



DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
11511 MAIN ST., P.O. BOX 90012
BELLEVUE, WA 98009-9012

DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: Stephen J. Hansen

LOCATION OF PROPOSAL: 9631 SE 7th Street

NAME & DESCRIPTION OF PROPOSAL: Hansen Rockery

The construction of two rockery walls within a steep slope critical area.

FILE NUMBER: 12-105651-LO

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Development Services Department. This information is available to the public on request.

- There is no comment period for this DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's office by 5:00 p.m. on _____.
- This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's Office by 5 p.m. on 4/19/2012.
- This DNS is issued under WAC 197-11-340(2) and is subject to a 14-day comment period from the date below. Comments must be submitted by 5 p.m. on _____. This DNS is also subject to appeal. A written appeal must be filed in the City Clerk's Office by 5 p.m. on _____.

This DNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information indicating, or on, a proposals probable significant adverse environmental impacts (unless a non-exempt license has been issued if the proposal is a private project); or if the DNS was procured by misrepresentation or lack of material disclosure.

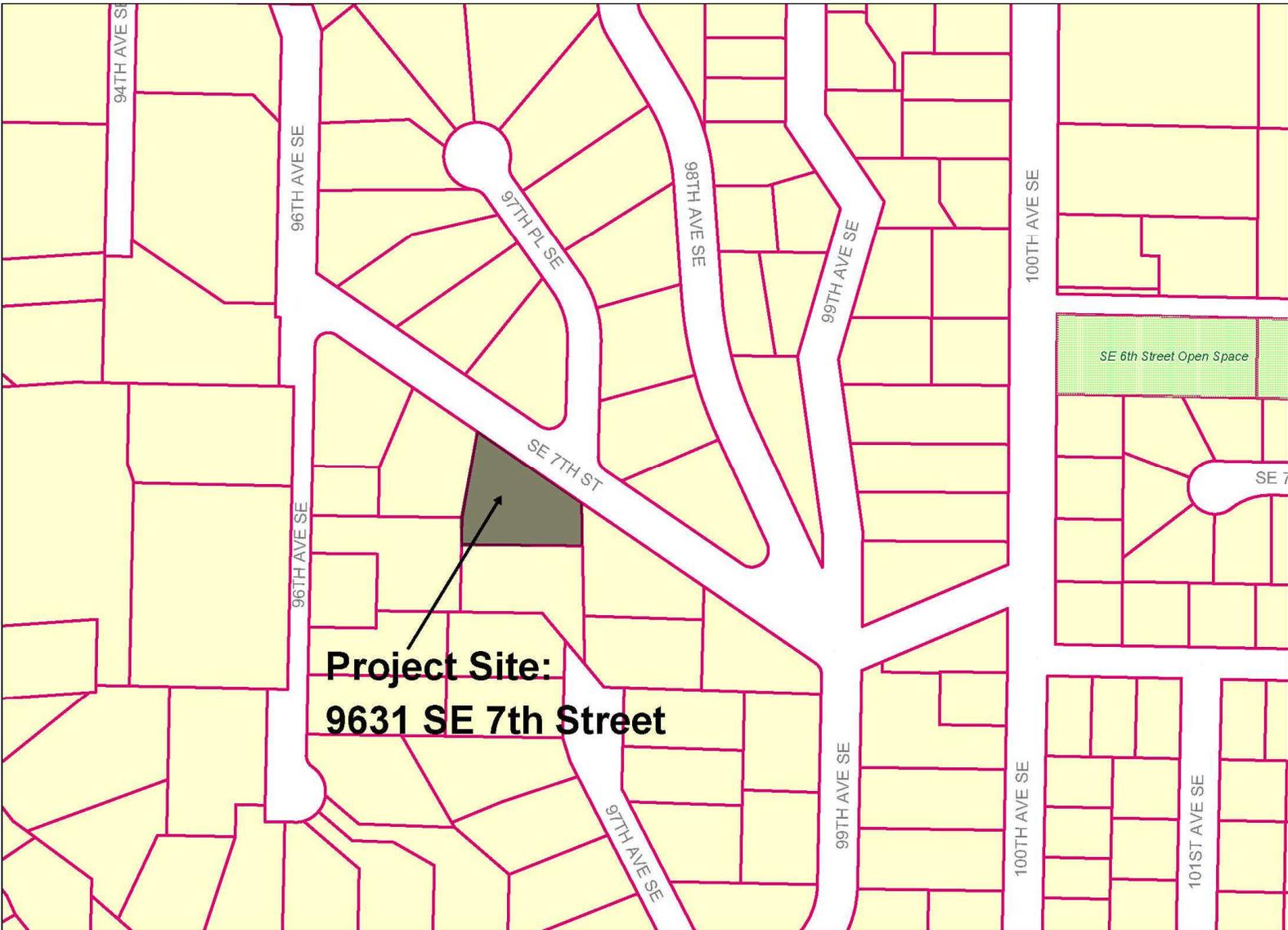

Environmental Coordinator

4/5/2012
Date

OTHERS TO RECEIVE THIS DOCUMENT:

State Department of Fish and Wildlife
State Department of Ecology,
Army Corps of Engineers
Attorney General
Muckleshoot Indian Tribe

Hansen Rockery
File Number: 12-105651-LO





**City of Bellevue
Development Services Department
Land Use Staff Report**

Proposal Name: Hansen Rockery

Proposal Address: 9631 SE 7th Street

Proposal Description: Land Use review to allow a rockery constructed without a permit to remain within a steep slope critical area associated with code enforcement 11-122879-EA.

File Number: 12-105651-LO

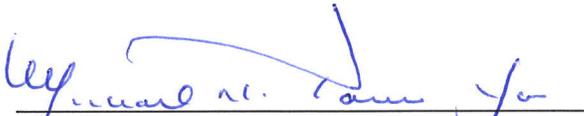
Applicant: Stephen J. Hansen, Property Owner

Decisions Included Critical Areas Land Use Permit
(Process II. 20.30P)

Planner: Reilly Pittman, Land Use Planner

**State Environmental Policy Act
Threshold Determination:**

Determination of Non-Significance

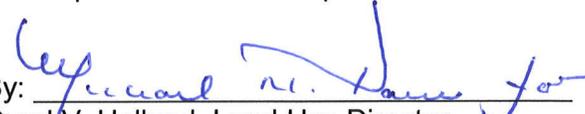


Carol V. Helland, Environmental Coordinator
Development Services Department

Director's Decision:

Approval with Conditions

Michael A. Brennan, Director
Development Services Department

By: 

Carol V. Helland, Land Use Director

Application Date: February 24, 2012
Notice of Application Date: March 8, 2012
Decision Publication Date: April 5, 2012
Project Appeal Deadline: April 19, 2012

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

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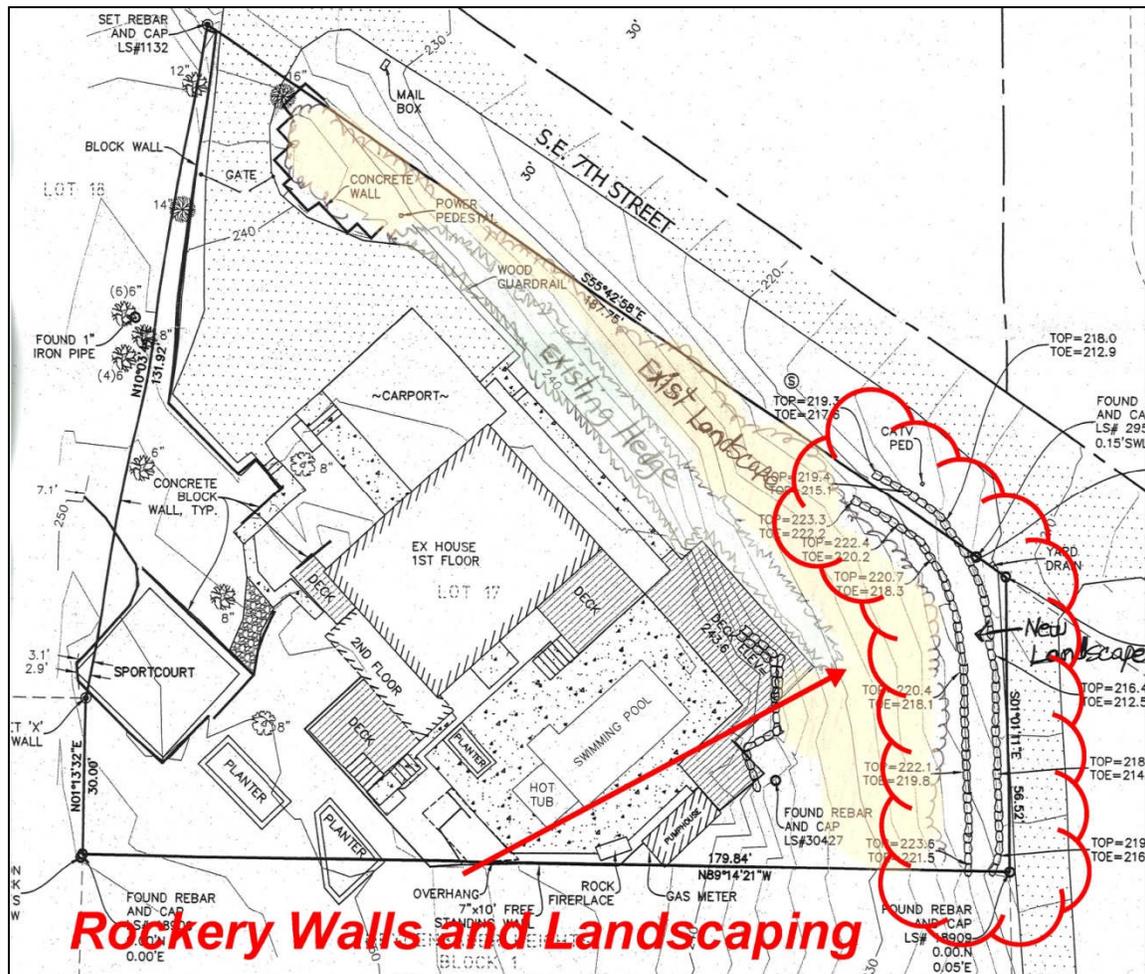
Attachments

1. Site Plan – Enclosed
2. Steep Slope Planting Template – Enclosed
3. Geotech Report prepared by Geo Group Northwest – In File
4. SEPA Checklist, landscaping plan, application materials – In File

I. Proposal Description

The applicant constructed a tiered rockery wall within a steep slope critical area, near the toe-of-slope and partially within City right-of-way along SE 7th Street without a permit. In addition, the rockery is within a required structure setback and is over 30 inches in height. To remain the rockery must be 30 inches or less in height and must obtain approval of a Critical Areas Land Use Permit to allow modification of a steep slope critical area for the rockery and intended landscaping. A subsequent clearing and grading permit is also required. This review is required to address code enforcement 11-122879-EA. See Figure 1 below for a site plan showing the rockery walls.

Figure 1



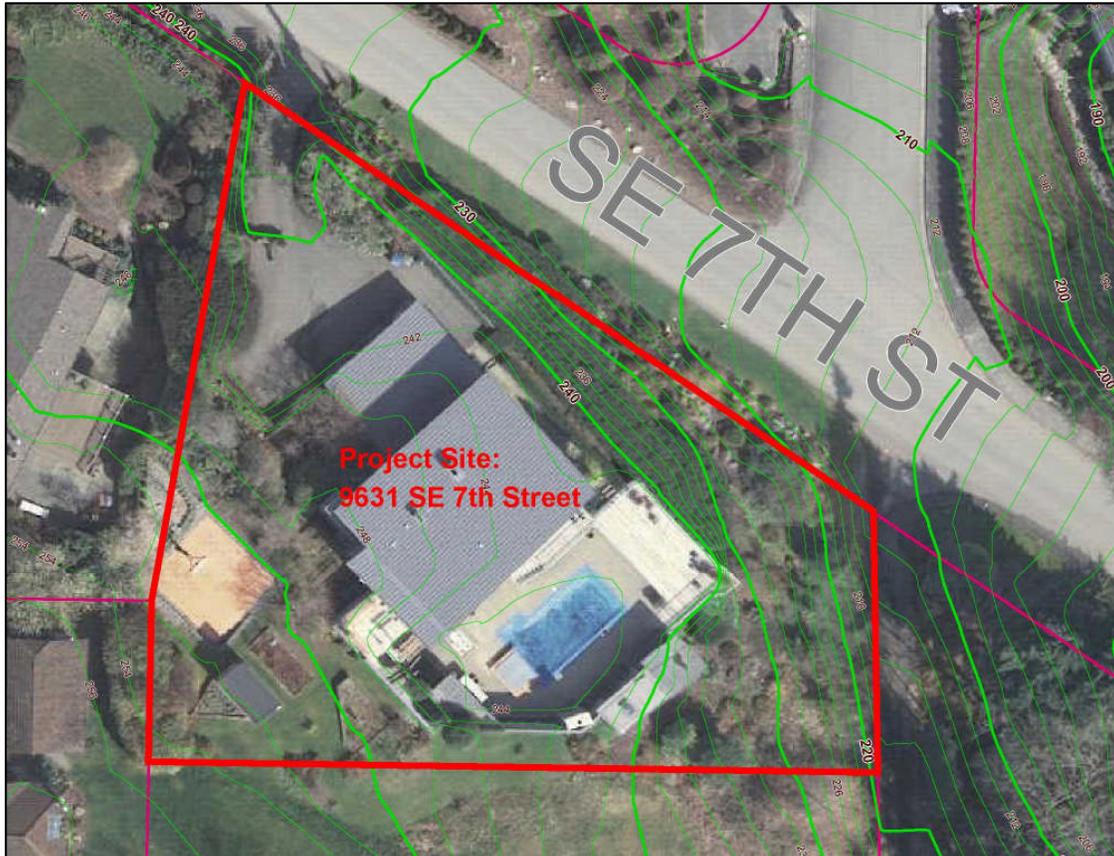
II. Site Description, Zoning, Land Use and Critical Areas

A. Site Description

The project site is located at 9631 SE 7th Street in the Southwest Bellevue subarea of the City. Other developed single-family zoned properties surround the site and are across from SE 7th Street which is north of the property. There is also a driveway which is immediately adjacent to the site along the east property line and provides access for an adjacent property. The rockery wall was built adjacent to this driveway and continued north into SE

7th Street right-of-way, in the north east corner of the property. The steep slope critical areas on the property are located between SE 7th Street and the existing home. Prior to the rockery construction the slope was covered in ivy and ornamental vegetation. See Figure 2 for pre-existing site condition and current rockery construction.

Figure 2





B. Zoning

The property is zoned R-1.8, single-family residential which allows the construction of walls.

C. Land Use Context

The property has a Comprehensive plan Land Use Designation of SF-L (Single Family Low Density). Construction of a wall is consistent with this residential land use.

D. Critical Areas On-Site and Regulations

i. Geologic Hazard Areas

Geologic hazards pose a threat to the health and safety of citizens when commercial, residential, or industrial development is inappropriately sited in areas of significant hazard. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas is best avoided (WAC 365-190).

Steep slopes may serve several other functions and possess other values for the City and its residents. Several of Bellevue's remaining large blocks of forest are located in steep slope areas, providing habitat for a variety of wildlife species and important linkages between habitat areas in the City. These steep slope areas also act as conduits for groundwater, which drains from hillsides to provide a water source for the City's wetlands and stream systems. Vegetated steep slopes also provide a visual amenity in the City, providing a "green" backdrop for urbanized areas enhancing property values and buffering urban development.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The R-1.8 zoning dimensional requirements found in LUC 20.20.010 apply to the

constructed rockery walls. The walls are located in a required structure setback and shall be 30 inches or less in height measured from finished grade. The plans submitted generally demonstrate conformance with zoning dimensional standards, however conformance will be verified during building permit review and inspection. **See Conditions of Approval in Section X of this report.**

B. Critical Areas Requirements LUC 20.25H:

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes performance standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area, critical area buffer or structure setback from a critical area or buffer. The proposed rockery walls are part of the landscaping which modifies a steep slope critical areas and is subject to the performance standards found in LUC 20.25H.125 below.

i. Consistency with LUC 20.25H.125

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.

1. 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;

The rockery walls are not significantly altering the natural contour of the slope. The natural contour has already been altered when the house and SE 7th Street were constructed and through maintenance of the landscaping. The rockery is tiered in two separate walls and most of the slope is maintained as the rockeries are near the toe-of-slope. The geotech recommends that rockery be reconstructed with larger rocks and meet other requirements as they recommend in their report (Geotech Report, Pgs. 6-8). No building foundations are proposed.

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

The rockeries were located near the toe-of-slope in the steep slope critical area and only alter a portion of the slope. The existing landscaping on the slope in this location was ivy and ornamental species which were not natural vegetation to be preserved. The intent of the rockery construction was to re-landscape the slope area to be more aesthetic. The rockery walls will also provide a flat area where more substantial plant growth may occur than would on the steep slope. Once the construction is complete the slope will be restored with planting consisting of predominantly ornamental landscaping which is replacing what existed on the slope prior to construction. Maintenance and replacement of ornamental landscaping is allowed by LUC 20.25H.055 and is not part of this approval. Some native vegetation is included such as red twig dogwood. However as the area is a critical area steep slope modified by the rockery, at

least two other species of native shrub vegetation as found on the planting template for steep slope critical areas in the Critical Areas Handbook are required to be included in the plan. The planting template can be found as attachment 2 to this report. **See Conditions of Approval in Section X of this report.**

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

The project geotechnical engineer (Geo Group Northwest) reviewed the proposal and provided recommendations. The project geotechnical engineer reviewed the issue of increased risk on neighboring properties and found that the rockeries “will not impact the subject, or adjacent properties” (Pg. 9). The geotech also found “the risk is low for soil instability” (Pg. 9). The applicant will be required to record a hold harmless agreement which releases the City from liability for any damage arising from the location of improvements within a critical area buffer in accordance with LUC 20.30P.170. **See Conditions of Approval in Section X of this report.**

4. 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;

The rockery walls will help prevent erosion by covering the face of the slope and their primary function is not to change grades or provide slope retention.

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

No impervious surfaces are proposed within the steep slope critical area other than the rockeries.

6. 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;

The rockery walls are part of the landscaping of the steep slope. They are not creating yard space given their placement at the toe-of-slope.

7. 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;

No foundations are proposed and the existing house foundation cannot provide the same function as the rockeries.

8. On slopes in excess of 40 percent, use of pole-type construction which

conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;

No enclosed structure is proposed.

- 9. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and**

No parking area or garage is proposed.

- 10. 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.**

Once the rockeries are reconstructed and the slope is restored it will be replanted to replace the existing ornamental landscaping. Native plants per the steep slope planting templates are required to be included. **See Conditions of Approval in Section X of this report.**

IV. Public Notice and Comment

Application Date:	February 24, 2012
Public Notice (500 feet):	March 8, 2012
Minimum Comment Period:	March 22, 2012

The Notice of Application for this project was published the City of Bellevue weekly permit bulletin on March 8, 2012. It was mailed to property owners within 500 feet of the project site. No comments were received.

V. Summary of Technical Reviews

A. Clearing and Grading

The Clearing and Grading Division of the Development Services Department has reviewed the proposed site development for compliance with Clearing and Grading codes and standards. The Clearing and Grading staff approved the proposal with the conditions. The plans submitted as part of the future clearing and grading permit to construct the rockeries must show the distance between each rockery wall. In addition, if the rockeries are over four feet in height as measured from the bottom of the rock base course the rockeries shall be designed by a geotechnical engineer. **See Conditions of Approval in Section X of this report.**

VI. State Environmental Policy Act (SEPA)

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The Environmental Checklist submitted with the application adequately discloses expected environmental impacts associated with the project. The City codes and requirements, including the Clear and Grade Code, Utility Code,

Land Use Code, Noise Ordinance, Building Code and other construction codes are expected to mitigate potential environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

A. Earth, Air, and Water

The nature of the rockery wall construction will result in some temporary earth movement and restoration of the slope. Erosion and sedimentation control requirements and BMPs will be reviewed by the Clearing and Grading Department under the building permit to construct the rockeries. **See Conditions of Approval in Section X of this report.**

B. Plants and Animals

No significant trees will be removed and no impacts to species of local importance are anticipated. The vegetation removed was ivy and ornamental species. Once the rockeries are rebuilt the slope will be restored with vegetation that replaces the preexisting ornamental species and also includes native plants.

D. Noise

The only noise anticipated as a result of this work will be from construction equipment. Any noise is regulated by Chapter 9.18 BCC. **See Conditions of Approval in Section X of this report.**

VII. Changes to Proposal Due to Staff Review

Staff has conditioned that the landscaping to be installed also include some native shrub species in addition to what is proposed.

VIII. Decision Criteria

A. 20.25H.255.B Critical Areas Report Decision Criteria

The Director may approve, or approve with modifications, a proposal to reduce the regulated critical area buffer on a site where the applicant demonstrates:

- 1. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in overall critical area or critical area buffer functions;**

The planting will improve vegetation cover on the slope which was predominantly invasive English ivy. The rockery and vegetation will provide slope stability and erosion protection.

- 2. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist;**

The most important critical area function for the slopes on this site which are slope stability and erosion control are improved.

- 3. The proposal includes a net gain in stormwater quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer;**

Stormwater quality will be improved by increased capture of runoff onto the slope from the vegetation to be installed. Drainage will be provided at the base of the wall and the loose soil behind the wall will be removed and replaced with drainage rock that will prevent sediment and fines eroding into the storm water system.

- 4. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts;**

The planting is associated with replacement of existing landscaping which is proposed by the property owner. The rockery walls are required to be modified to meet City codes.

- 5. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site; and**

The modifications and performance measures in this proposal are not detrimental to the functions and values of the steep slope.

- 6. The resulting development is compatible with other uses and development in the same land use district.**

The rockeries proposed as common landscaping features for residential uses to create terraced landscaping. Noise generated by construction is limited to the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. **See Conditions of Approval in Section X of this report.**

B. 20.30P.140 Critical Area Land Use Permit Decision Criteria – Decision Criteria

The Director may approve, or approve with modifications an application for a Critical Area Land Use Permit if:

- 1. The proposal obtains all other permits required by the Land Use Code.**

The applicant must obtain a clearing and grading permit and any other required development permits. A right-of-way permit is required for the rockery wall to be located within City right-of-way. **See Conditions of Approval in Section X of this report.**

- 2. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer.**

The existing nature of the slope is highly disturbed and landscaped as compared to a slope which provides a natural corridor for wildlife and birds. The proposed rockery

walls and landscaping maintain the existing condition. The slope will be vegetated to prevent erosion which will also be prevented by the rockery walls.

3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable.

As discussed in Section III of this report, the applicable performance standards of LUC Section 20.25H are being met.

4. The proposal will be served by adequate public facilities including street, fire protection, and utilities.

The proposed activity will not impact public facilities. A right-of-way permit or approval is required for the rockery wall to be located within City right-of-way. If the rockeries are required to be moved to not be located in the right-of-way, this review and approval accounts for that disturbance of the slope. **See Conditions of Approval in Section X of this report.**

5. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC Section 20.25H.210.

The slope will be restored with vegetation after the rockeries are reconstructed. Most of the vegetation is replacing the pre-existing ornamental planting. However the planting on the slope must also include 2 native shrubs species from the planting templates for steep slopes. Other native species can be selected if desired, however they must be native varieties and not ornamental. The native plants must have a sufficient density per the template. **See Conditions of Approval in Section X of this report.**

6. The proposal complies with other applicable requirements of this code.

As discussed in this report, the proposal complies with all other applicable requirements of the Land Use Code.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the construction of rockery walls within a steep slope critical area. **Approval of this Critical Areas Land Use Permit does not constitute a permit for construction. A building permit, clear and grade permit, and/or utility permit is required and all plans are subject to review for compliance with applicable City of Bellevue codes and standards.**

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a building permit or other necessary development permits within one year of the effective date of the approval.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

<u>Applicable Ordinances</u>	<u>Contact Person</u>
Clearing and Grading Code- BCC 23.76	Janney Gwo, 425-452-6190
Land Use Code- BCC Title 20	Reilly Pittman, 425-452-4350
Noise Control- BCC 9.18	Reilly Pittman, 425-452-2973

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

- 1. Clearing and Grading Permit:** Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. Application for a clearing and grading permit or other required permits must be submitted and approved. Plans submitted as part of either permit application shall be consistent with the activity permitted under this approval. The distance between each rockery wall shall be shown on the plans and if the walls are over four feet in height as measured from the bottom of the rock base course the rockeries shall be designed by a geotechnical engineer.

Authority: Bellevue City Code 23.76
Reviewer: Janney Gwo, Development Services Department

- 2. Right-of-Way Permit:** Approval of permit 11-122904-TH is required in order for the rockery walls to remain within City right-of-way.

Authority: Bellevue City Code 14.30
Reviewer: Tim Stever, Transportation Department

- 3. Rockery Height:** The rockery walls shall be 30 inches or less measured from finished grade.

Authority: Land Use Code 20.20.010
Reviewer: Reilly Pittman, Development Services Department

- 4. Geotechnical Recommendations:** The project shall be constructed per the recommended procedures and practices in the geotechnical report dated February 1, 2012 by Geo Group Northwest.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

- 5. Hold Harmless Agreement:** The applicant shall submit a hold harmless agreement in a form approved by the City Attorney which releases the City from liability for any damage

arising from the location of improvements within a critical area buffer in accordance with LUC 20.30P.170. The hold harmless agreement is required to be recorded with King County prior to clearing and grading permit issuance. Staff will provide the applicant with the hold harmless form.

Authority: Land Use Code 20.30P.170
Reviewer: Reilly Pittman, Development Services Department

- 6. Native Plants:** In addition to the proposed landscaping replacement the planting shall include at least two species of native shrubs found on the City's planting templates for steep slopes in the Critical Areas Handbook found as attachment 2. Other native species can be used if desired, provided they are not ornamental varieties. The selected native plants shall be shown on the plans for the clearing and grading permit. The native plants should have a density similar to the planting template requirements.

Authority: Land Use Code 20.25H.220
Reviewer: Reilly Pittman, Development Services Department

- 7. Land Use Inspection:** Following installation of planting the applicant shall contact Land Use staff to inspect the rockery and planting prior to final building inspection.

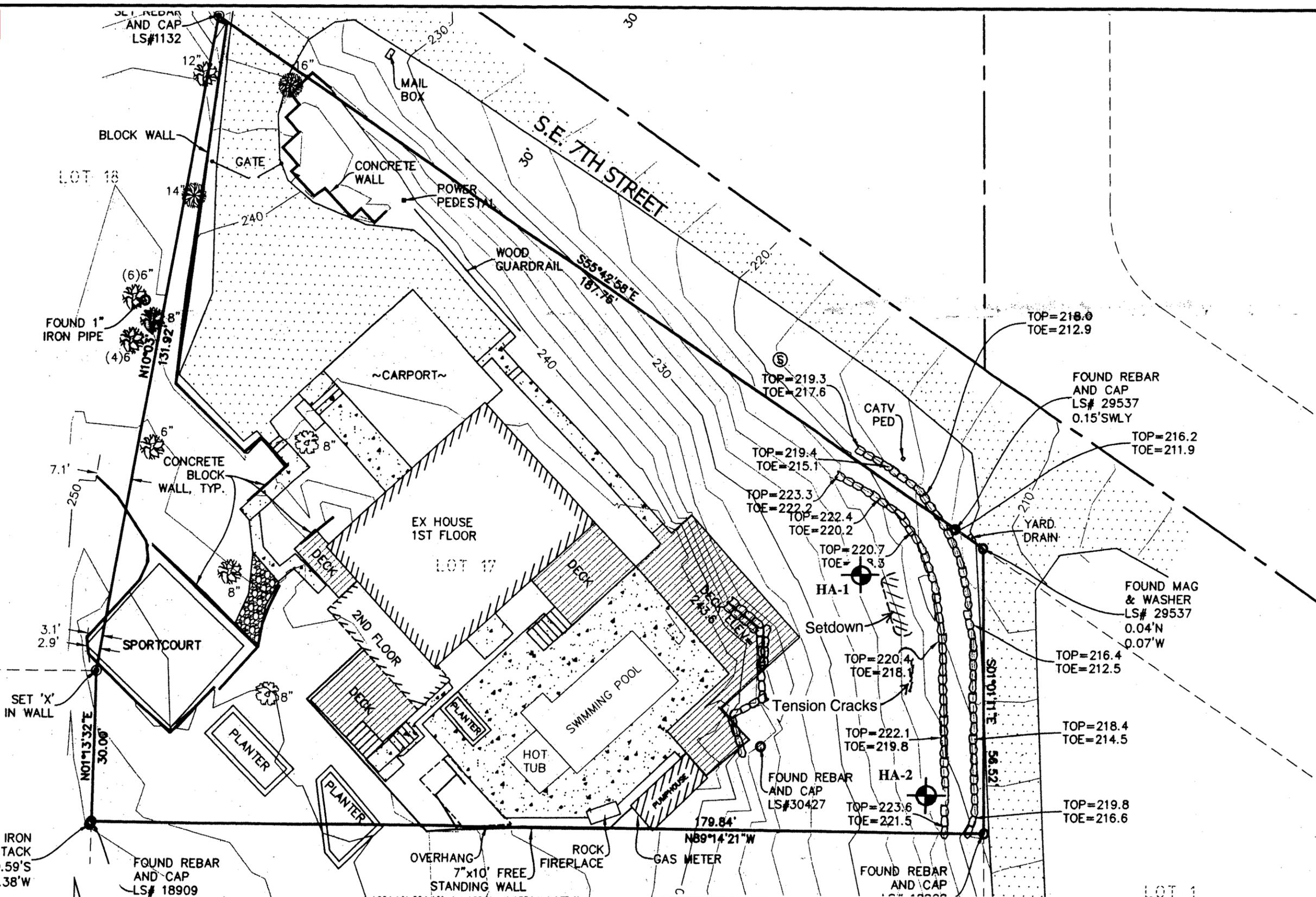
Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

- 8. Noise Control:** Noise related to construction is exempt from the provisions of BCC 9.18 between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. Requests for construction hour extension must be done in advance with submittal of a construction noise expanded exempt hours permit.

Authority: Bellevue City Code 9.18
Reviewer: Reilly Pittman, Development Services Department

Attachment 1

- TREE LEGEND**
-  CEDAR TREE
 -  MAPLE TREE
 -  TREE (UNSPECIFIED)



LEGEND

 Hand Auger Boring Number And Approximate Location
HA-1

 N


0 20' 40'
Approx. Scale: 1 inch = 20 ft +/-

 **GEO Group Northwest, Inc.**
Geotechnical Engineers, Geologists, & Environmental Scientists

SITE PLAN
HANSEN ROCKERY
9631 SE 7TH STREET
BELLEVUE, WASHINGTON

This Site Plan adapted from "Boundary/Topographic Plan" prepared for Steve Hansen., dated 20/25/2011 by Encompass Engineering & Surveying.

SCALE As Shown	DATE 1/31/12	MADE WJL	CHKD WC	JOB NO. G-3244	PLATE 2
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Attachment 2



Oceanspray



Thimbleberry



Mock Orange



Douglas-fir

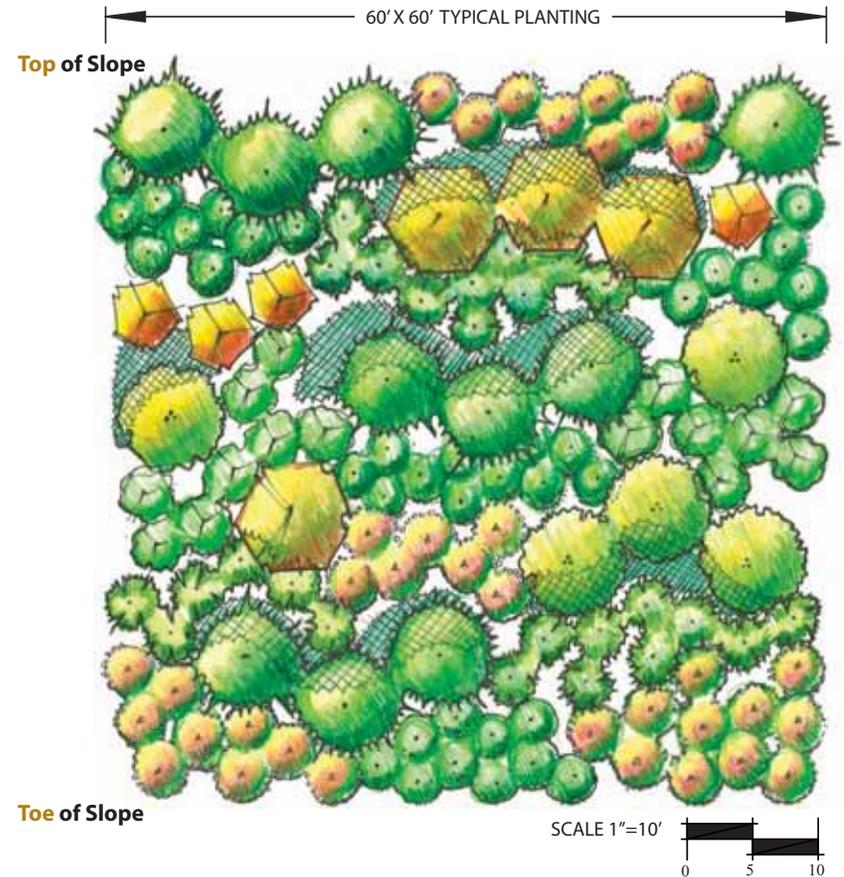
GEOLOGICAL HAZARDS TEMPLATE

Geological Hazards

Steep Slope Planting Template for *Sunny* and *Shady* Sites

A1

GEOLOGICAL HAZARDS (STEEP SLOPE) PLANTING TEMPLATE



Steep slopes commonly have fragile, erodible soils. Planting can be difficult to establish in these areas as gravity, wind, and rain have a tendency to pull nutrient-rich soil down the slope. In addition, sunny sites require drought-tolerant plants, while both sunny and shady sites require plants with strong, root systems to keep soil intact. On the next two pages you will find one legend designed for sunny, steep sites and one designed for shady, steep sites. The plants chosen for these templates are known for drought tolerance and soil-binding characteristics. With the successful establishment of plants on steep slopes, the potential for erosion decreases. For additional information on Steep Slopes, refer to the section on *Geological Hazard Areas* in *Chapter One* and the City's *Critical Areas Ordinance*. Note, these templates are to be used for stable and undisturbed sloping sites. If your site has experienced a landslide or substantial erosion, do not use this template; consult a professional.

PLANT LEGEND FOR SUNNY SITES

LATIN NAME/ COMMON NAME	TYPICAL SPACING/ AVERAGE HEIGHT	CHARACTERISTICS
TREES		
<i>Acer macrophyllum</i> / Big-leaf maple	9 feet on center/ 75 feet	Yellow fall color, provides understory shade, largest leaf of all maples
<i>Alnus rubra</i> / Red alder	9 feet on center/ 60 feet	Vigorous grower, provides cover quickly for other plants
<i>Pseudotsuga menziesii</i> / Douglas-fir	9 feet on center/ 100 feet	Highly adaptable, fast grower
SHRUBS		
<i>Corylus cornuta</i> / Beaked hazelnut	6 feet on center/ 11 feet	Edible acorn, wildlife food. Small understory tree, yellowish fall color
<i>Holodiscus discolor</i> / Oceanspray	4.5 feet on center/ 7 feet	Spectacular blossom; attracts hummingbirds and butterflies
<i>Philadelphus lewisii</i> / Mock orange	4.5 feet on center/ 8 feet	Fragrant white blossom
<i>Rubus parviflorus</i> / Thimbleberry	4 feet on center/ 8 feet	Delicious edible berries, fast grower, likes sun
<i>Symphoricarpos albus</i> / Snowberry	4.5 feet on center/ 5 feet	White berries, proven performer in tough conditions
GROUNDCOVERS & PERENNIALS		
<i>Arctostaphylos uva-ursi</i> / Kinnikinnick	*24 in. on center/ 6-8 in.	Evergreen groundcover, great for rockeries and full sun areas
<i>Fragaria chiloensis</i> / Coastal strawberry	*24 in. on center/ 4-6 in.	Tough, highly adaptable groundcover w/ red stems and edible berries
<i>Festuca idahoensis</i> / Idaho fescue	*24 in. on center/ 2.5 feet	Bluish leaves, clumping
<i>Polystichum munitum</i> / Sword fern	*24 in. on center/ 5 feet once mature	Semi-evergreen fern, highly adaptable
<i>Epilobium angustifolium</i> / Fireweed	*24 in. on center/ 1.5-2 feet	Big purple flowers on a tall stem

* Indicates plants are to be triangularly spaced for the area shown. See page 23 for triangular spacing.

A1-Sun

63

PLANT LEGEND FOR SHADY SITES

LATIN NAME/ COMMON NAME	TYPICAL SPACING/ AVERAGE HEIGHT	CHARACTERISTICS
TREES		
<i>Acer macrophyllum</i> / Big-leaf maple	9 feet on center/ 75 feet	Yellow fall color, provides understory shade, largest leaf of all maples
<i>Alnus rubra</i> / Red alder	9 feet on center/ 60 feet	Vigorous grower, provides cover quickly for other plants
<i>Thuja plicata</i> / Western red cedar	9 feet on center/ 150 feet	Fragrant, adaptable to many sites
SHRUBS		
<i>Acer circinatum</i> / Vine maple	4.5 feet on center/ 20 feet	Bright red fall color, small understory tree, grows well in shade
<i>Amelanchier alnifolia</i> / Western serviceberry	4.5 feet on center/ 20 feet	Fragrant flowers, edible red to purple berries
<i>Corylus cornuta</i> / Beaked hazelnut	6 feet on center/ 11 feet	Edible acorn, wildlife food, small understory tree, yellowish fall color
<i>Oemleria cerasiformis</i> / Osoberry	4.5 feet on center/ 10 feet	Berries attract birds, first shrub to leaf out in spring
<i>Sambucus racemosa</i> / Red elderberry	4 feet on center/ 15 feet	Edible berries, fast grower, graceful form with age
GROUNDCOVERS & PERENNIALS		
<i>Arctostaphylos uva-ursi</i> / Kinnikinnick	*24 in. on center/ 6-8 in.	Evergreen groundcover, great for rockeries and full sun areas
<i>Asarum caudatum</i> / Wild ginger	*24 in. on center/ 6-8 in.	Tough groundcover, great for planting under shrubs and trees
<i>Polystichum munitum</i> / Sword fern	*24 in. on center/ 5 feet once mature	Semi-evergreen fern, highly adaptable

* Indicates plants are to be triangularly spaced for the area shown. See page 23 for triangular spacing.

A1-Shade

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