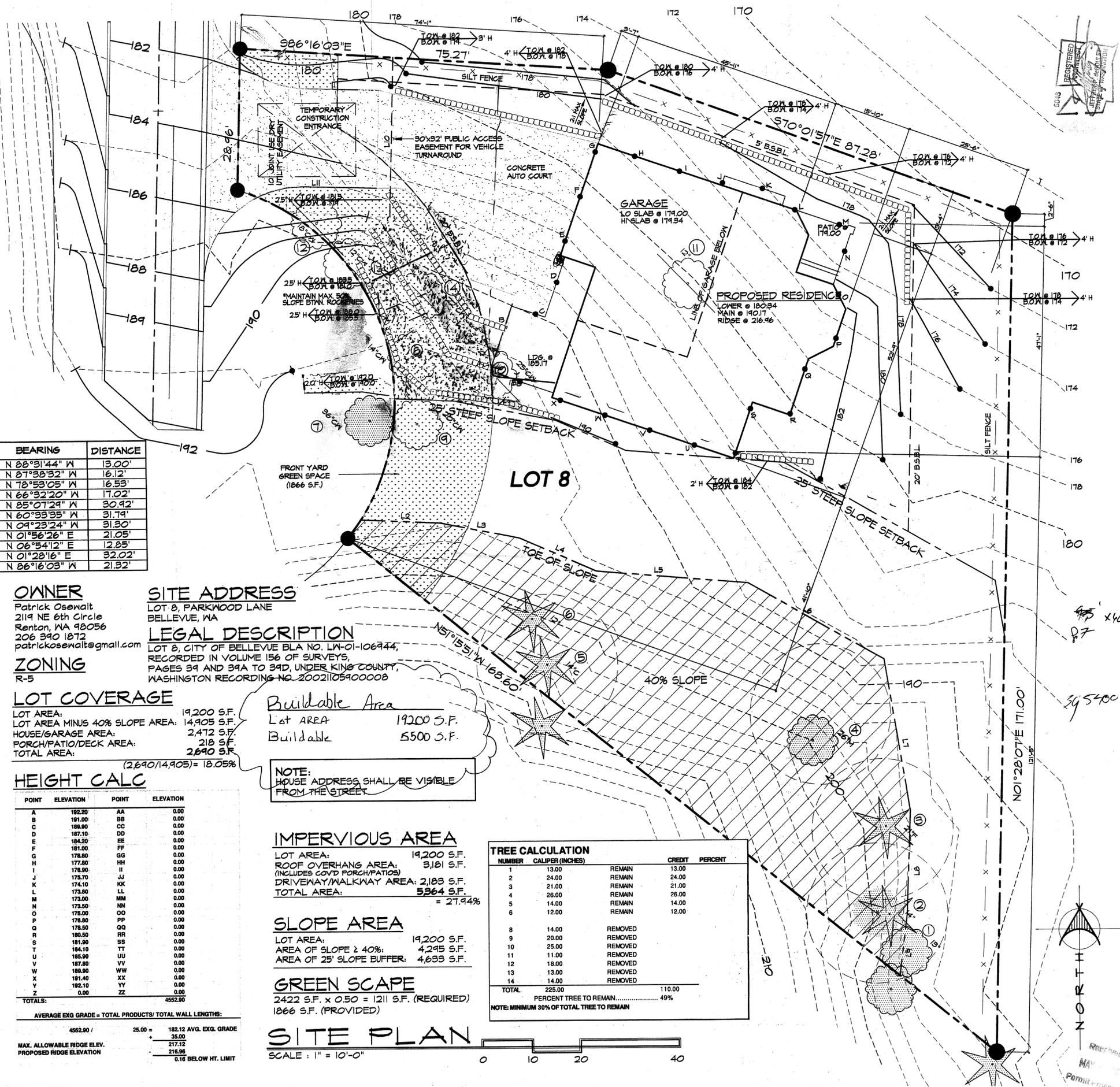
**GREEN SCOPE**  
2422 S.F. x 0.50 = 1211 S.F. (REQUIRED)  
1866 S.F. (PROVIDED)

**SITE PLAN**  
SCALE: 1" = 10'-0"

**TREE CALCULATION**

NUMBER	CALIPER (INCHES)	REMAIN	CREDIT	PERCENT
1	13.00	REMAIN	13.00	
2	24.00	REMAIN	24.00	
3	21.00	REMAIN	21.00	
4	26.00	REMAIN	26.00	
5	14.00	REMAIN	14.00	
6	12.00	REMAIN	12.00	
8	14.00	REMOVED		
9	20.00	REMOVED		
10	25.00	REMOVED		
11	11.00	REMOVED		
12	18.00	REMOVED		
13	13.00	REMOVED		
14	14.00	REMOVED		
TOTAL			225.00	110.00

PERCENT TREE TO REMAIN: 49%  
NOTE: MINIMUM 30% OF TOTAL TREE TO REMAIN



ARCHITECTS  
NORTHWEST  
18915-142ND AVENUE NE SUITE 100 WOODINVILLE, WA 98072  
OFFICE: (425) 485-6900 FAX: (425) 487-6985

OSEWALT RESIDENCE  
PJ AN M4120B3EJ-3R

DESIGNED BY: DA  
TC 200  
DRAWN BY: DA  
JRA 5/23/07  
PROJECT MANAGER:  
RICK REPP  
REVISED BY: DA  
AG 8/13/07  
AG 10/23/07  
AG 5/14/08  
JP 3/21/08  
LATERAL BY: DA  
MEI 7/15/08  
LATERAL JOB NUMBER:  
07-523  
ANW WOODINVILLE OFFICE  
JOB NUMBER:  
110033

# Associated Earth Sciences, Inc.



*Celebrating Over 25 Years of Service*

May 19, 2011  
Project No. KE110161A

Mr. Patrick Osewalt  
2119 NE 6<sup>th</sup> Circle  
Renton, Washington 98056

Received

MAY 19 2011

Permit Processing

Attention: Mr. Patrick Osewalt

Subject: Response to City of Bellevue Questions for Osewalt Property  
3720 163<sup>rd</sup> Avenue SE  
Bellevue, Washington

Dear Mr. Osewalt:

At your request, Associated Earth Sciences, Inc. (AESI) is pleased to present this letter to respond to the questions posed by the city of Bellevue from their letter dated April 25, 2011. AESI has listed the questions posed by the city and has provided our responses immediately following each question.

## ***1. Landslide Hazards***

*The City of Bellevue Land Use Code (LUC) regulates areas of geological hazard which come in two varieties that could impact the project: Steep Slopes and Landslide Hazards. The steep slopes and their setbacks have already been identified for this project, however, from reviewing the geotechnical reports the potential for landslide hazards needs to be evaluated for this property. LUV 20.25.120 classifies landslides hazards as the following:*

*Landslide Hazards. Areas of slopes of 15 percent or more with more than 10 feet of rise, which also display any of the following characteristics:*

- a. Areas of historic failures, including those areas designated as quaternary slumps, earthflows, mudflows, or landslides.*

Response: None of these features exist on this lot.

Kirkland    ▪    Everett    ▪    Tacoma  
425-827-7701    425-259-0522    253-722-2992  
[www.aesgeo.com](http://www.aesgeo.com)

*b. Areas that have shown movement during the Holocene Epoch (past 13,500 years) or that are underlain by landslide deposits.*

Response: AESI explorations found that the recessional outwash deposits were intact, so no landslides have occurred since the last glacial event.

*c. Slopes that are parallel or subparallel to planes of weakness in subsurface materials.*

Response: These conditions were not observed on the lot.

*d. Slopes exhibiting geomorphological features indicative of past failures, such as hummocky ground and back-rotated benches on slopes.*

Response: These conditions were not observed on the lot.

*e. Areas with seeps indicating a shallow ground water table on or adjacent to the slope face.*

Response: AESI did observe shallow water in the exploration borings. The water is assumed to be perched on the underlying silt and not a water table. No seeps were observed in the slope.

*f. Areas of potential instability because of rapid stream incision, stream bank erosion, and undercutting by wave action.*

Response: No streams or bodies of water are on or around this site.

*Please submit an updated geotechnical evaluation to:*

- Determine if based on the above criteria, any landslide hazards or buffer/setbacks exist which impact the property. If landslide hazards exist they need to be depicted on a plan along with either the 50-foot-top-of-slope buffer or 75-foot toe-of-slope setback which is required.*
- Consider the Seattle Fault location in the vicinity and provided any project recommendations.*

Response: Based on our review of previous documentation and our recent site visits, AESI observed that the slope to the west of the lot has been regraded for utility installation and for road construction, and in AESI's opinion is not a setback concern because the site conditions have changed from when our earlier report and site-specific analysis was done. The south

slope is limited in height, well vegetated, and shows no signs of recent landside activity. AESI also observed the location of the Seattle Fault relative to the site and it appears the fault runs in the vicinity of this site. AESI performed a review of geologic studies conducted by USGS in the vicinity of the site. Thrust fault, backthrust features, and short wavelength folding in this area have been identified (Liberty, L.M. and Pratt, T.L. [2008] Structure of the Eastern Seattle Fault Zone, Washington State: New insights from Seismic Reflection Data: Bull Seis. Soc. Am., Vol. 98 No. 4). The recessional outwash sediments on the lot appear to be intact and unaltered by landslide or fault activity indicating no movement since this sediment was deposited approximately 10,000 years ago. In AESI's opinion, the proposed setback of 25 feet from toe of slope is suitable for the new home site.

## **2. Land Use Code**

*The Geotech also must address how the project is in compliance with each item of the Land Use Code sections attached to this letter. I have removed some items which are not applicable.*

### ***LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes.***

*In addition to generally applicable performance standards set forth in LUC 20.25H.055 and 20.25H.065, development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.*

- A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;*

Response: The proposed house location is located along the northern end of the site as far away from the steep slope as is practical. The southern side of the building the pad steps up to follow the existing slope to limit the excavation in this area. The house location and foundation design do not require long term maintenance beyond the usual maintenance for a residence.

- B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;*

Response: The proposed house location is located along the northern end of the site as far away from the steep slope as is practical and leaves the vegetation in the steep slope area intact.

*C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;*

Response: The new home location is set into the site to limit regrading and filling of the foundation footprint, thus eliminating the surcharge weight fill would add. Additionally, the new home will use footing loads of 1,500 pounds per square foot (psf), lower than the usual 2,000 psf foundation loads. The subsurface soil in the area where the house is to be built consists of native soft to medium stiff silty lacustrine or loose to medium dense sandy recessional outwash deposits. Footings above these soils may also require some mitigation with a rock mat per AESI's report from November 2, 2001 report entitled "Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report for Parkwood Lane" (Also see section A4 of plan set and exploration pit and boring logs in appendix). The planned construction of the home will not increase risk to adjacent properties.

*D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;*

Response: The plans show a cut of up to 9 feet for the proposed driveway, but limit the cut as much as is practical through the use of tiered walls, rockeries, and sloped excavations. The rockeries step up the slope to limit alteration of natural soil slope conditions. Slopes between the rockeries will be constructed to no greater than 2:1 H:V (Horizontal:Vertical). A 9-foot cut will also be required for a portion of the building foundation. This portion of the slope will be supported by the foundation wall. On the northern side of the house a retaining wall is planned. This wall will be approximately 4 feet high and will not significantly alter the natural slope conditions. (See page A0 of plan set)

*E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;*

Response: No construction is to occur on the marked steep slope area or within the proposed 25-foot buffer area. Additionally, the proposed home site and driveway are on the northern end of the site as far as is practical away from the steep slope area. Runoff from the impervious surfaces including roof and driveway will be collected and routed to a storm water system. To protect slope stability AESI recommends that storm water runoff not be dispersed or infiltrated on the lot.

*F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;*

Response: The plans show the use of tiered rockeries with heights of 30 inches or less stepping up the slope, with slopes between the rockeries of no more than 2H:1V, to mitigate modification of the slope conditions. The recommended cross-section detail for these tiered rockeries is attached to this comment response letter. On the northern side of the house a retaining wall is planned. This wall will to be approximately 4 feet high and will not significantly alter the natural slope conditions. No slope modifications are planned on the marked steep slope area or within the 25-foot buffer zone.

*G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;*

Response: The rockeries and retaining wall are only to be used adjacent to the right-of-way and driveway areas where they are an extension of the house and garage wall elements.

*J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.*

Response: The site will be landscaped where disturbed. A landscape plan will be prepared by others.

***LUC 20.25H.145 Critical areas report – Approval of modification.***

*Modifications to geologic hazard critical areas and critical area buffers shall only be approved if the Director determines that the modification:*

*A. Will not increase the threat of the geological hazard to adjacent properties over conditions that would exist if the provisions of this part were not modified;*

Response: See response to LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes Section C, above.

*B. Will not adversely impact other critical areas;*

Response: The new construction on this lot does not alter the 40 percent slope area by removing vegetation or performing excavation into the slope and should have no impact on this critical area.

*C. Is designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than what would exist if the provisions of this part were not modified;*

Response: The home is located below slopes so there will be virtually no impact on upper slopes. Footings, roof, and driveway drains will route water from the site and prevent excess water from eroding the existing site gradients. The new home construction on this property will occur mainly on native silty lacustrine deposits below the recessional outwash deposits. Placement of a footing drain system around the house and behind the new rockeries along with a surface drainage system will provide drainage to maintain stability of the slope.

*D. Is certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington;*

Response: The home will be constructed on medium dense or stiff soils, as determined by a geotechnical engineer, or where determined necessary, on a rock mat placed below the foundations, as outlined in Section 12.0 of our report from November 2, 2001, the footing and wall designs will be suitable for support of the residence.

*E. The applicant provides a geotechnical report prepared by a qualified professional demonstrating that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures. Geotechnical reporting standards shall comply with requirements developed by the Director in City of Bellevue Submittal Requirements Sheet 25, Geotechnical Report and Stability Analysis Requirements, now or as hereafter amended;*

Response: In AESI's opinion, based on our previous reports and recent site reconnaissance, the proposed new construction on this lot will have no adverse impact on the stability of critical areas, critical areas buffers, or existing structures.

- F. *Any modification complies with recommendations of the geotechnical support with respect to best management practices, construction techniques or other recommendations;*

Response: If during construction any conditions are encountered that may lead to a modification from the plans, AESI should be consulted to verify that any modifications meet the geotechnical and code requirements.

### 3. *Reasonable Use*

*This property is zoned R-5 and must have at least 2,160 square feet of buildable area not impacted by steep slopes, landslide hazard areas, buffers, or setbacks. If there is not at least 2,160 square feet of buildable area the Reasonable Use requirements found in LUC 20.25H.200 Apply.*

*Please show on the plans that there is at least 2,160 square feet of buildable area once the landslide hazard evaluation is completed.*

Response: Steep slope areas are mapped, along with the approved 25-foot toe of slope setback, on the drawing on page A0 of the plans. The calculation of buildable square footage is to be determined by others.

4. *To be determined by others*

5. *To be answered by others.*

### 6. *Fill and Excavation*

*Please address how the project is meeting fill and excavation limits outside the house footprint and locate any locations where it does not. The following limits are applicable:*

*Changes in existing grade outside the building footprint shall be minimized. Excavation shall not exceed 10 feet. Fill shall not exceed five feet subject to the following provision: all fill in excess of four feet shall be engineered; and engineered fill may be approved in exceptional circumstances to exceed five feet to a maximum of eight feet. Exceptional circumstances are: (1) instances where driveway access would exceed 15 percent slope if additional fill retained by the building foundation is not permitted; or (2) where the five foot fill maximum generally is observed but limited additional fill is necessary to accommodate localized variations in topography.*

Response: The maximum proposed excavation for the site is to be approximately 9 feet in the northwest corner of the proposed new house, and should not exceed the 10-foot maximum excavation. The temporary cut slopes on the site cut will be sloped in accordance with our recommendations in Section 10.1 of AESI's report from November 2, 2001. On the northern side of the proposed home foundation and next to the retaining wall on the north side of the proposed home up to a 4-foot fill will be required. The driveway will require up to 3 feet of fill behind a small retaining wall. These fill thicknesses are less than the thresholds listed. Fill placed on-site will be placed in accordance with our recommendation from Section 11.0 of our report from November 2, 2001, entitled "Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report for Parkwood Lane."

If you have any questions pertaining to our responses listed above feel free to contact us.

Sincerely,  
**ASSOCIATED EARTH SCIENCES, INC.**  
Kirkland, Washington



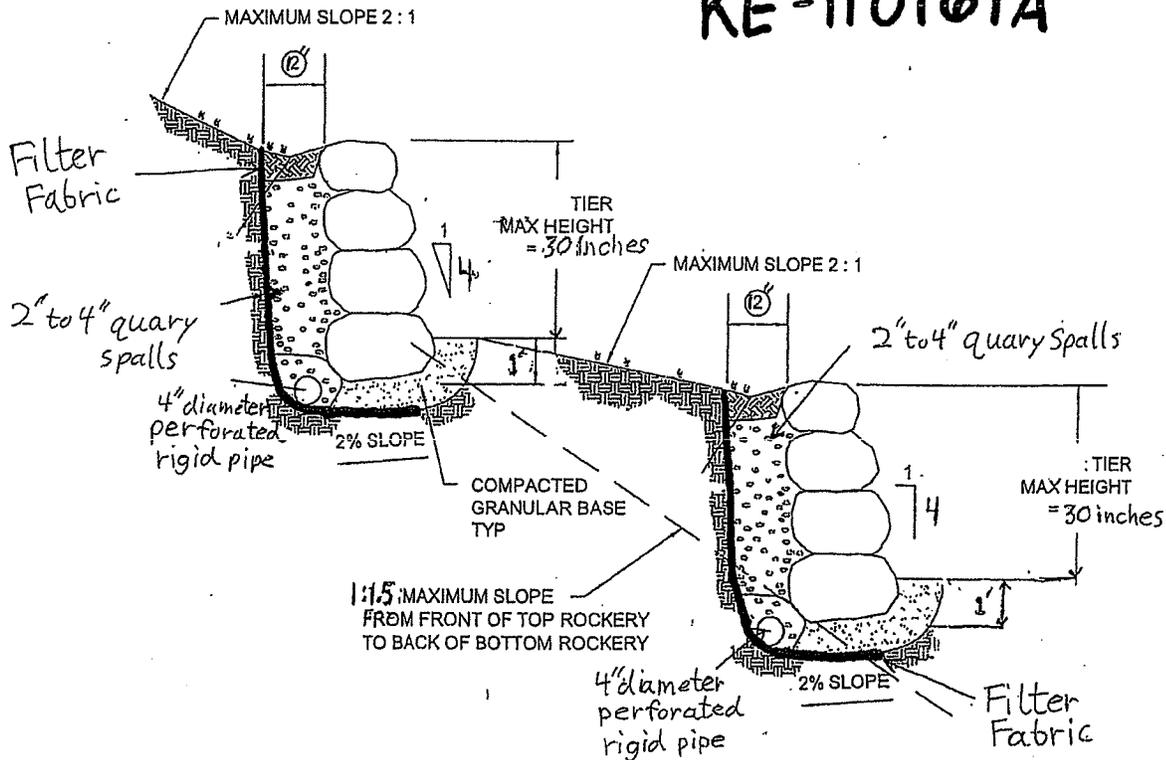
Michael S. Place, P.E.  
Senior Staff Engineer



Bruce L. Blyton, P.E.  
Principal Engineer

Attachment: Rockery Cross-Section Detail

# Osewalt Property KE-110161A



- 1.) Rockeries shall be constructed using 3 man rocks.
- 2.) Rockeries must be installed with drains sloping to Storm Drain system. Filter fabric (Mirafi 140N or equivalent) should be placed against the cut face behind the 2-4" quarry spalls
- 3.) All subgrade and Slope soil shall be compacted to at Least 90% of Modified Proctor (ASTM:D 1557).
- 4.) Geotechnical inspections shall be required for rockery Subgrade, drainage and soil compaction

ROCK	Lb.	Avg. Dimension (in.)
1-MAN	50 - 100	12-18
2-MAN	200 - 700	18-28
3-MAN	700 - 2000	28-36
4-MAN	2000 - 4000	36-48
5-MAN	4000 - 6000	48-54