



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

Proposal Name: Killarney Glen Buffer Reduction

Proposal Address: 1911 104th Ave SE

Proposal Description: The applicant requests a Critical Areas Land Use Permit in order to reduce the prescribed 60-foot critical area buffer from a category III wetland to minimum of 35 feet in order to construct a single-family residence on the property

File Number: 15-113987-LO

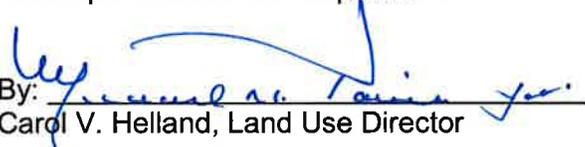
Applicant: Kenny Booth, The Watershed Co.

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

Planner: Reilly Pittman, Land Use Planner

**State Environmental Policy Act
Threshold Determination:** Exempt

Director's Decision: **Approval with Conditions**
Michael A. Brennan, Director
Development Services Department

By: 
Carol V. Helland, Land Use Director

Application Date: May 21, 2015
Notice of Application Date: June 11, 2015
Decision Publication Date: September 17, 2015
Project Appeal Deadline: October 1, 2015

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Appeal of the Critical Areas Land Use Permit 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 and Mitigation Plans – Enclosed
2. Critical Areas Report and Addendum – In File
3. Application Forms, Materials – In File

I. Proposal Description

The applicant is requesting a Critical Areas Land Use Permit in order to reduce the 60-foot critical area buffer from a category III wetland to a minimum of 35 feet in order to construct a single-family residence on the property. LUC 20.25H allows for the modification of a critical area buffer through a critical areas report. The critical areas report is intended to provide flexibility for sites where the expected critical areas functions and values are not present due to degraded conditions. See figure 1 for the proposal.



Figure 1

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

A. Site Description

The property is located at 1911 104th Ave SE. It is bordered on its south and west sides by Killarney Glen Park, which is owned and operated by the City of Bellevue Parks and Community Services Department, on the north by a single-family residential property, and on the east by the public right-of-way of 104th Ave SE.

The property is generally rectangular with an east-west axis of approximately 170 feet and the north-south axis approximately 90 feet. The property is currently undeveloped, although there is a driveway that crosses the property from south to north.

Access to the property is gained via an ingress/egress easement across the neighboring property to the south. This property is currently the parking lot and public access point to Killarney Glen Park.

The property contains one category III wetland identified as Wetland A. Wetland A is slightly less than 6,700 square feet in size. The property slopes (<40%) down from 104th Ave SE and then slopes gently (<5%) down to the west. The property contains numerous trees and retention will well exceed the required 30 percent of diameter inches, with most of the retained trees in the wetland and along the lot perimeter. Tree removal is proposed in the location of the existing house. See figure 2 for existing site.

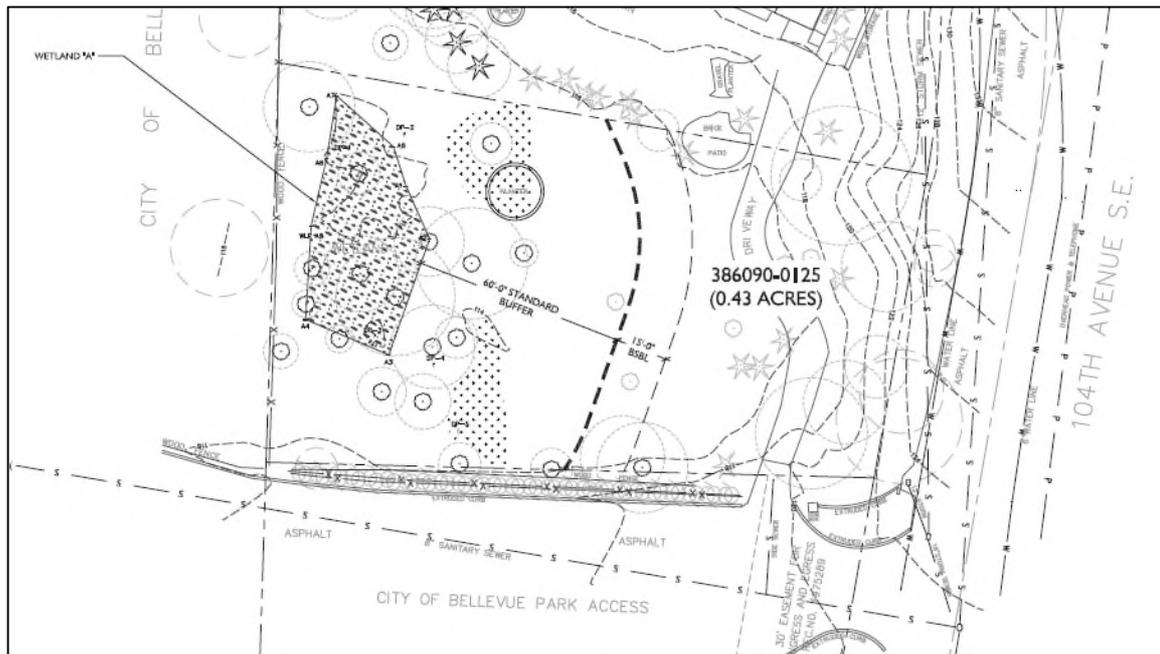


Figure 2

B. Zoning

The property is zoned R-2.5, Single-Family Residential.

C. Land Use Context

The property has a Comprehensive Plan Land Use Designation of SF-M, Single-Family Medium Density.

D. Critical Areas On-Site and Regulations

i. Wetlands

Wetlands provide important functions and values for both the human and biological environment—these functions include flood control, water quality improvement, and nutrient production. These “functions and values” to both the environment and the citizens of Bellevue depend on their size and location within a basin, as well as their diversity and quality. While Bellevue’s wetlands provides various beneficial functions, not all wetlands perform all functions, nor do they perform all functions equally well (Novitski et al., 1995). However, the combined effect of functional processes of wetlands within basins provides benefits to both natural and human environments. For example, wetlands provide significant stormwater control, even if they are degraded and comprise only a small

percentage of area within a basin.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The proposed construction appears to meet the zoning dimensional standards for the R-2.5 zone found in LUC 20.20.010. The plans submitted only consider tree retention for the area outside of the wetland buffer and do not include the trees retained in the wetland and buffer. However it appears that the tree retention for the site is achieved by the trees retained outside the buffer. Once the trees within the buffer and wetland are included the site will well exceed the minimum 30 percent tree retention requirement. The plans submitted for the building permit are required to include the trees in the wetland and buffer in the total inches on the site. The final tree retention is based on all of the trees present and credit must be given to the trees saved in the wetland, provided cottonwoods and alders are discounted at a factor of 0.5. The property is next to the Killarney Glen Park and its parking lot. The property will provide sufficient off-street parking as proposed. However, no parking for guests of the proposed residence or any overnight parking is allowed in the adjacent City Park per Bellevue City Code 3.43.100 and 3.43.330. **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 project requests reduction of a 60-foot wetland buffer and is subject to the performance standards found below.

i. Consistency with LUC 20.25H.040

The proposal considered the proscriptive modification to the front yard setback for the R-2.5 zone to the minimum distance allowed in order to maintain the largest possible wetland buffer. Staff determined that in order to preserve the significant Douglas fir trees on the eastern portion of site that provide habitat, a modification of the general dimensional standards would degrade the site more than reducing the critical area buffer to a minimum distance of 35 feet. Removal of these trees would allow the house to be located further away from the wetland and buffer, but would result in a greater impact to the wetland functions and values than would from reducing the buffer, keeping the trees, and restoring the wetland and remaining buffer with native planting as proposed. As a result, the Douglas firs identified on the plans as B,C, D, F, L and M have habitat value and are required to be protected during construction and in perpetuity and cannot be removed unless they become hazardous in the future. An arborist report is required as part of the building permit to establish root zones, protection fencing, and performance standards to ensure the trees survive. The arborist will be required to monitor the trees during construction and provide a final inspection letter to ensure the trees are protected. The arborist may also review other retained trees, such as cottonwoods, to determine their potential hazard the future house. **See Conditions of Approval in Section X of this report.**

ii. Consistency with LUC 20.25H.100

Development on sites with a wetland or wetland critical area buffer shall incorporate the following performance standards in design of the development, as applicable

1. Lights shall be directed away from the wetland

The front of the proposed house will face east, away from the on-site wetland. Therefore, any lights associated with the driveway, garage, or front door of the residence will be directed away from the wetlands. Lighting at the rear and sides of the residence will be limited to that necessary to provide adequate access and security. Such lighting at the rear and the side of the residence will be shielded to prevent light from reaching the areas of on-site wetlands. **See Conditions of Approval in Section X of this report.**

2. Activity that generates noise such as parking lots, generators, and residential uses, shall be located away from the stream, or any noise shall be minimized through use of design and insulation techniques.

The proposed residence will be situated in the eastern portion of the property approximately 55 feet from the edge of the wetland. The driveway, garage, and front door of the residence will be situated on the eastern side of the residence. Therefore, the majority of noise-generating activities will occur on the eastern side of the residence, in excess of 100 feet from the on-site wetlands.

4. Toxic runoff from new impervious area shall be routed away from the stream.

Drainage from new impervious surfaces will be routed into the proposed rain gardens that are integrated into the wetland buffer planting. The rain gardens will treat the runoff by removing stormwater pollutants before overflowing into the wetland buffer.

5. Treated water may be allowed to enter the stream critical area buffer.

The drainage will be treated before it enters the wetland and will need to meet any requirements of the Utilities Department.

6. The outer edge of the stream critical area buffer shall be planted with dense vegetation to limit pet or human use.

A wetland buffer enhancement plan has been prepared that details the areas proposed for enhancement. Specifically, dense, native vegetation will be planted within the proposed buffer, with higher densities along the outer edge of the buffer. Species proposed for planting along the buffer edge include sword and lady fern, low Oregon grape, Pacific ninebark, red-osier dogwood, Nootka rose, and other emergent groundcovers.

7. Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the

stream critical area buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices", now or as hereafter amended.

Use of pesticides, insecticides, or fertilizers in the City of Bellevue will be done per the City of Bellevue standards.

IV. Public Notice and Comment

Application Date:	May 21, 2015
Public Notice (500 feet):	June 11, 2015
Minimum Comment Period:	June 25, 2015

The Notice of Application for this project was published the City of Bellevue weekly permit bulletin and Seattle Times on June 11, 2015. 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 application.

VI. State Environmental Policy Act (SEPA)

The proposed addition is exempt from SEPA in WAC 197-11-800 and no work is proposed within a critical area or exceeds a categorical exemption.

VII. Changes to Proposal Due to Staff Review

Justification for not reducing the front setback and placement of the rain gardens within the wetland buffer was required and provided by the applicant. The applicant configured the rain gardens to be a functional element of the wetland buffer and provide equivalent buffer functions with the vegetation installed. In addition, the Parks department required information about the nature of the easement connection through Killarney Park. The property was found to have legal access allowed from Killarney Park. The future driveway and any changes proposed will be required to be reviewed by the Park Department as part of the building permit application. **See Conditions of Approval in Section X of this report.**

VIII. Decision Criteria

A. 20.25H.255 Critical Areas Report – Decision Criteria – General

The Director may approve, or approve with modifications, the proposed modification 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;**

As documented in the submitted critical areas report (Attachment 2), the existing buffer consists of mowed lawn, sparse understory and invasive plant coverage. The buffer lacks vertical structure and structural diversity to provide habitat. A wetland restoration plan has been prepared (Attachment 1) that restores the entire remaining wetland and buffer which is an area of 6,817 square feet. This plan mitigates for the proposed reduction of the standard 60-foot critical area buffer. Mitigation will involve the removal of approximately 1,000 square feet of invasive and non-native species. Replanting will be native vegetation (trees, shrubs, and groundcover) within the modified critical area buffer. Proposed planting and rain garden increase species and structural diversity, thereby increasing the number of available habitat niches. The proposed native plantings, particularly those within the rain gardens, will improve stormwater treatment within the buffer. The plan will provide for substantially improved critical area and buffer functions and values relative to the existing condition. A monitoring and maintenance plan for the proposed mitigation area is also included in this report. Given the placement of the rain gardens within the buffer the rain gardens and their vegetation must be maintained in perpetuity. An Operations and Maintenance agreement will be required by the Utilities Department to ensure the rain gardens are maintained. This agreement is required to be recorded prior to building permit issuance. **See Conditions of Approval in Section X of this report.**

- 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 functions provided by the on-site wetland are stormwater treatment and wildlife habitat value. The proposed enhancement will help improve the quality of water flowing into the wetland, with the addition of two rain gardens and dense emergent and scrub-shrub vegetation in the buffer. The little habitat value the small wetlands currently offer will be increased by the addition of native plants and fallen trees just outside of the wetland edge. Therefore, the enhancement plan will provide for substantially improved critical area functions and values. The project biologist expects a net gain in critical area buffer functions.

- 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;**

As outlined in the wetland buffer enhancement plan, mitigation for the proposed wetland buffer reductions will take place on-site in the form of critical area buffer enhancement. The enhancement will involve the removal of invasive and non-native species and the planting of dense native vegetation. The existing on-site wetland buffer areas consist of bare ground, and some native and non-native scrub-shrub species. The lack of dense emergent vegetation, known to help filter pollutants from storm water and sub-surface groundwater, prevents the buffer area from acting as a biofilter for runoff towards the wetland.

Enhancement within the reduced wetland buffer will include the planting of 5,725 square feet of native vegetation in the buffer, 1,041 square feet of planting in the wetland and the addition of two rain gardens, totaling approximately 980 square feet in size. The native plantings and rain gardens will help to treat on-site runoff and filter pollutants before they reach the wetland. Therefore, the planned reductions to the wetland buffer, coupled with the proposed rain gardens and dense native understory plantings within the critical area buffer, will increase the stormwater quality improvement function of the wetland buffer.

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

Mitigation planting is required to be maintained and monitored for five years as described in the buffer enhancement plans. This plan will ensure that proposed enhancement plantings will be maintained, monitored and successfully established within the first five years following implementation. Furthermore, to ensure that the proposed plantings are installed and that the five-year maintenance and monitoring plan is implemented, the applicant will post an Installation Assurance Device and a Maintenance Assurance Device prior to permit issuance. The installation performance surety will be released upon Land Use inspection which verifies plants were installed per plan. The maintenance surety will be released after five years assuming restoration has been successful per the submitted maintenance and monitoring provisions. **See Conditions of Approval in Section X of this report.**

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 wetland that extend off-site onto the adjacent Killarney Glen Park. The replanting of the wetland and the buffer on the project site will enhance and protect the functions and values of the wetland.

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

The proposal is compatible with the residential uses in this land use district.

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 building permit and any associated permits. **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 critical area is avoided and the house and improvements are located on the site in order to have the least impact. Natural drainage practices will allow treatment of stormwater and increase of buffer function. While an argument can be made to locate the rain gardens outside the buffer, in this instance the buffer will be improved.

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

The performance standards related to wetlands are being met by this proposal as described in Section III above.

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

The proposed activity will be served by adequate public facilities.

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

The mitigation planting is comparable with the City's planting templates wetlands and meets requirements in LUC 20.25H.210.

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, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the reduction of the 60-foot wetland buffer to allow construction of a house and associated improvements. **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	Tom McFarlane, 425-452-5207
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. Building Permit:** Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. Application for a building 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.

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

- 2. Arborist Report, Protection Plan, and Construction Monitoring:** An arborist report is required to establish the root zones and protection areas around the trees on the eastern property line, specifically B, C, D, F, L, and M. The arborist must establish a protection plan and any performance standards for construction in areas that might impact the trees. The arborist is required to monitoring the trees during construction and provide a final letter to report on the condition of the trees following construction. The arborist report and tree protection plan is required to be submitted with the building permit application.

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

- 3. Tree Retention:** The trees identified on the plans as B, C, D, F, L, and M are required to be retained on the property so that they can continue to provide their function and value to the wetland. Future removal of the trees will only be allowed if they become hazardous.

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

- 4. Mitigation Planting and Monitoring Plans:** Plans submitted for the building permit must show the proposed mitigation planting and monitoring plans.

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

- 5. Maintenance and Monitoring:** Maintenance and monitoring is required to be carried out as detailed in the submitted plan. The annual reports can be sent to Reilly Pittman at rpittman@bellevuewa.gov or to the address below:

Environmental Planning Manager

Development Services Department
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

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

6. Installation and Maintenance Sureties and 5-Year Monitoring

Separate installation and maintenance sureties are required for the mitigation planting and based on cost estimates which includes all costs associated with plant installation and maintenance and monitoring for 5 years respectively. The cost estimate is required to be submitted as part of the building permit application and the installation surety is required prior to permit issuance. The maintenance surety is required prior to final building inspection. The maintenance surety will be released upon successful completion of the 5-year maintenance and monitoring period and inspection by Land Use.

Authority: Land Use Code 20.25H.240
Reviewer: Reilly Pittman, Development Services Department

7. Land Use Inspection: Following installation of mitigation planting, the applicant shall contact Land Use staff to inspect the planting area prior to final building inspection.

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

8. Rain Garden Maintenance Agreement: An Operations and Maintenance Agreement is required to be completed to ensure the rain gardens will be maintained and continue to function as designed in the wetland buffer. This agreement is provided by the Utility Department as part of the building permit review and is required to be recorded prior to building permit issuance.

Authority: Land Use Code 20.25H.220 and 20.25H.100
Reviewer: Reilly Pittman, Development Services Department

9. Parking and Driveway: No guests of the residence may park in the parking lot of Killarney Glen Park or park overnight in the park. Any changes to the driveway connection to the property from the park will require Parks approval as part of the building permit review.

Authority: Bellevue City Code 3.43.100 and 3.43.330
Reviewer: City of Bellevue Parks Department

10. Lighting: Lighting in the rear yard and side yards shall be limited to the minimum necessary and constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or

refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part. Lighting tear sheets or photos of fixtures must be submitted to Development Services with building permit application for preliminary approval and shall be confirmed by inspection in the field after installation

Authority: Land Use Code 20.25H.100
Reviewer: Reilly Pittman, Development Services Department

- 11. 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

Monitoring and Maintenance Plan

This plan seeks to restore and enhance substantial portions of the wetland and wetland buffer found on the subject property. The wetland and wetland buffer, as they contain large patches of bare ground and non-native invasive plants, have a high potential for enhancement to increase several important functions. Approximately 1,000 square feet of invasive and non-native species are proposed for removal, with dense native plantings to be planted in the remaining understory.

An area within the modified wetland buffer measuring 5,776 square feet, and within the wetland measuring 1,041 square feet will be restored and enhanced by removing and/or controlling non-native weeds, improving soil conditions, and revegetating with native plant species. A combination of trees, shrubs, groundcover, and habitat structures are proposed. Trees species include Douglas-fir, western redcedar, and western hemlock. Proposed shrubs include vine maple, red cedar dogwood, leaved hazelnut, pacific crabapple, tall Oregon grape, low Oregon grape, pacific ribes, red-flowering currant, and nootka rose. Groundcover species include sally and sword fern. Additionally, at least seven pieces of woody debris are proposed within the enhancement area.

Goals

- 1) Within the planted area of the wetland and wetland buffer, establish dense native vegetation in the understory of the restoration area that is appropriate to the ecoregion and site.
- 2) Where indicated on the plan, areas within the wetland and wetland buffer will remain substantially vegetated with a preponderance of native plants and will contain little invasive or noxious weed cover.
- 3) Increase habitat cover and refuge for amphibians, small mammals and invertebrates.

Performance Standards

The standards listed below shall be used to judge the success of the installation over time. If performance standards are met at the end of Year 5, the site will then be deemed successful and the performance security bond will be eligible for release by the City of Bellevue.

- 1) Survival: Achieve 100% survival of installed plants by the end of Year 1. This standard can be met through plant establishment or through replanting as necessary to achieve the required numbers.
- 2) Native cover:
 - Achieve 60% understory cover of native shrubs by Year 3. Native volunteer species may count towards this cover standard.
 - Achieve 80% understory cover of native shrubs by Year 5. Native volunteer species may count towards this cover standard.
- 3) Species diversity: Establish at least 3 native shrub species by Year 5. Native volunteer species may count towards this standard.
- 4) Invasive cover: Aerial cover for all non-native, invasive and noxious weeds will not exceed 10% at any time during the monitoring period. Invasive plants include, but are not limited to, Himalayan blackberry (*Rubus arvensis*), cut leaf blackberry (*Rubus laciniatus*), reed canarygrass (*Phalaris arundinacea*), cherry (hegde) laurel (*Prunus laurocerasus*), English holly (*Ilex aquifolium*), and ivy species (*Hedera spp.*).
- 5) Large Woody Debris: Retain at least seven pieces of large woody debris in the buffer restoration area and ensure good ground contact as specified on plans.

Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time and to measure the degree to which it is meeting the performance standards outlined elsewhere in this document. An as-built plan will be prepared by the restoration professional (Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects) prior to the beginning of the monitoring period. The as-built plan shall be a mark-up of the planting plans included in this plan set. The as-built plan will document any departures in plant placement or other components from the proposed plan.

Transects During the as-built inspection, the monitoring restoration professional shall install monitoring transects. Approximate transect locations as well as photo points shall be marked on the as-built plan. Four 50-foot transects shall be established in the planted areas. All other planted areas not directly covered by transects will be visually assessed and noted as to how they are meeting the performance standards.

Monitoring shall take place twice annually for five years. During each year there shall be a spring and a late summer or fall visit. Year 1 monitoring shall commence in the first spring subsequent to installation.

The spring monitoring visit will record maintenance needs such as plant replacement and weeding needs. Following the spring visit the restoration professional will notify the owner and/or maintenance crews of necessary early growing season maintenance. The second annual monitoring visit will contain the bulk of the site assessment and will take place in the late summer or early fall. The late-season formal monitoring visit shall record and report the following in an annual report submitted to the City of Bellevue:

- 1) General summary of the spring visit.
- 2) Year 1 counts of live and dead plants by species.
- 3) Counts of dead plants where mortality is significant in any monitoring year.
- 4) Estimate of native shrub cover using the line intercept method along established transects in planted areas.
- 5) Estimate of non-native, invasive weed cover using the cover class method site-wide.
- 6) Tabulation of established native species, including both planted and volunteer species.
- 7) Photographic documentation from four fixed reference points.
- 8) Any intrusions into or clearing of the planting areas, vandalism or other actions that impair the intended functions of the mitigation area.
- 9) Recommendations for maintenance or repair of any portion of the mitigation area.

Construction Notes and Specifications

Note: specifications for items in bold can be found below under "Material Specifications and Definitions". The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects, shall monitor:

1. All site preparation
 - Invasive species removal.
 - Woody debris placement.
2. Plant material inspection
 - Plant material delivery inspection.
 - 50% plant layout inspection.
 - 100% plant installation inspection.
3. Final walk through
 - Mulch placement.

General Work Sequence

1. Verify with restoration professional all existing vegetation to be removed or preserved. Flag or otherwise verify in the field before start of work.
2. Protect existing native vegetation to remain. Minimize root and soil disturbance to the maximum extent possible. Do not use heavy machinery in the root zone of existing trees to remain.
3. Remove all invasive and any non-native species from the planting area. Species targeted for removal include, but are not limited to, English holly, English ivy, English laurel, Portuguese laurel, Himalayan blackberry, Scott's broom, Japanese knotweed, and morning glory.
4. Salvage at least 7 pieces of large woody debris from the areas to be cleared and place in the buffer as shown on the plan or at the direction of the restoration professional. Woody debris shall be placed to maximize ground contact.
5. All plant installation is to take place during the dormant season and frost-free period (October 15th - March 1st), for best survival.
6. Prepare a planting pit for each plant and install per the planting details. Water thoroughly after planting.
7. Mulch each plant with a circular wood chip mulch ring (approximately 12 cubic yards needed), four inches thick and extending to a distance of 9 inches from the plant stem (18 inches in diameter).
8. Provide a means to deliver adequate water to all plants within the restoration area during the first two consecutive dry seasons following installation.
9. Install a split-rail fence and sensitive area signage around the on-site buffer area per the plan and plan details. At least three signs shall be installed.

Material Specifications and Definitions

1. **Fertilizer:** Slow release, granular, PHOSPHOROUS-FREE fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years two, three, four and five and not in the first year.
2. **Restoration Professional:** The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects.
3. **Wood chip mulch:**

Wood chip mulch shall meet WSDOT Standard Specifications for Road, Bridge, and Municipal Construction for Wood Strand Mulch as defined 9-14.4(4). "Wood strand mulch shall be a blend of angular, loose, long, this wood pieces that are frayed, with a high length-to-width ratio, and it shall be derived from native conifer or deciduous trees. A minimum of 95 percent of the wood strand shall have lengths between 2 and 10 inches. At least 50 percent of the length of each strand shall have a width and thickness between 1/16 and 1/2 inch. No single strand shall have a width or thickness greater than 1/2 inch. The mulch shall not contain salt, preservatives, glue, resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood chips or shavings will not be acceptable. The Contractor shall provide Material Safety Data Sheet (MSDS) that demonstrates that the product is not harmful to plant life and a test report performed in accordance with WSDOT Test Method 125 demonstrating compliance to this specification prior to acceptance.

Alternatively, on-site chipped mulch will be acceptable provided that the mulch meets the general dimensions of the specification above and likewise will not contain salt, preservatives, glue, resin, tannin, or other compounds in quantities that would be detrimental to plant life. Sawdust or wood chips or shavings will not be acceptable.

- Quantity required: approximately 12 cubic yards.
4. **Woody debris:** Large pieces of downed Douglas-fir tree trunks with rootwads and limbs attached that are salvaged on-site. Each log should have a diameter of at least 12 inches at the narrow end and a minimum length of 10 feet. Fallen trees are to be placed on ground to maximize soil contact.

Contingencies

If there is a significant problem with the restoration areas meeting performance standards, a contingency plan will be developed and implemented. Contingency plans can include, but are not limited to: soil amendment; additional plant installation; and plant substitutions of type, size, quantity, and location.

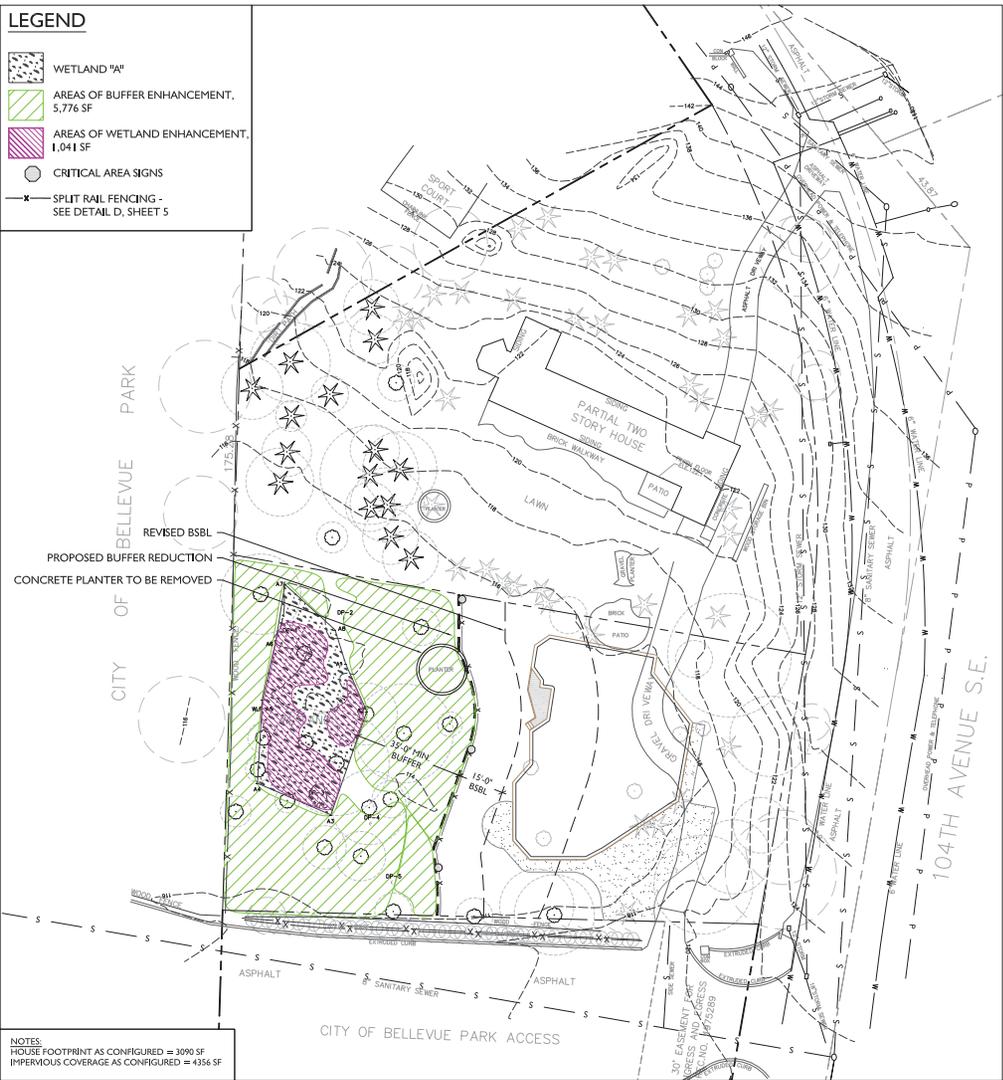
Maintenance

The site will be maintained for five years following completion of the construction. Site shall receive adequate water during June through September of Years 1 and 2. Less water is needed during March, April, May and October. Replace each plant found dead in the summer monitoring visits during the upcoming fall dormant season (October 15th to March 1st). Plant replacement must be equal to the species and size specified per plan unless otherwise specified in writing by the restoration professional.

- 1) Follow the recommendations noted in the spring monitoring site visit.
- 2) General weeding for all planted areas:
 - At least twice-yearly, remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur at least twice during the spring and summer. Frequent weeding will result in lower mortality, lower plant replacement costs and will increase the likelihood that the plan meets performance standards by Year 5.
 - More frequent weeding may be necessary depending on weed conditions that develop after plan installation.
 - Do not weed the area near the plant bases with string trimmer (weed whacker/weed eater). Native plants are easily damaged or killed, and weeds easily recover after trimming.
- 3) Apply slow release granular fertilizer to each installed plant annually in the spring (by June 1) of Years two through five.
- 4) Replace mulch to as necessary to maintain a layer 4-inches thick and 18 inches in diameter to retain soil moisture and limit weeds. Replacement mulch must meet the specifications stated in this plan.
- 5) The homeowner shall ensure adequate water is delivered to the entire planted area with from June 1 through September 30 for the first two years following installation.

LEGEND

- WETLAND "A"
- AREAS OF BUFFER ENHANCEMENT, 5,776 SF
- AREAS OF WETLAND ENHANCEMENT, 1,041 SF
- CRITICAL AREA SIGNS
- SPLIT RAIL FENCING - SEE DETAIL D, SHEET 5



BUFFER REDUCTION PLAN

SCALE: 1" = 20'-0"



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KILLARNEY GLEN
 BUFFER REDUCTION / RESTORATION PLAN
 PREPARED FOR: RICHARD LEEDS
 SITE ADDRESS:
 19XX 104TH AVENUE SE
 BELLEVUE, WA 98004

SUBMITTALS & REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	04-11-13	REVIEW SET	MF
2	04-11-13	PERMIT PLAN	GB

SHEET SIZE:
 ORIGINAL PLANS IS 24" x 36"
 SCALE ACCORDINGLY.

PROJECT MANAGER: KB
 DESIGNED: MSF
 DRAFTED: MSF, GB
 CHECKED: KB/NL
 JOB NUMBER:

070618
 SHEET NUMBER:
2 OF 5

TREE INVENTORY (OUTSIDE OF PROPOSED BUFFER)				
ID	SPECIES	DIA./HT.	OBSERVATIONS	PROPOSED STATUS
A	DOUGLAS-FIR	22' / 80'	LEAN TO S, WIDE CANOPY & WELL DEVELOPED BRANCH STRUCTURE.	REMOVAL*
B	DOUGLAS-FIR	32' / 80'	CLOSE TO EXISTING DRIVE, WIDE CANOPY & WELL DEVELOPED BRANCH STRUCTURE.	PRESERVATION
C	DOUGLAS-FIR	24' / 60'	LEAN TO W, FAIR BRANCH STRUCTURE, NARROW CANOPY SPREAD.	PRESERVATION
D	DOUGLAS-FIR	18' / 40'	HEAVY LEAN TO W, POOR BRANCH STRUCTURE, NARROW CANOPY SPREAD.	PRESERVATION
E	DOUGLAS-FIR	32' / 75'	HEALTHY, EVEN BRANCH STRUCTURE, WIDE CANOPY.	REMOVAL*
F	DOUGLAS-FIR	26' / 65'	HEALTHY, EVEN BRANCH STRUCTURE, WIDE CANOPY.	PRESERVATION
G	DOUGLAS-FIR	18' / 45'	VERY NARROW CANOPY, POOR BRANCH STRUCTURE, EPICORMIC TRUNK, EXPOSED ROOTS.	REMOVAL*
H	DOUGLAS-FIR	18' / 45'	MEDIUM CANOPY SPREAD, FAIR BRANCHING STRUCTURE.	REMOVAL*
I	DOUGLAS-FIR	24' / 50'	HEAVY LEAN TO S, GOOD BRANCH STRUCTURE & MEDIUM CANOPY SPREAD.	REMOVAL*
J	DOUGLAS-FIR	12' / 25'	UNEVEN BRANCH STRUCTURE, NARROW CANOPY, MULTITRUNKED.	REMOVAL*
K	RED ALDER	10' / 30'	UNEVEN BRANCHING (ALL ON W. SIDE), HEAVY LEAN TO W, VERY CLOSE TO EXISTING DRIVE.	REMOVAL
L	DOUGLAS-FIR	40' / 100'	SPECIMEN, WELL DEVELOPED CANOPY, EXCELLENT BRANCH STRUCTURE.	PRESERVATION
M	DOUGLAS-FIR	12' / 20'	YOUNG TREE, HEALTHY BRANCHING.	PRESERVATION
N	DOUGLAS-FIR	12' / 25'	HEAVY LEAN TO E, ROOTS COVERED BY PATIO, GOOD BRANCH STRUCTURE & CANOPY.	REMOVAL*
O	RED ALDER	16' / 40'	LARGEST ALDER ON-SITE, HEALTHY BRANCHING, WIDE CANOPY SPREAD, CENTRAL SITE LOCATION.	REMOVAL
P	RED ALDER	12' / 25'	UNEVEN BRANCH STRUCTURE, HEAVY LEAN TO N.	REMOVAL
Q	RED ALDER	8' / 20'	HEAVY LEAN TO W, UNEVEN BRANCHING, BROKEN LEADER, UNHEALTHY FOLIAGE.	REMOVAL
R	DOUGLAS-FIR	12' / 30'	MEDIUM CANOPY SPREAD, FAIR BRANCH STRUCTURE.	PRESERVATION
S	BLACK COTTONWOOD	24' / 60'	HEALTHY, EVEN BRANCH STRUCTURE, WIDE CANOPY.	PRESERVATION
T	BLACK COTTONWOOD	26' / 60'	HEALTHY, EVEN BRANCH STRUCTURE, WIDE CANOPY.	PRESERVATION

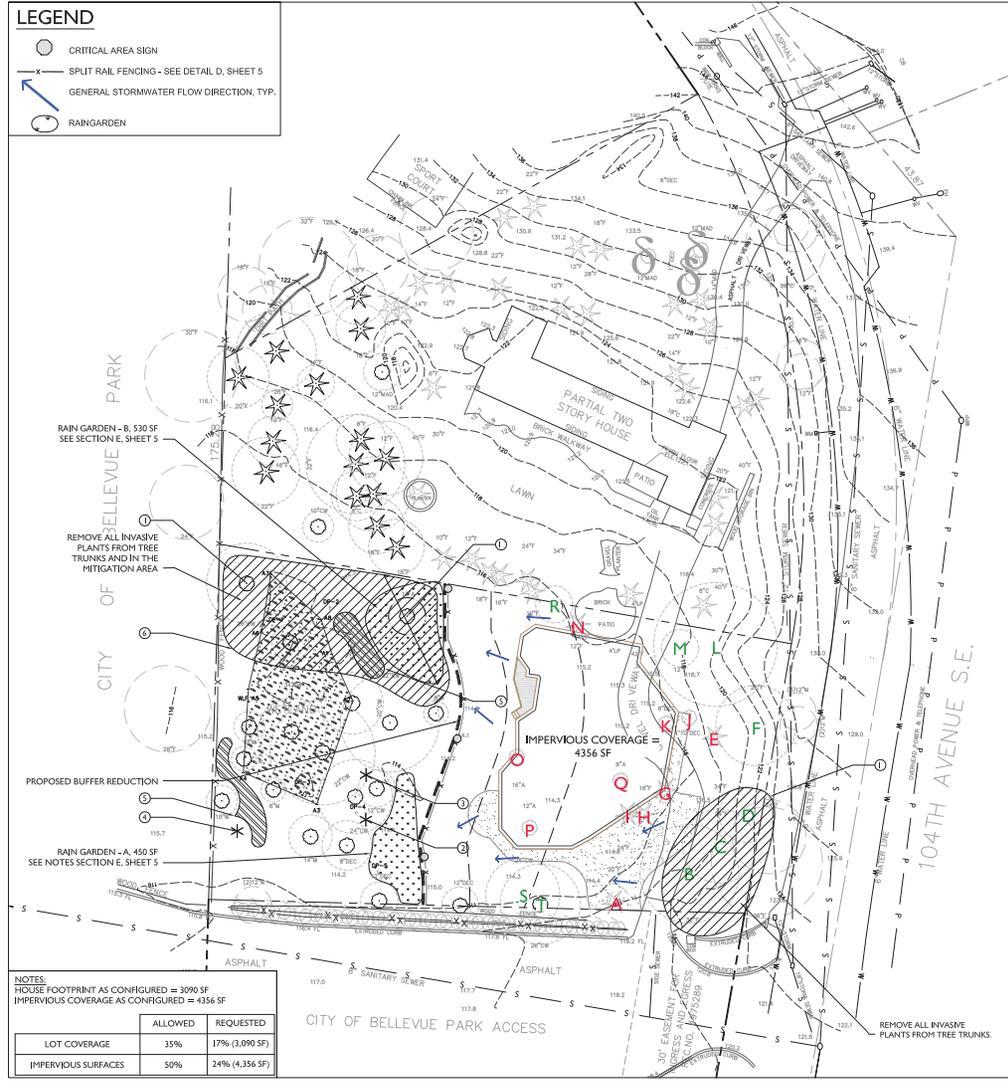
GREEN = PRESERVATION
 RED = REMOVAL
 *RETAIN ON-SITE AS LARGE WOODY DEBRIS

NOTES:
 TOTAL DIAMETER IN INCHES = 398'
 TOTAL DIAMETER IN INCHES PROPOSED FOR PRESERVATION = 214'
 PERCENTAGE PRESERVED = 54%

- SITE PREPARATION**
- ① REMOVE IVY FROM TREE TRUNKS OF ALL TREES TO BE PRESERVED. GRUB OUT IVY ROOTS BY HAND BEING CAREFUL NOT TO DISTURB TREE ROOTS.
 - ② REMOVE NON-NATIVE ARDISIA JAPONICA.
 - ③ REMOVE NON-NATIVE P. LAUREL.
 - ④ REMOVE NON-NATIVE P. LAUREL.
 - ⑤ REMOVE NON-NATIVE UNDERSTORY E. LAUREL.
 - ⑥ REMOVE IVY WITHIN BUFFER AND WETLAND.
- NOTE: ANY INVASIVE OR NON-NATIVE SPECIES FOUND IN THE MITIGATION AREA SHALL BE REMOVED AT THE DIRECTION OF THE RESTORATION PROFESSIONAL.

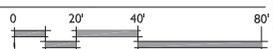
LEGEND

- CRITICAL AREA SIGN
- x— SPLIT RAIL FENCING - SEE DETAIL D, SHEET 5
- GENERAL STORMWATER FLOW DIRECTION, TYP.
- RAINGARDEN



TREE INVENTORY & PRESERVATION PLAN; INVASIVE REMOVAL PLAN

SCALE: 1" = 20'-0"



KILLARNEY GLEN
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 SITE ADDRESS:
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2		PERMIT PLAN	GB

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DRAFTED: MSF, GB
CHECKED: KB/NL
JOB NUMBER:
070618
SHEET NUMBER:
3 OF 5

PLANT LEGEND:

TREES

BOTANICAL NAME / COMMON NAME	QTY.	SIZE / SPACING
PSEUDOTSUGA MENZIESII / DOUGLAS FIR	8	5 GAL. / 9'-0" OC
THUJA PLICATA / WESTERN REDCEDAR	7	5 GAL. / 9'-0" OC
TSUGA HETEROPHYLLA / WESTERN HEMLOCK	4	5 GAL. / 9'-0" OC

SHRUBS

ACER CIRCINATUM / VINE MAPLE	35	2 GAL. / 4'-6" OC
CORNUS SERICEA / RED-OSIER DOGWOOD	26	2 GAL. / 4'-6" OC
CORYLUS CORNUTA / BEAKED HAZELNUT	14	2 GAL. / 6'-0" OC
CRATAEGUS DOUGLASSII / BLACK HAWTHORN	16	2 GAL. / 6'-0" OC
MAHONIA AQUIFOLIUM / TALL OREGON GRAPE	23	2 GAL. / 3'-0" OC
MAHONIA NERVOSA / LOW OREGON GRAPE	31	1 GAL. / 2'-0" OC
PHYSCARPUS CAPITATUS / PACIFIC NINEBARK	58	2 GAL. / 4'-6" OC
ROSA NUTKANENSIS / NOOTKA ROSE	30	2 GAL. / 4'-6" OC
RIBES SANGUINUM / RED-FLOWERING CURRANT	9	2 GAL. / 4'-6" OC

GROUND COVER

GAULTHERIA SHALLON / SALAL	57	1 GAL. @ 2'-0" OC
POLYSTICHUM MUNITUM / SWORD FERN	64	1 GAL. @ 2'-0" OC

RAIN GARDEN

ATHYRIUM FILIX-FEMINA / LADY FERN	82	1 GAL. @ 2'-0" OC
CAREX OBNUPTA / SLOUGH SEDGE	82	10 C.I. PLUGS @ 12" OC
IRIS TENAX / TOUGHLEAF IRIS	36	1 GAL. OR 4" POTS @ 1'-0" OC

HABITAT STRUCTURES

LARGE WOODY DEBRIS	7	SEE DETAIL C, SHEET 5
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NOTE: ALL DOUGLAS-FIR TREES CUT DOWN ON-SITE WILL BE RETAINED AS LARGE WOODY DEBRIS*

PLANTING NOTES

- PROTECT EXISTING NATIVE VEGETATION THAT IS TO REMAIN. MINIMIZE ROOT AND SOIL DISTURBANCE TO THE MAXIMUM EXTENT POSSIBLE. DO NOT USE HEAVY MACHINERY IN THE ROOT ZONE OF EXISTING TREES TO REMAIN.
- REMOVE ALL INVASIVE AND NON-NATIVE SPECIES FROM THE PLANTING AREA. SPECIES TARGETED FOR REMOVAL INCLUDE, BUT ARE NOT LIMITED TO, ENGLISH HOLLY, ENGLISH IVY, ENGLISH LAUREL, PORTUGUESE LAUREL, HIMALAYAN BLACKBERRY, SCOTTS BROOM, JAPANESE KNOTWEED, AND MORNING GLORY. VEGETATION TO BE REMOVED OR PRESERVED SHALL BE FLAGGED OR OTHERWISE VERIFIED IN THE FIELD BY THE RESTORATION PROFESSIONAL BEFORE START OF WORK.
- ALL PLANT INSTALLATION IS TO TAKE PLACE DURING THE DORMANT SEASON AND A FROST-FREE PERIOD (OCTOBER 15TH - MARCH 1ST), FOR BEST SURVIVAL.
- LOCATE ALL EXISTING UTILITIES WITHIN THE LIMIT OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY UTILITY DAMAGE AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
- LOOSEN ANY COMPACTED SOILS IN THE PLANTING AREA.
- LAYOUT PLANT MATERIAL PER PLAN FOR INSPECTION BY THE RESTORATION PROFESSIONAL. PLANT SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT THE APPROVAL OF THE RESTORATION PROFESSIONAL.
- INSTALL PLANTS PER PLANTING DETAILS.
- WATER EACH PLANT THOROUGHLY TO REMOVE AIR POCKETS.
- INSTALL A 4" DEPTH, 9" RADIUS, COARSE WOOD-CHIP MULCH RING AROUND EACH PLANT. SEE MATERIAL SPECIFICATIONS.
- ENSURE DELIVERY OF ADEQUATE WATER TO ALL PLANTING AREAS FOR THE FIRST TWO CONSECUTIVE DRY SEASONS AFTER INSTALLATION.
- ONE YEAR AFTER INITIAL PLANT INSTALLATION, APPLY ORGANIC, SLOW-RELEASE FERTILIZER SUCH AS OSMOCOTE OR PERFECT BLEND 4-4-4 TO EACH PLANT.

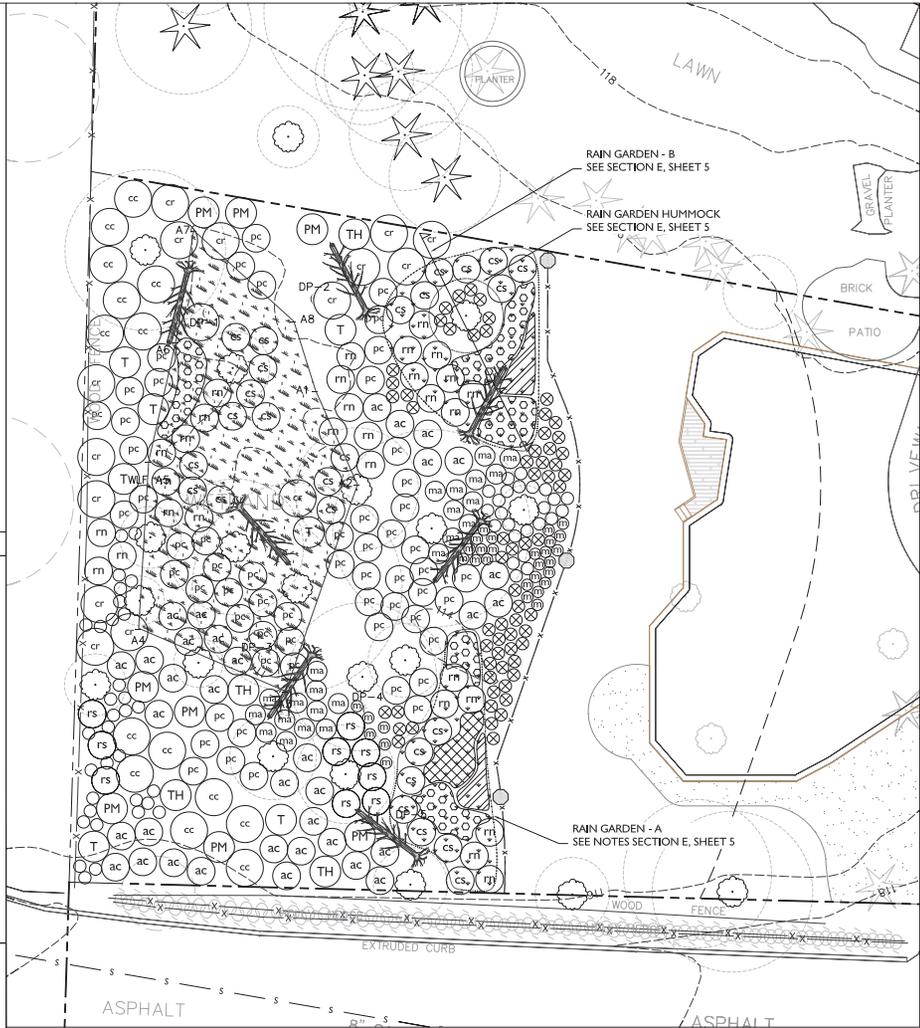
THE LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL UNTIL FINAL INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. ALL PLANTINGS AND WORKMANSHIP SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING FINAL OWNER ACCEPTANCE.

*** RAIN GARDEN NOTES:**

- RAIN GARDENS SIZED AS LISTED TO CONTROL RUNOFF FROM EASTERN PORTION OF SITE VIA SHEET FLOW.
- RAIN GARDENS SHALL BE 18" IN DEPTH WITH 3:1 MAXIMUM SIDE SLOPES.
- RAIN GARDEN SOIL SHALL BE AMENDED PER CITY OF BELLEVUE RECOMMENDATIONS.
- OVERFLOW IS TO BE DIRECTED INTO BUFFER AREA.
- RAIN GARDEN B: PROTECT EXISTING ALDER WITHIN RAIN GARDEN BY CREATING A RAISED HUMMOCK AROUND ROOT ZONE OF ALDER. DO NOT DAMAGE ROOTS OR TRUNK. PLACE LARGE WOODY DEBRIS ALONG SLOPE OF RAIN GARDEN PER DETAIL C, SHEET 5

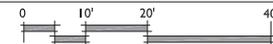
* REFER TO CIVIL MEMO FOR ENGINEERING INFORMATION.

SEE NEXT SHEET FOR PLANTING DETAILS AND INSTALLATION SPECIFICATIONS.



RESTORATION PLANTING PLAN

SCALE: 1" = 10'-0"



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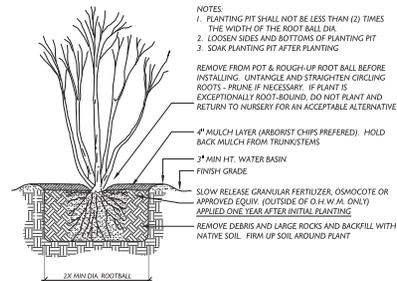
KILLARNEY GLEN
BUFFER REDUCTION / RESTORATION PLAN
PREPARED FOR: RICHARD LEEDS
SITE ADDRESS:
19XX 104TH AVENUE SE
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SUBMITTALS & REVISIONS	
NO.	DESCRIPTION
1	DATE: 04-11-23
2	DATE: 04-11-23

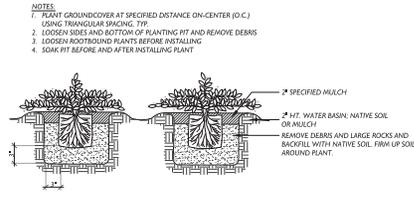
SHEET SIZE:
ORIGINAL PLANS 24" x 36"
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PROJECT MANAGER: KB
DESIGNED: MSF
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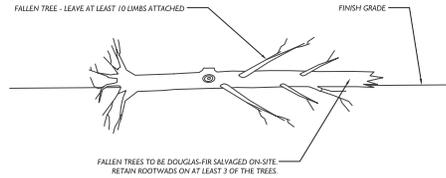
070618
SHEET NUMBER:
4 OF 5



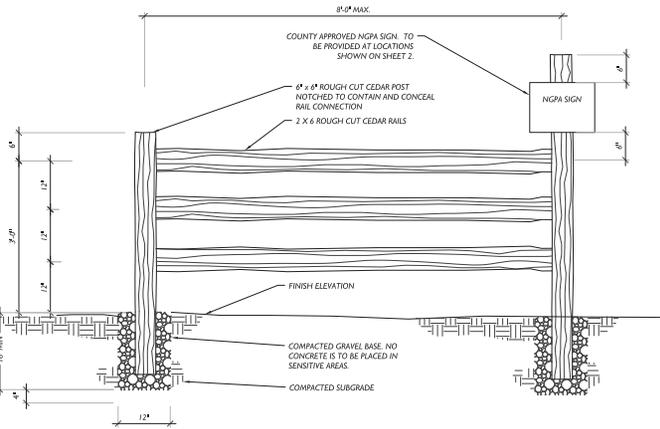
A SHRUB & TREE PLANTING DETAIL
NTS



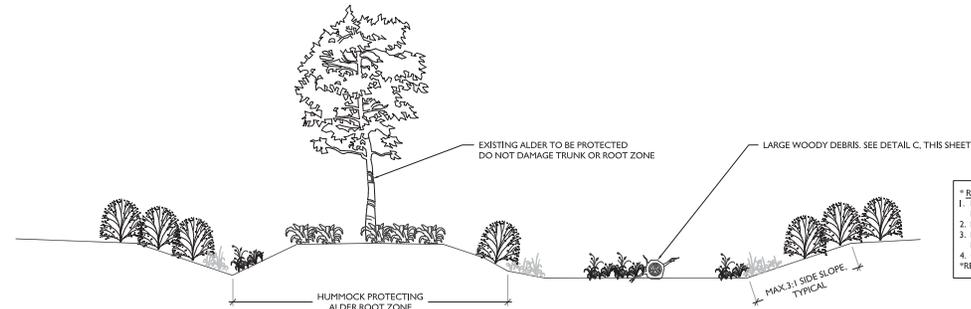
B GROUNDCOVER & PERENNIAL PLANTING DETAIL
NTS



C LARGE WOODY DEBRIS
NTS



D SPLIT RAIL FENCE DETAIL
NTS



E TYPICAL RAIN GARDEN SECTION
NTS

*** RAIN GARDEN NOTES: (APPLICABLE TO BOTH RAIN GARDENS)**
 1. RAIN GARDENS SIZED AS LISTED TO CONTROL RUNOFF FROM EASTERN PORTION OF SITE VIA SHEET FLOW.
 2. RAIN GARDENS SHALL BE 18" IN DEPTH WITH 3:1 SIDE SLOPES.
 3. RAIN GARDEN SOIL SHALL BE AMENDED PER CITY OF BELLEVUE RECOMMENDATIONS.
 4. OVERFLOW IS TO BE DIRECTED INTO BUFFER AREA.
 *REFER TO CIVIL MEMO FOR ENGINEERING INFORMATION

PLANT INSTALLATION SPECIFICATIONS

NOTE: THESE SPECIFICATIONS ARE A LEGALLY BINDING CONTRACT

GENERAL NOTES

QUALITY ASSURANCE

- PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
- PLANTS SHALL BE HEALTHY, VIGOROUS, AND WELL-FORMED, WITH WELL DEVELOPED, FIBROUS ROOT SYSTEMS, FREE FROM DEAD BRANCHES OR ROOTS. PLANTS SHALL BE FREE FROM DAMAGE CAUSED BY TEMPERATURE EXTREMES, LACK OR EXCESS OF MOISTURE, INSECTS, DISEASE, AND MECHANICAL INJURY. PLANTS IN LEAF SHALL BE WELL FOLIAGED AND A GOOD COLOR. PLANTS SHALL BE HABITUATED TO THE OUTDOOR ENVIRONMENTAL CONDITIONS INTO WHICH THEY WILL BE PLANTED (HARDENED-OFF).
- TREES WITH DAMAGED, CROOKED, MULTIPLE OR BROKEN LEADERS WILL BE REJECTED. WOODY PLANTS WITH ABRASIONS OF THE BARK OR SUNSCALD WILL BE REJECTED.

DEFINITIONS

- PLANTS/PLANT MATERIALS. PLANTS AND PLANT MATERIALS SHALL INCLUDE ANY LIVE PLANT MATERIAL USED ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO CONTAINER GROWN, B&B OR BAREROOT PLANTS, LIVE STAKES AND FASCINES (WATTLES), TUBERS, CORNS, BULBS, ETC., SPRIGS, PLUGS, AND LINERS.
- CONTAINER GROWN. CONTAINER GROWN PLANTS ARE THOSE WHOSE ROOTBALLS ARE ENCLOSED IN A POT OR BAG IN WHICH THAT PLANT GREW.

SUBSTITUTIONS

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SPECIFIED MATERIALS IN ADVANCE IF SPECIAL GROWING, MARKETING OR OTHER ARRANGEMENTS MUST BE MADE IN ORDER TO SUPPLY SPECIFIED MATERIALS.
- SUBSTITUTION OF PLANT MATERIALS NOT ON THE PROJECT LIST WILL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE LANDSCAPE ARCHITECT, CONSULTANT.
- IF PROOF IS SUBMITTED THAT ANY PLANT MATERIAL SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR ALTERNATIVE SPECIES, WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICE.
- SUCH PROOF WILL BE SUBMITTED AND SUBMITTED IN WRITING TO THE CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION.

INSPECTION

- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CONSULTANT FOR CONFORMANCE TO SPECIFICATIONS, EITHER AT THE TIME OF DELIVERY ON-SITE OR AT THE GROWERS NURSERY. APPROVAL OF PLANT MATERIALS AT ANY TIME SHALL NOT IMPAIR THE SUBSEQUENT RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE WORK.
- PLANTS INSPECTED ON-SITE AND REJECTED FOR NOT MEETING SPECIFICATIONS MUST BE REMOVED IMMEDIATELY FROM SITE OR RE-TAGGED AND REMOVED AS SOON AS POSSIBLE.
- THE CONSULTANT MAY ELECT TO INSPECT PLANT MATERIALS AT THE PLACE OF GROWTH AFTER INSPECTION AND ACCEPTANCE. THE CONSULTANT MAY REQUIRE THE INSPECTED PLANTS BE LABELED AND RESERVED FOR PROJECT. SUBSTITUTION OF THESE PLANTS WITH OTHER INDIVIDUALS, EVEN OF THE SAME SPECIES AND SIZE, IS UNACCEPTABLE.

MEASUREMENTS OF PLANTS

- PLANTS SHALL CONFORM TO SIZES SPECIFIED UNLESS SUBSTITUTIONS ARE MADE AS OUTLINED IN THIS CONTRACT.
- HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO MAIN BODY OF PLANT AND NOT BRANCH OR ROOT TIP TO TIP. PLANT DIMENSIONS SHALL BE MEASURED WHEN THEIR BRANCHES OR ROOTS ARE IN THEIR NORMAL POSITION.
- WHERE A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND AT LEAST 50% OF THE PLANTS SHALL BE AS LARGE AS THE MEDIAN OF THE SIZE RANGE. (EXAMPLE: IF THE SIZE RANGE IS 12" TO 18", AT LEAST 50% OF PLANTS MUST BE 15" TALL.)

SUBMITTALS

PROPOSED PLANT SOURCES

- WITHIN 45 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT A COMPLETE LIST OF PLANT MATERIALS PROPOSED TO BE PROVIDED DEMONSTRATING CONFORMANCE WITH THE REQUIREMENTS SPECIFIED. INCLUDE THE NAMES AND ADDRESSES OF ALL GROWERS AND NURSERIES.

PRODUCT CERTIFICATES

- PLANT MATERIALS LIST - SUBMIT DOCUMENTATION TO CONSULTANT AT LEAST 30 DAYS PRIOR TO START OF WORK UNDER THIS SECTION THAT PLANT MATERIALS HAVE BEEN ORDERED. ARRANGE PROCEDURE FOR INSPECTION OF PLANT MATERIAL WITH CONSULTANT AT TIME OF SUBMISSION.
- HAVE COPIES OF VENDORS OR GROWER'S INVOICES OR PACKING SLIPS FOR ALL PLANTS ON SITE DURING INSTALLATION. INVOICE OR PACKING SLIP SHOULD LIST SPECIES SCIENTIFIC NAME, QUANTITY, AND DATE DELIVERED (AND GENETIC ORIGIN IF THAT INFORMATION WAS PREVIOUSLY REQUESTED).

DELIVERY, HANDLING, & STORAGE

- CONTRACTOR MUST NOTIFY CONSULTANT 48 HOURS OR MORE IN ADVANCE OF DELIVERIES SO THAT CONSULTANT MAY ARRANGE FOR INSPECTION.

PLANT MATERIALS

- TRANSPORTATION - DURING SHIPPING, PLANTS SHALL BE PACKED TO PROVIDE PROTECTION AGAINST CLIMATE EXTREMES, BREAKAGE AND DRYING. PROPER VENTILATION AND PREVENTION OF DAMAGE TO BARK, BRANCHES, AND ROOT SYSTEMS MUST BE ENSURED.
- SCHEDULING AND STORAGE - PLANTS SHALL BE DELIVERED AS CLOSE TO PLANTING AS POSSIBLE. PLANTS IN STORAGE MUST BE PROTECTED AGAINST ANY CONDITION THAT IS DETRIMENTAL TO THEIR CONTINUED HEALTH AND VIGOR.
- HANDLING - PLANT MATERIALS SHALL NOT BE HANDLED BY THE TRUNK, LIMBS, OR FOLIAGE BUT ONLY BY THE CONTAINER, BALL, BOX, OR OTHER PROTECTIVE STRUCTURE, EXCEPT BAREROOT PLANTS SHALL BE KEPT IN BUNDLES UNTIL PLANTING AND THEN HANDLED CAREFULLY BY THE TRUNK OR STEMS.
- LABELS - PLANTS SHALL HAVE DURABLE, LEGIBLE LABELS STATING CORRECT SCIENTIFIC NAME AND SIZE. TEN PERCENT OF CONTAINER GROWN PLANTS IN INDIVIDUAL POTS SHALL BE LABELED. PLANTS SUPPLIED IN FLATS, RACKS, BOXES, BAGS, OR BUNDLES SHALL HAVE ONE LABEL PER GROUP.

WARRANTY

- PLANT WARRANTY. PLANTS MUST BE GUARANTEED TO BE TRUE TO SCIENTIFIC NAME AND SPECIFIED SIZE, AND TO BE HEALTHY AND CAPABLE OF VIGOROUS GROWTH.

REPLACEMENT

- PLANTS NOT FOUND MEETING ALL OF THE REQUIRED CONDITIONS AT THE CONSULTANT'S DISCRETION MUST BE REMOVED FROM SITE AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- PLANTS NOT SURVIVING AFTER ONE YEAR TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

PLANT MATERIAL

GENERAL

- PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO OR MORE SEVERE THAN THOSE OF THE PROJECT SITE.
- PLANTS SHALL BE TRUE TO SPECIES AND VARIETY OR SUBSPECIES. NO CULTIVARS OR NAMED VARIETIES SHALL BE USED UNLESS SPECIFIED AS SUCH.

QUANTITIES

- SEE PLANT LIST ON ACCOMPANYING PLANS.

ROOT TREATMENT

- CONTAINER GROWN PLANTS (INCLUDES PLUGS): PLANT ROOT BALLS MUST HOLD TOGETHER WHEN THE PLANT IS REMOVED FROM THE POT. EXCEPT THAT A SMALL AMOUNT OF LOOSE SOIL MAY BE ON THE TOP OF THE ROOTBALL.
- PLANTS MUST NOT BE ROOT-BOUND; THERE MUST BE NO CIRCLING ROOTS PRESENT IN ANY PLANT INSPECTED.
- ROOTBALLS THAT HAVE CRACKED OR BROKEN WHEN REMOVED FROM THE CONTAINER SHALL BE REJECTED.



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