



DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
450 110th Ave NE, P.O. BOX 90012
BELLEVUE, WA 98009-9012

DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: City of Bellevue
Parks & Community Services Department, Kali Hopf

LOCATION OF PROPOSAL: Larsen Lake/Lake Hill Greenbelt – 14812 SE 8th Street

DESCRIPTION OF PROPOSAL: Request for SEPA threshold determination, Shoreline Substantial Development Permit approval, and Critical Areas Land Use Permit approval for a 5-year Vegetation Management Plan in the Lake Hills Greenbelt – Larsen Lake Area. The Plan will result in improved open space and habitat with the removal of invasive noxious species and replanting as needed with native trees and shrubs.

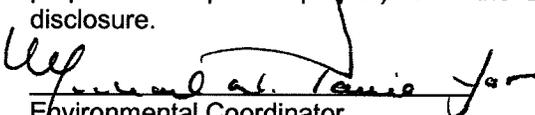
File Number: 10-115510-WG and 10-115524-LO

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.

- This DNS is issued after using the optional DNS process in WAC 197-11-355. The public and agency comment period was provided with the notice of application.
- 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 October 14, 2010.

Appeals of the environmental determination and/or Shoreline Substantial Development Permit can be made to the Shoreline Hearings Board. The Shoreline Hearings Board must receive written appeals within twenty-one (21) days of the date of filing of the permit with the State Department of Ecology. For information on how to appeal a proposal, contact the Shoreline Hearings Board at 360-459-6327, or visit the City of Bellevue Permit Center at City Hall or call 425-452-6800.

This DNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information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

9/30/2010
Date

OTHERS TO RECEIVE THIS DOCUMENT:

State Department of Fish and Wildlife
State Department of Ecology, Shoreline Planner N.W. Region
Army Corps of Engineers
Attorney General
Mukleshoot Indian Tribe



City of Bellevue
 Development Services Department
 P.O. Box 90012, Bellevue, WA 98009-9012
 (425) 452-6800 Fax (425) 452-5225

**Shoreline Management Act of 1971
 Permit for Shoreline Management Substantial
 Development
 Conditional Use and/or Variance**

Application No. 10-115510-WG

Date Received 6-22-2010

Approved / Date 9-30-2010
 Denied / Date _____

Type of Action:

- Substantial Development Permit
- Conditional Use Permit
- Variance Permit

Pursuant to Chapter 90.58 RCW, a permit is hereby granted to: City of Bellevue, Parks & Community Services Department

to undertake the following development:

A five (5)-year Vegetation Management Plan in the Lake Hills Greenbelt – Larsen Lake Area. The Plan will result in improved open space with the removal of invasive noxious species and replanting as needed with native trees and shrubs.

upon the following property: 14812 SE 8th Street (Lake Hill Greenbelt – Larsen Lake)

within Phantom Lake

and/or its associated wetlands. The project will be located within Shorelines of Statewide Significance (RCW 90.58.030). The project will be located within a Shoreline Overlay District designation. The following master program provisions are applicable to this development:

- Land Use Code(LUC) Section 20.25E.080 (B) General Regulations Applicable to all Land Use Districts & Activities
- Land Use Code (LUC) Section 20.25E. 080 (G) Clearing and Grading Regulations
- LUC 20.25H.055.C.3.i Vegetation Management Habitat Projects
- Bellevue Comprehensive Plan, Shoreline Management Program Element, Policy SH-13

Development pursuant to this permit shall be undertaken in accordance with the following terms and conditions:

1. HERBICIDES

Only “aquatic approved” glyphosate-based herbicides Rodeo®, or Aquamaster® shall be applied. All herbicides shall be applied in late season for maximum efficiency per label instructions. The applicant must submit information to Land Use **prior to application** regarding which herbicides are to be used and the time of application. The use of herbicides shall be in accordance with the City of Bellevue’s “Environmental Best Management Practices”.

Authority: Bellevue City Code 23.76.100

Reviewer: Sally Nichols, Land Use

2. 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: Sally Nichols, Land Use

3. **PERFORMANCE STANDARDS**

Performance standards must be met three years after each year's planting activities, beginning in year three. Annual monitoring reports are required as identified in Condition 4 below. The following standards must be met.

Include the following:

- Survival Rate: 80 percent survival beginning in year three after each planting activity
- Percent Cover: 60 percent by year three after each planting activity and 85 percent by year five
- Native Plant Diversity: Achieve a minimum diversity of four native tree species, six native shrub species and four native groundcover or low cover species.

Authority: Land Use Code 20.25H.220
Reviewer: Sally Nichols, Land Use

4. **MAINTENANCE AND MONITORING PLAN**

Each year (of five), prior to the commencement of any construction, a detailed written maintenance and monitoring plan shall be submitted to the City of Bellevue which shall be specific to each zone being managed that year.

The written maintenance and monitoring plan shall outline how restored areas shall be monitored to establish that performance standards in Condition 3 above have been met. The monitoring period shall be for a minimum of three (3) years after any planting activity (e.g. planting proposed to occur in year five of the management plan will need to be monitored for three additional years). Monitoring reports must be submitted annually by the last day of the year to Land Use and should include an assessment of growing season success.

Monitoring plan to address the following:

- Survival Rate:
- Percent Cover
- Native Plant Diversity
- Percent Cover of non-native/invasive weeds

Authority: Land Use Code 20.30P.140
Reviewer: Sally Nichols, Land Use

5. **RIGHT-OF-WAY USE PERMIT**

Any land closures and/or hauling in excess of 10 truck loads to and/or from the project site will require a right of way haul route permit.

Authority: Bellevue City Code 14.30
Reviewer: Dottie Schmidt, Right-of-Way

6. **CLEARING AND GRADING IN CRITICAL AREAS PERMIT**

The project will require a Clearing and Grading in Critical Areas Permit (GH Permit) for disturbance activities associated with the removal of noxious species and replanting per Clearing & Grading Code 23.76.025.

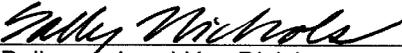
Authority: Bellevue City Code 23.76
Reviewer: Savina Uzunow, Clearing and Grading

This permit may be rescinded pursuant to RCW 90.58.140(8) in the event the permittee fails to comply with the terms and conditions hereof. Construction pursuant to this permit, or substantial progress toward construction, must be undertaken within two years of the date of final approval. This permit shall expire five years from the date of local approval.

Construction pursuant to this permit will not begin or is not authorized until twenty-one (21) days from the date of filing, as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one (21) days from the date of such filing have terminated; except as provided in RCW 90.58.140(5) (A) (B) (C).

September 30, 2010

Date


City of Bellevue, Land Use Division

CC: Attorney General, Department of Ecology, Northwest Region
Dept. of Fish and Wildlife, 1775 12th Ave. NW Suite 201 Issaquah, WA 98027
DOE, Dave Radabaugh, 3190 160th Avenue SE, Bellevue, WA 98008-5452



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

Proposal Name: Lake Hills Greenbelt – Larsen Lake Vegetation Management Plan

Proposal Address: 14812 SE 8th Street

Proposal Description: Request for SEPA threshold determination, substantial Shoreline permit approval, and Critical Areas Land Use Permit approval for a 5-year Vegetation Management Plan in the Lake Hills Greenbelt – Larsen Lake Area. The Plan will result in improved open space with the removal of invasive noxious species and replanting as needed with native trees and shrubs.

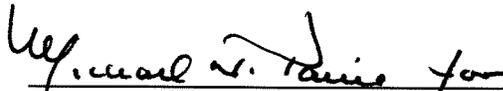
File Number: 10-115510-WG – Shoreline Substantial Development Permit
10-115524-LO – Critical Areas Land Use Permit

Applicant: The City of Bellevue, Parks & Community Services Department - Kali Hopf

Decisions Included: Shoreline Substantial Development Permit
(Process II. LUC 20.30R)
Critical Areas Land Use Permit
(Process II. LUC 20.30P)

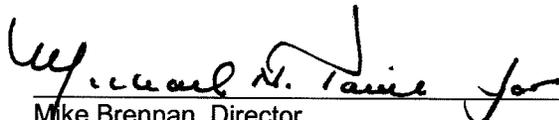
Planner: Sally Nichols

**State Environmental Policy Act
Threshold Determination:** Determination of Non-Significance



Carol V. Helland, Environmental Coordinator
Development Services Department

Director's Decision: Approval with Conditions



Mike Brennan, Director
Development Services Department

Application Date: June 22, 2010
Application Publication Date: July 15, 2010
Comment Period: August 16, 2010 (30 days)
Decision Publication Date: September 30, 2010
Project Appeal Deadline: October 21, 2010 (21 days)

For information on how to appeal a proposal, visit the Permit Center at City Hall or call (425) 452-6864. 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 Clerk's Office by 5 PM on the date noted for appeal of the decision.

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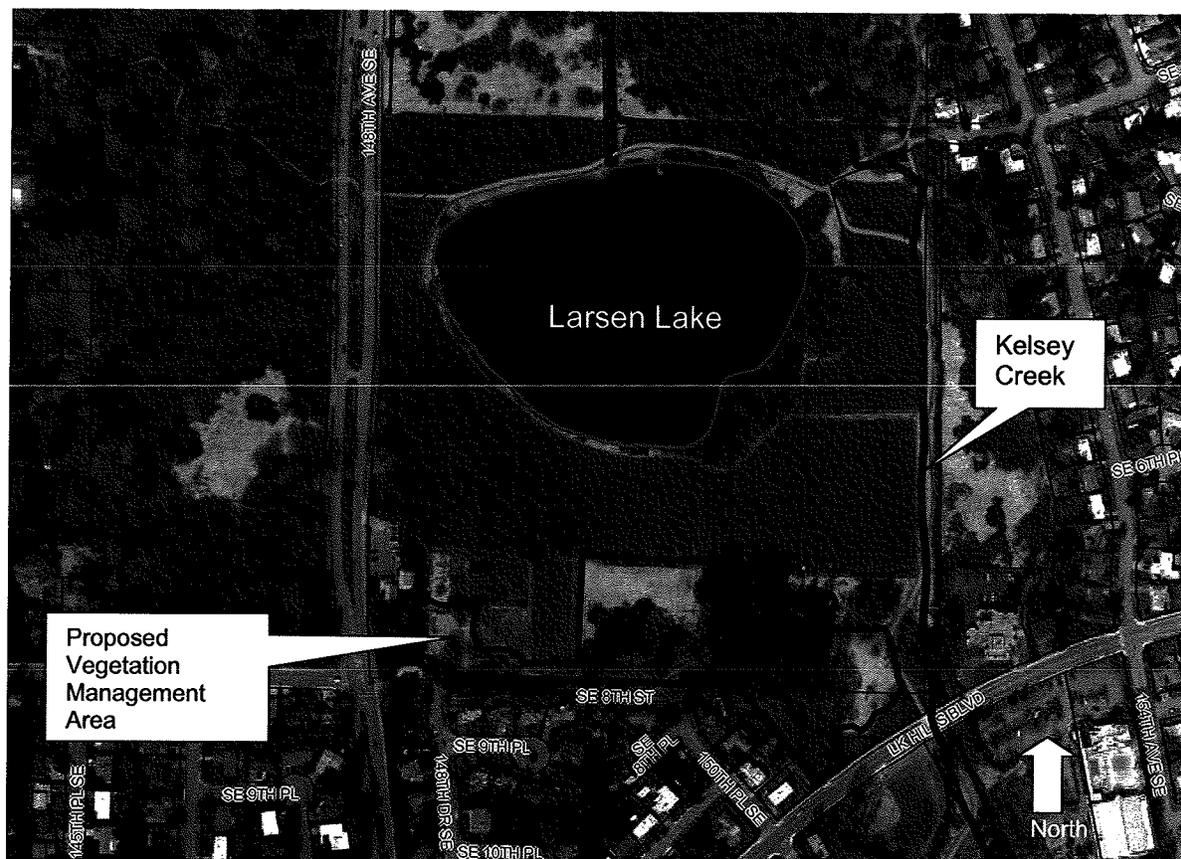
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I. PROJECT DESCRIPTION

A. General

The applicant, the City of Bellevue Parks & Community Services Department, is requesting approval of a Shoreline Substantial Development Permit and Critical Areas Land Use Permit to undertake a five-year vegetation management effort in the Lake Hills Greenbelt – Larsen Lake Area. The proposed vegetation management area (see Figure 1 below) is approximately 5.2 acres and it lies south of Larsen Lake in the wetlands and wetland buffers associated with Phantom Lake. Kelsey Creek runs through the entire Lake Hill Greenbelt and in this locale, it connects Larsen Lake with Phantom Lake to the south (see Figure 3 – Vicinity Map). A very small portion of the proposed management area falls within the Kelsey Creek 100-foot stream buffer. Due to the presence of wetlands and wetland buffers associated with Phantom Lake and the Kelsey Creek stream buffer, the proposal falls within the Critical Areas Overlay District and the Shoreline Overlay District. The Critical Areas Overlay District section of the Land Use Code (LUC 20.25H.055.C.3.i.vi) specifies that modification of vegetation in a critical area or critical area buffer that is not considered routine maintenance is an allowed activity pursuant to an approved vegetation management plan. The applicant has submitted the Lake Hills Greenbelt Larsen Lake Area Management Plan, dated April 14, 2010, which is attached to this report.

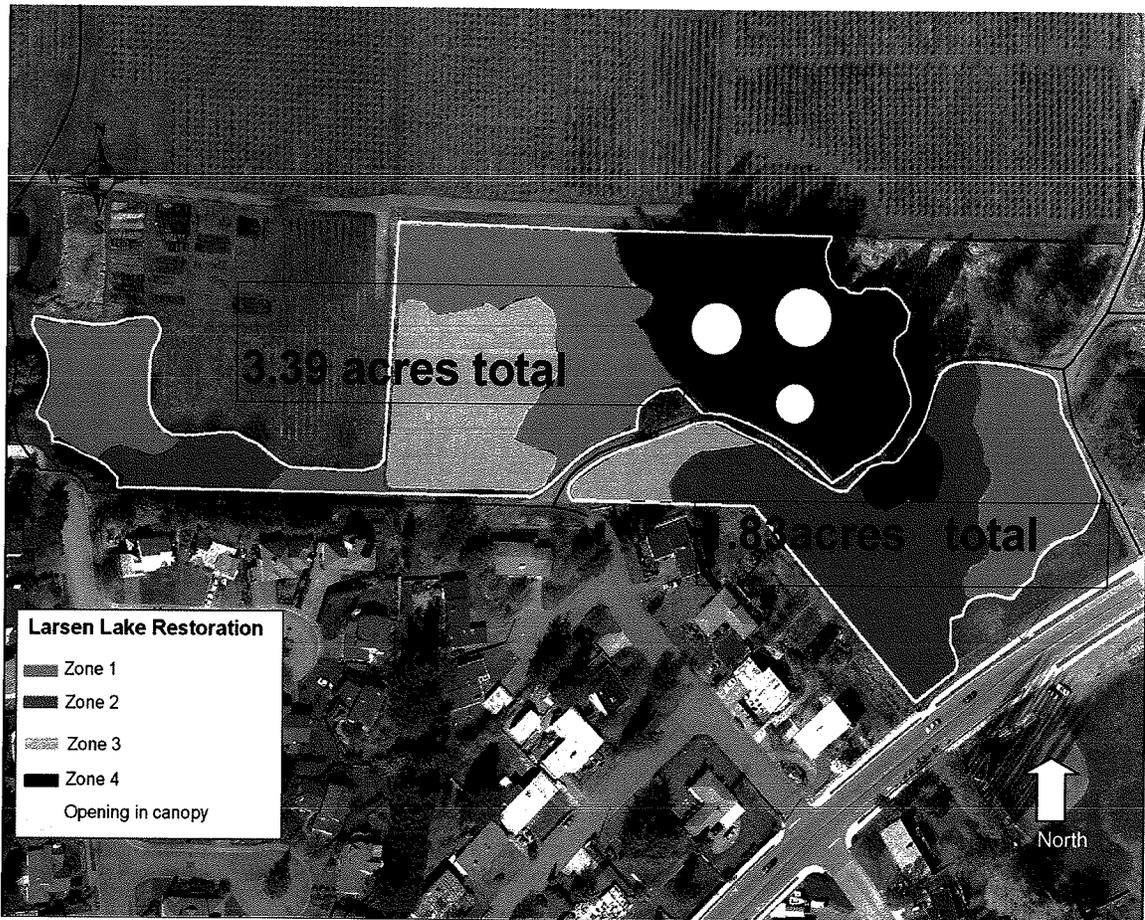
Figure 1 – Proposed Management Area within Lake Hills Greenbelt



B. Management Zones:

The proposed vegetation management area will be divided into four management zones (see Figure 2 below). Each zone will have its own site-specific five-year work program.

Figure 2 – Proposed Management Zones



The following is a brief description of the zones and the proposed work in each:

Zone 1:

The areas that make up Zone 1 are composed primarily of reed canarygrass. The primary actions for Zone 1 will be to control and eliminate the reed canarygrass and replant with native species. The method of removal will consist of a combination of herbicide applications during the plant growing season and mowing to lay down a layer of cut vegetation that will help to inhibit seed germination.

Zone 2:

This zone is composed of deciduous forest and the understory is abundantly covered with Himalayan blackberry. The blackberry will be removed via weedeating. A number of Alders and small trees will be removed to thin the tree canopy and increase the amount of coarse woody debris on-site. In years 2

through 5, willow stakes will be placed in the wet sections of the zone, and drier areas will be planted with native shrubs.

Zone 3:

This zone is composed of a mixed forest and a shrub layer consisting primarily of Himalayan blackberry. Small trees with diameters of less than eight inches and declining trees will be thinned or snagged, opening up no more than 30% of the canopy cover. This work will be done using the silvicultural selection system and all trees to be removed will be removed by hand. In addition, native trees and shrubs will be planted.

Zone 4:

This zone is composed of a coniferous forest that is losing its entire shrub layer due to an infestation of Himalayan blackberry. The blackberry will be removed and native trees and shrubs will be planted to close up existing openings in the canopy cover and to re-establish the understory.

II. SITE DESCRIPTION, CONTEXT, and CRITICAL AREAS

A. Site Description

Larsen Lake and the proposed vegetation management area are located within the City of Bellevue's Lake Hills Greenbelt. Lake Hills Greenbelt is roughly 151 acres encompassing a mixture of agricultural lands, lakes, streams, open meadows, wetlands, woodlands, and open lawns. The Greenbelt is a wetland complex that is the headwater area for the north branch of Kelsey Creek. The Greenbelt also contains two "kettle" lakes that were formed from glacial deposits – Phantom Lake and the smaller Larsen Lake.

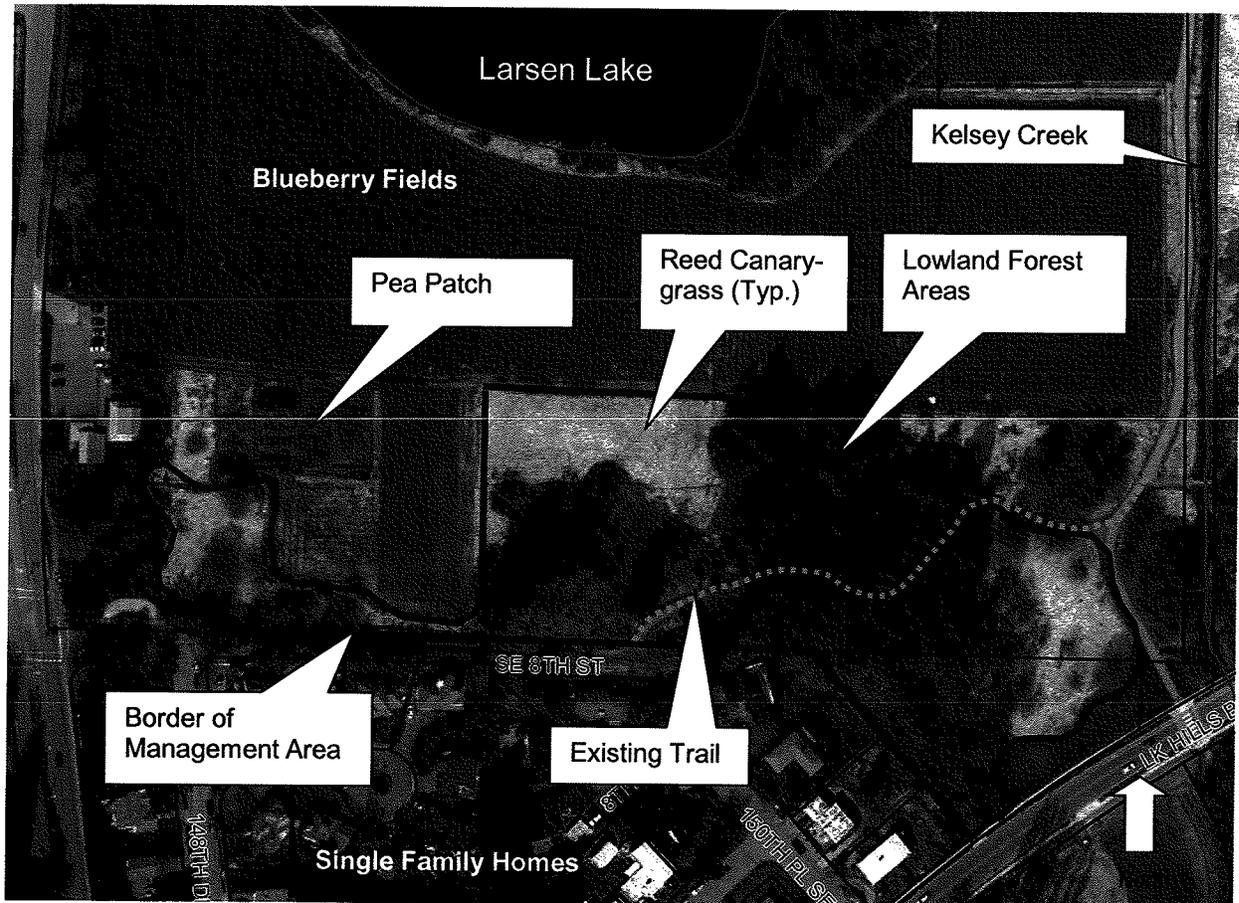
Figure 3 – Vicinity Map



The specific proposal area is characterized by relatively level, open areas of reed canarygrass and a small forested area. Overall the vegetation in the site is classified as a combination of Riparian-Wetlands and Lowlands Conifer-Hardwood Forest. The forest vegetation is a mix of deciduous and coniferous tree species, dominated by alder, cottonwoods, Western red cedar and Western hemlock. There are large stands of Himalayan blackberry along the forest edges and in the surrounding open spaces. Throughout the management area, there is a limited amount of native understory/shrub species due to the presence of invasive exotics such as the reed canarygrass and Himalayan blackberry. Zone 1 (see Figure 2 - Proposed Management Zones) contains the highest density of invasive reed canarygrass and Zones 2-4 contain large stands of Himalayan blackberry.

To the north of the project area, surrounding most of Larsen Lake, there are existing blueberry fields, active wetlands along the shoreline and a pea patch. Trails that run through the entire Lake Hill Greenbelt encircle the Lake and also traverse diagonally across the proposal area. Kelsey Creek runs along the eastern edge of this portion of the Greenbelt, connecting Phantom Lake (located to the south) with Larsen Lake.

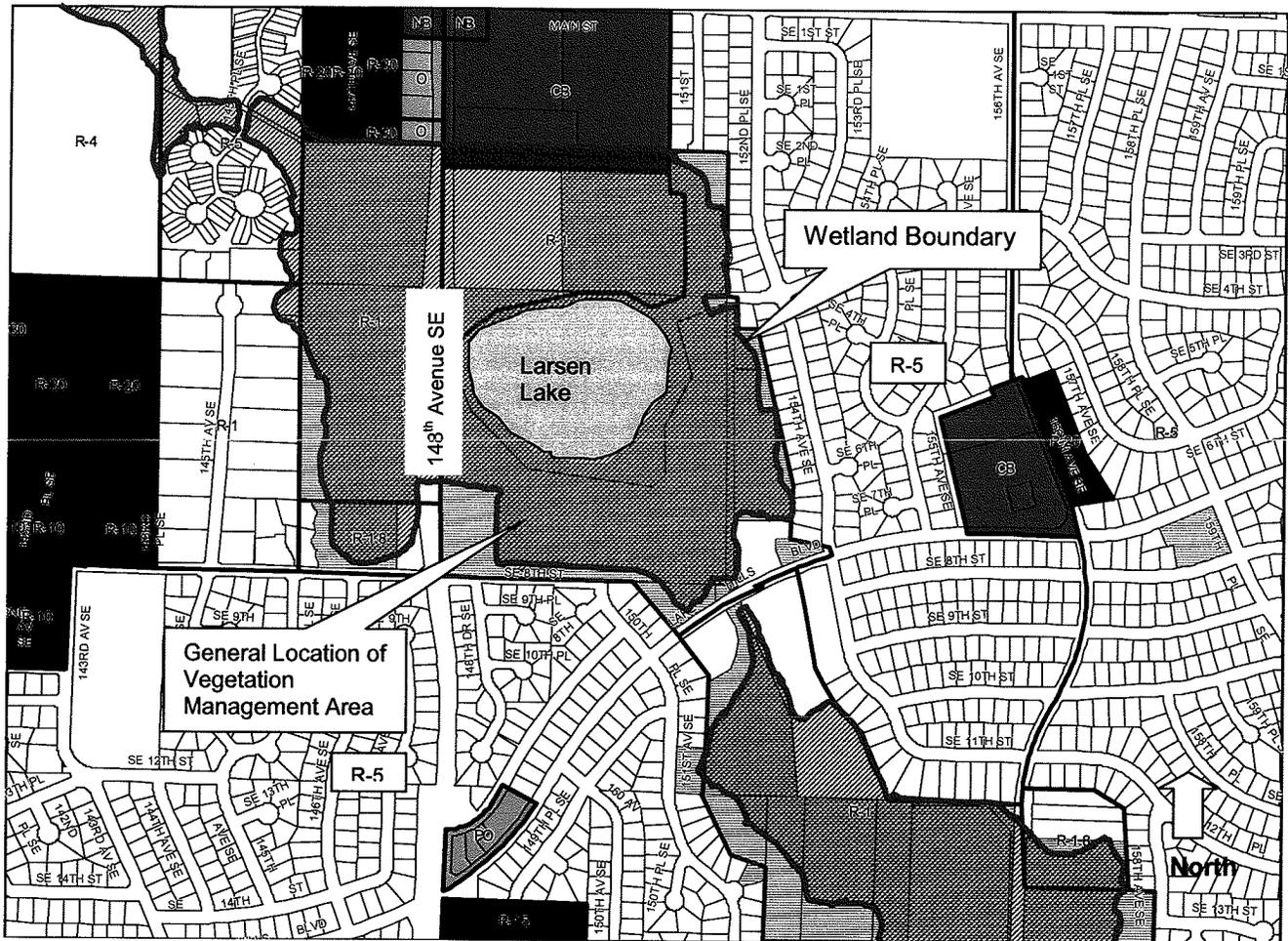
Figure 4 – Proposal Site



B. Land Use Context/Zoning

The proposed management area lies along the southern property line of the Larsen Lake portion of the Lake Hills Greenbelt in the R-1, Single Family Residential District (see Figure 5 below). This part of the Greenbelt park system is used by the public for passive recreation via existing trails and is managed by the City's Parks & Community Services Resource Management Division. The working blueberry farm is maintained in part to preserve the agricultural history of the Bellevue area. To the west, along SE 148th Avenue, is a parking lot and historical building that contain a produce stand. To the west, across 148th Avenue SE, there is another portion of the Lake Hills Greenbelt in the R-1 zone. There are single family homes directly adjacent to the east and south of the proposed management area, in the R-5, Single Family Residential District. Lastly, to the north, the adjacent zoning district is CB – Community Business. This is the location of the Kelsey Creek Shopping Center (see Figure 5 – Zoning below). Wetlands (and wetland buffers) associated with Larsen Lake exist throughout most of this Larsen Lake portion of the Greenbelt.

Figure 5 – Zoning and Wetland Delineation



C. Critical Areas

1. 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. Wetlands are defined by the City of Bellevue Land Use Code 20.25H.095 as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Much of the proposed vegetation management area lies within the wetlands associated with the Phantom Lake/Kelsey Creek system, with pockets of native trees and understory growth.

2. Shorelines

Shorelines provide a wide variety of functions related to aquatic and riparian habitat, flood control and water quality, economic resources, and recreation, among others. In lakes, these processes take place within an integrated system (ecosystem) of coupled aquatic and riparian habitats (Schindler and Scheuerell 2002). Shorelines are defined by the City of Bellevue Land Use Code 20.25E.010. The proposed management area lies within the wetlands associated with Phantom Lake, and therefore is within the Shoreline Overlay District.

3. Streams

Streams are defined by the City of Bellevue Land Use Code 20.25H.075 as an aquatic area where water produces a channel. Kelsey Creek, a Type “F”, fish-bearing stream, runs along the eastern edge of the Greenbelt near the proposed vegetation management area. A very small portion of the management area will fall within the 100-foot stream critical area buffer.

III. CONSISTENCY WITH LAND USE CODE AND ZONING REQUIREMENTS

A. Zoning District Dimensional Requirements:

The proposal site is located in the R-1, single family zoning district. There will be no new structures or development.

B. Critical Areas Requirements – LUC 20.25H

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area or critical area buffer. The performance standards below apply to this proposal:

Vegetation Management Projects:	LUC 20.25H.055.C.3.i.vi
Critical Areas – Streams	LUC 20.25H.075
Critical Areas – Wetlands	LUC 20.25H.100
Shorelines – General	LUC 20.25E.080.B
Shorelines – Clearing & Grading	LUC 20.25E.080.G

1. Consistency with LUC 25H.055.C.3.i.v – Vegetation Management

Response: Vegetation removal and replacement may be allowed in the critical area or critical area buffer pursuant to a Vegetation Management Plan that demonstrates an improvement to functions and values of a critical area or critical area buffer. The proposed vegetation management project is being managed and constructed by the City of Bellevue's Park & Community Services Resources Management Division. The submitted Vegetation Management Plan, dated April 14, 2010, demonstrates that the vegetation management proposal will improve forest health, increase wildlife habitat, help to improve air and water quality, and will protect the public safety. A more detailed discussion of these improvements may be found in Section VIII of this report. A yearly monitoring plan will be required that will be submitted to the Land Use Division every year for a period of three years after each year's planting activity to help ensure the establishment of the plantings and a plant survival rate of 80% or greater. **Refer to Condition of Approval regarding performance standards and the maintenance and monitoring plan in Section X of this report.**

**2. Consistency with LUC 20.25H.080 – Streams and
LUC 20.25H.100 – Wetlands**

Response: This project complies with all of the performance standards of these Code sections. There will be no lights, no noise-generating activities, no new impervious surfaces or treated water to generate pollutants into the wetland or Kelsey Creek, and only aquatic-approved glyphosate herbicides, as identified in the City of Bellevue's "Environmental Best Management Practices", will be approved for use at this location. New, more robust native plantings will create larger areas with healthier tree canopies and understory. These planting areas will also effectively help to limit pet and human use throughout the area and direct that use to the existing trails and more active recreation areas within the Greenbelt. **Refer to condition of Approval regarding herbicides in Section X of this report.**

**3. Consistency with LUC 20.25E.080 B and G –
Shoreline Performance Standards**

Response: The proposed site of this vegetation management project is located in wetlands within the Shoreline Overlay District. All development activity within this area (including any Clearing and Grading associated with the vegetation management activities) is subject to compliance with the applicable performance standards in LUC 20.25E.080.B and G below, and the work requires a Shoreline Substantial Development Permit.

i. Consistency with LUC 20.25E.080.B – General Regulations

a. Where applicable, all federal and state water quality and effluent standards shall be met.

Response: No effluent discharge is expected.

b. If a property extends into the Shoreline Overlay District, the Shoreline Master Program Policies and these use regulations shall apply only to that portion of the property lying within the Shoreline

Overlay District.

Response: The entire proposal is within the Shoreline Overlay District and the proposed improvement of shoreline functions and values is consistent with the Shoreline Master Program policies.

c. All development within the Shoreline Overlay District shall be accompanied by a plan indicating methods of preserving shoreline vegetation and for control of erosion during and following construction in accordance with LUC 20.25H, City of Bellevue Clearing and Grading regulations, Chapter 23.76 BCC, and the Comprehensive Plan.

Response: No work under this management plan will be done within the riparian zone and/or within a shoreline buffer. Replanting will be upland with native vegetation. However, erosion is not expected due to the relatively level topography between the project site and the Lake. Per Bellevue City Code 23.76, the applicant will be required to employ all necessary erosion control techniques prescribed under any Clearing and Grading permit associated with this proposal.

d. Special care shall be exercised to preserve vegetation in wetland, shoreline and stream corridor bank areas in order to prevent soil erosion. Removal of vegetation from or disturbance of shoreline critical areas and shoreline critical area buffers, and from other critical area and critical area buffers shall be prohibited, except in conformance with Part 20.25H LUC and the specific performance standards of this section.

Response:

Erosion: The topography around Larsen Lake and in the wetland area on the proposal site is relatively level. This condition, combined with the characteristics of the existing soil types and seasonally high levels of rainfall, results in relatively low runoff and erosion potential for the area. Erosion control methods will be required under any Clearing and Grading Permit to prevent any soil erosion.

Plant Removal: The removal of vegetation shall be limited to the removal of invasive/noxious species (including large areas of reed canarygrass and Himalayan blackberry) and deciduous tree species such as alder, cottonwood and maple in order to help the Parks Department achieve the later seral stage of the Washington wetland forests. All areas of vegetation removal will be replanted with new native trees and shrubs. Revegetation activities will be conducted so as not to cause more damage or disturbance to soil layers and replanting will be done using proper bioengineering techniques such as netting or hydro-mulching. This is an allowed activity under LUC 20.25H and activities will adhere to the performance standards of this section.

e. Maximum height limitation for any proposed structure within the Shoreline Overlay District shall be 35 feet, except in land use districts with more restrictive height limitations. The method of measuring the maximum height is described in WAC 173-14-030(6). Variances to this height limitation may be granted pursuant to Part 20.30H LUC.

Response: There will be no structures constructed as part of this Vegetation Management Project.

f. The Bellevue Shoreline Master Program, in conjunction with existing Bellevue land use ordinances and Comprehensive Plan policies, shall guide all land use decisions in the Shoreline Overlay District.

Response: No change in land use or development within the Greenbelt is proposed.

g. Any development within the Shoreline Overlay District shall comply with all applicable Bellevue ordinances, including but not limited to the Bellevue Land Use Code, Sign Code, and clearing and grading regulations.

Response: The proposal meets all applicable requirements of the Land Use Code as identified in Section III of the staff report. A Clearing and Grading Permit (GH Permit) is required for any work done within a Critical Area and it will be required for this proposal. There will be no signage associated with this proposal.

h. The dead storage of watercraft seaward of the ordinary high water mark of the shoreline is prohibited.

Response: No watercraft are proposed to be stored as part of this application.

i. Where applicable, state and federal standards for the use of herbicides, pesticides and/or fertilizers shall be met, unless superseded by City of Bellevue ordinances. Use of such substances in the shoreline critical area and shoreline critical area buffer shall comply with the City's "Environmental Best Management Practices."

Response: Herbicide application will be necessary to control the reed canarygrass and Himalayan blackberry. Only "aquatic approved" glyphosate-based herbicides will be allowed and they should only be applied in the later season, after late August, to ensure translocation of the herbicide from leaves to rhizomes and/or roots of the plants. The applicant will be required to submit information regarding the selected herbicides and their use in accordance with the City of Bellevue's "Environmental Best Management Practices". **Refer to Condition of Approval regarding herbicides in Section X of this report.**

j. Adequate storm drainage and sewer facilities must be operational prior to construction of new development within the Shoreline Overlay District. Storm drainage facilities shall be separated from sewage disposal systems.

Response: No new development or facilities that require storm drainage or sewer facilities are proposed as part of this project.

ii. **Consistency with LUC 20.25E.080.G – Clearing and Grading**

Response: Per BCC 23.76, a Clearing and Grading in Critical Areas Permit (GH Permit) will be required for areas of disturbance necessary for noxious species removal and replanting. No work will be done within the shoreline critical area or shoreline critical area buffer. The proposed work is an allowed activity under LUC 20.25H.

IV. **PUBLIC NOTICE AND COMMENT**

Application Date: June 22, 2010
Public Notice (500 feet): July 15, 2010
Minimum Comment Period: August 16, 2010 (30 days)

The Notice of Application for this project was published in the City of Bellevue Land Use Bulletin on July 15, 2010. It was mailed to property owners within 500 feet of the project site. At the time of this writing, no public comments were received.

V. **SUMMARY OF TECHNICAL REVIEWS**

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 project will require a Clearing and Grading in Critical Areas Permit (GH Permit) for disturbance activities associated with the removal of noxious species and replanting (Clearing & Grading Code 23.76.025). **Refer to Condition of Approval regarding a clearing and grading permit in Section X of this report.**

Transportation/Right of Way:

Work related to this project will require a Right of Way permit (TL Permits) for hauling only. **Refer to Condition of Approval regarding right-of-way permit 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 and 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 and Water

There will be minimal soil disturbance as a result of this proposal. Any areas of disturbance will be limited to the locations of invasive species removal – primarily that of the reed canarygrass and Himalayan blackberry. Any cleared areas will be replanted with native species. Sedimentation and erosion control techniques will be required per the Clearing and Grading permit – BCC 23.76. There will be no work within the shoreline critical area or shoreline critical area buffer.

Because of the presence of a wetland critical area, environmental best management practices (BMP's) will be used. These practices are highlighted on page 13 of the Larsen Lake Management Area Plan (attached and in the project file). In addition, the applicant will be required to submit information regarding the use of herbicides, pesticides, insecticides, and fertilizers to avoid impacts to water resources. **Refer to Condition of Approval regarding herbicides in Section X of this report.**

B. Animals

The Lake Hills Greenbelt – Larsen Lake Management Area is an important resource for wildlife due to the abundance of water and the quality of the open spaces. For example, pileated woodpeckers, candidates for state listing as threatened, endangered, or sensitive species, are believed to live within the Greenbelt. The diversity of wildlife species is directly reflective of the health and stability of the open space and the vegetation within it. The proposed vegetation management project will result in a more diverse vegetative understory once the abundant invasive species are removed and new native shrubs are planted. Trees that are in decline as identified by the City of Bellevue forester will be snagged to create more coarse woody debris and wildlife habitat. Therefore, it is expected that the removal of noxious species, the planting of new native species, and the snagging of trees will generally improve overall habitat within the entire Lake Hills Greenbelt system.

Vegetation management practices proposed for the Larsen Lake Management Area were chosen to ensure the promotion of the following wildlife requirements:

- Connectivity – elimination of stands of blackberries and other noxious species will provide the ability for animals to move throughout the open space system.
- Water source – a rich diversity of native plantings will protect the numerous water sources found in the greenbelt by providing buffers and increasing the natural water storage and filtration functions of the vegetated area.
- Cover – the addition of new trees species and the removal of weaker, weedy trees will create a combination of open and closed canopy cover.
- Snags/coarse woody debris – alders and small trees will be thinned and left on sight as snags and coarse woody debris to provide additional wildlife habitat.

C. Plants

The vegetation at the Lake Hills Greenbelt – Larsen Lake Management Area is classified as a Westside Riparian-Wetland and a Westside Lowland Conifer-Hardwood Forest. The area is currently in poor condition due to past anthropogenic activities such as logging, agriculture and maintenance practices.

Invasive species such as reed canarygrass have also reduced overall diversity (and therefore habitat) of the understory.

It is the intent of this plan at Larsen Lake and other vegetation management projects within the Greenbelt to encourage the movement to the late seral successional stage for the existing forest, while still promoting uneven-aged forests. This stage will be dominated by Sitka spruce, Western red cedar, Douglas fir and Western Hemlock. Tree species that will be removed consist of alder, cottonwood and maple and replanting will be with native tree species as well as with native understory species (refer to Appendix B in the submitted Lake Hills Greenbelt Larsen Lake Management Area report, dated April 14, 2010 for a list of native species to be used for replanting). ***However, care should be exercised in removing any canopy vegetation too quickly. It is suggested that new tree species should be planted first, and then trees to be thinned can be targeted and removed as necessary to provide necessary conditions, including light, for the survival of the new plantings.*** Plant spacing will be based on the existing site conditions and the spacing recommendations in the City of Bellevue's Critical Areas Handbook.

Any new plantings will be inspected under a maintenance and monitoring plan for a period of not less than three years from each planting activity. **Refer to Condition of Approval regarding a maintenance and monitoring plan in Section X of this report.**

D. Noise

The site is adjacent to single-family homes to the south and east, whose residents are most sensitive to disturbance from noise during evening, late night and weekend hours when they are likely to be at home. Construction noise will be limited by the City's Noise Ordinance (Chapter 9.18 BCC) which regulates construction hours and noise levels. **Refer to Condition of Approval regarding noise control in Section X of this report.**

VII. CHANGES TO PROPOSAL AS A RESULT OF CITY REVIEW

There were no changes to the proposal due to thorough review during a pre-application meeting.

VIII. DECISION CRITERIA

A. Critical Areas Land Use Permit Decision Criteria - LUC 20.30.P.140

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

- 1. The proposal obtains all other permits required by the Land Use Code;**
Response: The applicant has applied for a Critical Areas Land Use Permit, a Shoreline Substantial Development Permit, and a Clearing and Grading in Critical Areas Permit. No other permits will be required for this proposal.

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;

Response: The proposed techniques and practices are based on recommendations found in the Lake Hill Greenbelt Park – Wildlife-Habitat Assessment and Enhancement Recommendations by Skillings Connolly, July 24, 2006 and the City of Bellevue’s current “Environmental Best Management Practices” Manual. These practices have been revised according to the conditions found at the Larsen Lake site and include the BMP’s outlined on page 13 of the Larsen Lake Management Area Plan, dated April 14, 2010 (attached).

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

Response: As discussed in Section III of this report, the proposal meets the performance standards and additional provisions for the following:

Vegetation Management Projects	LUC 20.25H.C.3.i.
Critical Areas – Streams	LUC 20.25H.075
Critical Areas – Wetlands	LUC 20.25H.100

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

Response: The proposed expansion will not impact any existing public facility service level.

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

Response: As proposed, all areas where noxious weed and tree removal has taken place will be replanted with native vegetation. Plant spacing will be based on specific site conditions and recommendations from the City of Bellevue’s Critical Areas Handbook. The specific native plant species to be used are outlined in the Lake Hills Greenbelt – Larsen Lake Management Area Plan, April 14, 2010 (attached and in the project file). The applicant will be required to submit a detailed maintenance and monitoring report yearly for a period of not less than three years after any replanting effort. **Refer to Conditions of Approval regarding performance standards and maintenance and monitoring plan in Section X of this report.**

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

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

B. Shoreline Substantial Development Permit Decision Criteria - LUC 20.30R.155.B

The Director may approve, or approve with modifications an application for a Shoreline Substantial Development Permit if:

1. **The applicant has carried the burden of proof and produced evidence sufficient to support the conclusion that the application merits approval or approval with modification;**

Response: The applicant has provided a complete application, including the Larsen Lake Management Area Plan, dated April 14, 2010, and conceptual replanting/restoration plans. The plan has also been evaluated for consistency with the Critical Areas Handbook, as well as with applicable city codes. As conditioned, the applicant has demonstrated significant improvement to the vegetated environment around Larsen Lake will occur as a result of this vegetation management proposal.

2. **The applicant has demonstrated that the proposal complies with the applicable decision criteria of the Bellevue City Code;**

Response: The proposal complies with all applicable decision criteria as outlined and discussed in this report.

3. **The applicant has demonstrated that the proposal is consistent with the policies and procedures of the Shoreline Management Act and the provisions of Chapter 173-14 WAC and the Master Program.**

Response: The proposal complies with the Shoreline Management Act and the policies and procedures listed in WAC 173-14 and WAC 174-27.

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 does hereby **approve with conditions** the proposal for the proposed vegetation management plan and associated activities.

Note: 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 approval.

In accordance with LUC 20.30R.175, a Shoreline Substantial Development Permit automatically expires and is void if the applicant fails to file for a Building Permit, or other necessary development permits within two years of the effective date of approval.

X. CONDITIONS OF APPROVAL

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

Applicable Ordinances	Contact Person
Clearing and Grading Code - BCC 23.76	Savina Uzunow, 425-452-7860
Land Use Code - BCC Title 20	Sally Nichols, 425-452-2727
Noise Control - BCC 9.18	Sally Nichols, 425-452-2727
Right-of-Way - BCC 14.30	Dottie Schmidt, 425-452-2888

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

1. HERBICIDES

Only “aquatic approved” glyphosate-based herbicides Rodeo® or Aquamaster® shall be applied. All herbicides shall be applied in late season for maximum efficiency per label instructions. The applicant must submit information to Land Use **prior to application** regarding which herbicides are to be used and the time of application. The use of herbicides shall be in accordance with the City of Bellevue’s “Environmental Best Management Practices”.

Authority: Bellevue City Code 23.76.100
Reviewer: Sally Nichols, Land Use

2. 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: Sally Nichols, Land Use

3. PERFORMANCE STANDARDS

Performance standards must be met three years after each year’s planting activities, beginning in year three. Annual monitoring reports are required as identified in Condition 4 below. The following standards must be met.

Include the following:

- Survival Rate: 80 percent survival beginning in year three after each planting activity
- Percent Cover: 60 percent by year three after each planting activity and 85 percent by year five
- Native Plant Diversity: Achieve a minimum diversity of four native tree species, six native shrub species and four native groundcover or low cover species.

Authority: Land Use Code 20.25H.220
Reviewer: Sally Nichols, Land Use

4. MAINTENANCE AND MONITORING PLAN

Each year (of five), prior to the commencement of any construction, a detailed written maintenance and monitoring plan shall be submitted to the City of Bellevue which shall be specific to each zone being managed that year.

The written maintenance and monitoring plan shall outline how restored areas shall be monitored to establish that performance standards in Condition 3 above have been met. The monitoring period shall be for a minimum of three (3) years after any planting activity (e.g. planting proposed to occur in year five of the management plan will need to be monitored for three additional years). Monitoring reports must be submitted annually by the last day of the year to Land Use and should include an assessment of growing season success.

Monitoring plan to address the following (see Condition 3 above):

- Survival Rate
- Percent Cover
- Native Plant Diversity
- Percent Cover of non-native/invasive weeds

Authority: Land Use Code 20.30P.140

Reviewer: Sally Nichols, Land Use

5. RIGHT-OF-WAY USE PERMIT

Any land closures and/or hauling in excess of 10 truck loads to and/or from the project site will require a right of way haul route permit.

Authority: Bellevue City Code 14.30

Reviewer: Dottie Schmidt, Right-of-Way

6. CLEARING AND GRADING IN CRITICAL AREAS PERMIT

The project will require a Clearing and Grading in Critical Areas Permit (GH Permit) for disturbance activities associated with the removal of noxious species and replanting per Clearing & Grading Code 23.76.025.

Authority: Bellevue City Code 23.76

Reviewer: Savina Uzunow, Clearing and Grading

Attachment:

Lake Hills Greenbelt/Larsen Lake Management Area Report

Lake Hills Greenbelt
Larsen Lake Management Area



**PARKS & COMMUNITY
SERVICES DEPARTMENT**

April 14, 2010

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Lake Hills Greenbelt Larsen Lake Management Area

Introduction

The following report outlines the Lake Hills Greenbelt Larsen Lake Area management plan recommendations under the guidelines of the Bellevue Parks and Community Services Department. The purpose of this report is to describe current site conditions and the proposed long-term maintenance and restoration procedures in conjunction with the City of Bellevue's management goals for all open space areas as well as the Land Use Code section 20.25H.

Included in the current site description is information on the Lake Hills Greenbelt Larsen Lake Management Area location and history, soil type and sensitive areas, vegetation and forest health, wildlife, recreational benefits, and liabilities such as hazard trees. The forest management plan section of the report will describe the proposed procedures for the removal and planting of vegetation, maintenance of enhanced areas, and how the management goals for Bellevue's open spaces will be met for each action, as well as how each action follows the city's BMP's and Land Use codes. The City of Bellevue's management goals for the parks open spaces include:

1. Forest health
2. Wildlife habitat
3. Recreation
4. Water/Air quality
5. Public Safety
6. Neighborhood buffering

Current Site Description

Property Description / Site History

Lake Hills Greenbelt Larsen Lake Management Area is generally located in King County, Washington and specifically located in southeast Bellevue, between 148th Avenue SE and approximately Lake Hills BLVD to the South, between the K Mart Center at Main Street and the Lake Hills Library. Larsen Lake is encompassed by the larger park Lake Hills Green Belt; please refer to the Vicinity Map (Figure 1 and 2). The approximate center of Lake Hills Green Belt Park's legal description is Township 24, Range 5E, of Section 2. Lake Hills Green Belt is roughly 151 acres and contains a unique mixture of agricultural lands, lakes, streams, open meadows, wetlands, woodlands, and open lawns. The Park is a 150 acre wetland complex encompassing the two depressional wetlands that make up Larsen and Phantom Lakes. The Park is the headwater area for the North branch of Kelsey Creek. Lake Hills Greenbelt Larsen Lake Management Area contains a parking area and produce stand on its west side and trails running along its North, East and South sides. A working blueberry farm comprises the majority of the Larsen Lake vicinity and is maintained to preserve the agricultural history of the Bellevue area. Larsen Lake was formed from glacial deposits and is one of two "kettle lakes" within the Lake Hills Green Belt Park area.

Soils/Topography/Tree Stability

The Larsen Lake Management Area soil composition is divided into two types: Arents, Alderwood material, 6 to 15 percent slopes (AmC), and Seattle muck (Sk) (See figure 3). AmC's parent material consists of basal till. The typical profile of these soils is gravelly sandy loam and muck. These soils are found at or very near sea level and up to about 1,000 feet and occur in mild cool marine climates characteristic of the Pacific Northwest. Seattle muck is a very poor draining soil type with a high available water holding capacity, giving it an elevated incidence of ponding. However, AmC is a moderately well draining soil with a low available water holding capacity. The depth to reach lithic bedrock is more than 80 inches for Seattle muck but only 20 to 40 inches for AmC. The normal successional pattern for a lake composed of Seattle muck is to accumulate with organic material and convert to a marsh. The topography of the Larsen Lake Management area is relatively flat with the uplands lying on the Southern border and the lowest point in the middle. This is typical of a Seattle muck/AmC soil combination.

General soil stability is an important concern when managing all open spaces. Soil erosion is a natural process aggravated by vegetation removal and modification, and some soil particles are more susceptible than others. Due to the minimal to nonexistent slope of Larsen Lake, characteristics of the soil types, and the seasonally high levels of rainfall in the area, there is low runoff and erosion potential for both Arents, Alderwood Material and Seattle muck. The potential of healthy tree blow down is low. This is due in part to the depth to bedrock as well as the qualities of both Arents, Alderwood material and Seattle muck. It is our recommendation to remove or snag those trees that present a hazard to the trail, recreation and private property, and re-plant with native trees, shrubs and vegetation in order to provide a sustainable and long-term habitat.

Certain measures will be taken into consideration such as minimizing the removal of vegetation when possible. When removal is the recommended action, revegetation will be evaluated so as not to cause more damage or disturbance to soil layers and replanting with proper bioengineering techniques such as netting or hydro-mulching will be utilized.



Figure 3: Soil Map of the restoration area from the USDA classification

The lake Hills Greenbelt Larsen Lake area is also categorized as a wetland. This information is derived from the National Wetlands Inventory list as well as the City of Bellevue Sensitive Areas Notebook. The boundaries of each of these classifications are shown on the map below as well as the flood plain for the area.



Figure 4: Wetland and Floodplain boundaries map

The primary function of Bellevue’s protected Sensitive Areas is listed as follows:

- Provide a biological basis for maintaining good water quality
- Provide a habitat for terrestrial and aquatic wildlife
- Manage storm and surface water flows
- Contribute a valuable open space character to the landscape
- Provide visual diversity to the urban landscape and a sense of place to visitors and residents

Vegetation/Forest Health

The vegetation/forest at Lake Hills Greenbelt Larsen Lake Management Area is classified as Westside Riparian-Wetlands and Westside Lowlands Conifer-Hardwood Forest, and is currently in poor condition due to past anthropogenic activities i.e., logging, agriculture, recreation, drainage, and Park maintenances. Expected outcomes include the following existing conditions: sparse to no-snags, downed wood or brush piles; narrow to nonexistent “treed” riparian zones; simplified plant diversity primarily due to the domination of exotic or non-native plant species. Red alder is the most widespread tree species in Westside Riparian-Wetlands forest/habitat type while Western hemlock and Douglas fir are the most common in Lowlands Conifer-Hardwood Forests. Other deciduous broadleaf trees that commonly dominate or co-dominate in both these forest types include black cottonwood, bigleaf maple and Oregon ash. Pacific willow can form woodlands on floodplains or co-dominate with other willows in tall shrub lands. Conifers that frequently dominate or co-dominate include

Western redcedar, Western hemlock and Sitka spruce. The Larsen Lake Management area contains many of these tree species and is dominated by alder, cottonwood, Western redcedar and Western hemlock. Typical shrub species for this area include Sitka willow, hooker's willow, Douglas' Spirea, red dogwood, salmonberry, sward fern, vine maple, stink currant, devils-club and sweet gale. In the understory of Westside Lowlands Conifer-Hardwood Forests deciduous shrubs, fern, and/or forbs tend to dominate on relatively nutrient-rich or moist sites. The Larsen Lake Management Area site has a limited amount of all of these species due to the presence of invasive exotics (See Figure 3 for a partial list of plant species). The trees in a late-seral successional stage for both of these forest types will be dominated by Sitka spruce, Western redcedar, Douglas fir and Western hemlock.

Native species identified at the site include but are not limited to:

Common Name	Scientific Name
western red cedar	<i>Thuja plicata</i>
bigleaf maple	<i>Acer macrophyllum</i>
elderberry	<i>Sambucus racemosa</i>
sword fern	<i>Polystichum munitum</i>
red alder	<i>Alnus rubra</i>
Western hemlock	<i>Tsuga Heterophylla</i>
Indian plum	<i>Oemlaria cerasiformis</i>
stinky bob	<i>Geranium robertianum</i>
vine maple	<i>Acer circinatum</i>
Oregon grape	<i>Mahonia nervosa</i>
black cottonwood	<i>Populus trichocarpa</i>
salmonberry	<i>Rubus spectabilis</i>
wild rose	<i>Rosa gymnocarpa</i>
trailing blackberry	<i>Rubus ursinus</i>

Figure 5: A partial list of native species found at Lake Hills Greenbelt Larsen Lake Management Area

There are areas within the park where invasive species are of great concern. Forest edges and open spaces that let in greater amounts of sunlight are highly susceptible to blackberry overgrowth. A habitat type inventory has been completed and shows isolated areas of invasive species present within the site (see Figure 5). The highest density of invasive species is near the trail and in large swatches composed of Reed Canarygrass. Selective control as well as supplemental plantings to out-compete and shade the understory will be very important in the process of protecting the open space and maintaining its environmental benefits.

Exotic species include but are not limited to:

Common Name	Scientific Name
Himalayan blackberry	<i>Rubus discolor</i>
English ivy	<i>Hedera helix</i>
Japanese knotweed	<i>Fallopia japonica</i>
Laurel	<i>Prunus laurocerasus</i>
reed canarygrass	<i>Phalaris arundinacea</i>

Figure 6: A partial list of invasive species found at Lake Hills Greenbelt Larsen Lake Management Area

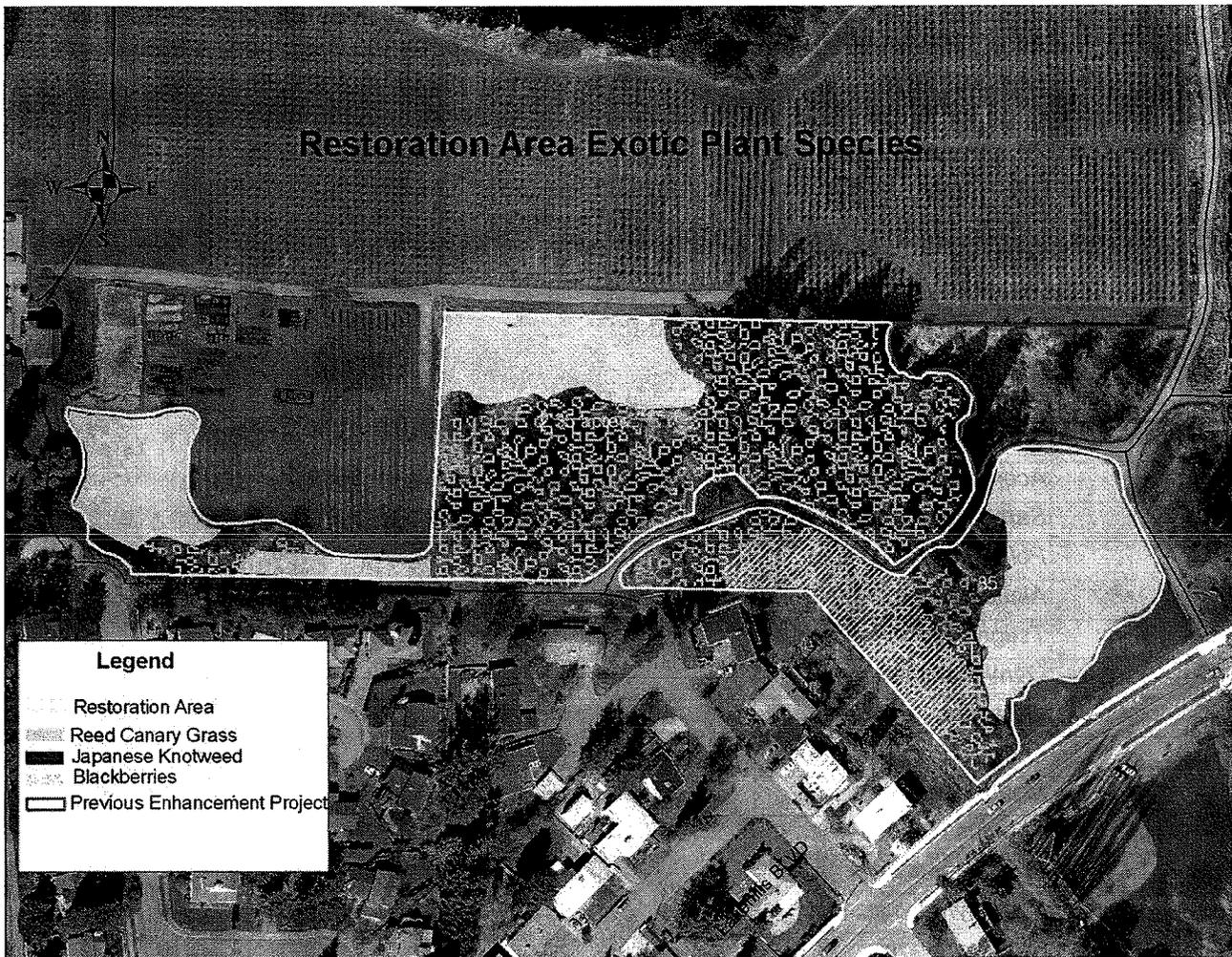


Figure 7: Invasive Exotic Species Map

Wildlife

Lake Hills Greenbelt Larsen Lake Management Area is an important resource for wildlife. It is close to other large open spaces, complex in habitat structure, could support a diverse vegetative understory if invasive species were not as abundant, and contains a large supply of water. The diversity of wildlife species directly reflects the health and stability of urban green spaces, and has the added benefit of offering wildlife viewing recreational activities. Currently, the Lake Hills Greenbelt Larsen Lake Management Area has a large range of birds making use of its ecological benefits (See figure 5). It is important to note the presence of pileated woodpeckers at Lake Hills Green Belt, which are candidates for state listing as threatened, endangered, or sensitive and considered vulnerable at its breeding areas.

A partial list of wildlife present on the site includes the following:

Birds		
Mallard	Ring-necked duck	Olive sided flycatcher
Hooded merganser	Great blue heron	Cedar waxwing
Belted kingfisher	Downy woodpecker	Swainson's thrush
Willow flycatcher	Warbling vireo	Yellow warbler
Lincoln's sparrow	Tree swallow	Wilson's warbler
Barn swallow	Pie-billed grebe	Common yellowthroat
Pileated woodpecker	Buffle head	Song sparrow
Black-capped chickadee	Red-breasted sapsucker	White-crowned sparrow
Red tailed hawk	Killdeer	Wood duck

Figure 8: A partial list of avian species utilizing Lake Hills Green Belt Park

It is important to carefully consider the affects of habitat alterations on the wildlife populations present on the site. Different successional stages throughout a forest's life will support varying types of wildlife communities. When managing an urban open space, the needs of native wildlife species will be promoted through all forest management actions. All wildlife species require food, water, shelter and space in an appropriate arrangement in order to survive and reproduce. Management practices prescribed on the site will seek to enhance these criteria, improving the habitat for native species. The following will be considered in order to ensure the promotion of wildlife requirements:

Connectivity: This section of the Lake Hills Green Belt is slightly east of Kelsey Creek Park and the lower half of the Lake Hills Green Belt Park is north of Lakewood Landfill Park and Robinswood Park. All of the surrounding wooded and open spaces are large in scale for an urban environment. The Larsen Lake Management Area itself has very high connectivity as it is connected to Phantom Lake to the south by a patch of wooded open space that makes up the rest of Lake Hills Green Belt Park. As such, improvements to wildlife habitat will be well utilized within the park. As a whole, Lake Hills Green Belt Park is somewhat connected as the surrounding neighborhoods make it difficult for larger species to move through undetected.

Water source: Both Larsen Lake and Phantom Lake to the south provide excellent sources of water for wildlife. The many irrigation canals that were created for agricultural uses directly around Larsen Lake are also utilized by many wildlife species. There is a stream running between the two lakes that makes a running water source for the Lake Hills Green Belt Park available. There are many seasonal standing pools and puddles of water throughout the Larsen Lake area.

Cover: Larsen Lake Management Area has a combination of closed and open canopy cover. The open canopy cover is due in part by the surrounding blueberry farm as well as the presence of meadows made up of reed canarygrass. The closed canopy covered areas are composed of the mid and later successional forests of the Westside Riparian-Wetlands. The understory in these areas is covered with many non-native species, in particular Himalayan blackberry.

Snags/Coarse woody debris: The construction and maintenance of existing wildlife snags will be considered when managing hazard trees and open space. The amount of woody debris present in the site is minimal. Some woody debris will be left on the forest floor.

Specifically in the Lake Hills Greenbelt Larsen Lake Management Area, there is high potential to increase the habitat benefits of snags and downed woody debris which provide food and shelter for a myriad of small mammals, ground-feeding birds, reptiles, and amphibians. The abundance and diversity of hole-nesting birds and birds that feed off of insects living in rot, for example, are directly related to the dead and dying wood characteristics and general vegetation features of a forest. Generally, the snags used most by wildlife are large,

long-lived native tree species; the conifers at Larsen Lake Management Area, including cedars and hemlocks, are an example of such trees. These rot slower and last longer than deciduous trees such as alder, aspen, cottonwood, and maple. Nevertheless, because deciduous trees rot quickly, you can create snag habitats sooner in a landscape with short-lived trees which are present in the Larsen Lake Management Area. Here are some ways wildlife use snags:

- Snags offer ideal hunting perches for hawks, eagles, and owls, resting perches for swallows, and “hawking” perches for flycatchers. For example, a flycatcher may perch on a branch, fly out to snatch an insect, and return to the same branch to watch (like a hawk) for more insects.
- Snags are commonly used as song or sentry posts by a wide variety of birds, such as bluebirds, hummingbirds, Townsend’s solitaires, and flycatchers. These birds attract mates and proclaim nesting territory boundaries from these promontories.
- Bald eagles, osprey, hawks, band-tailed pigeons, and mourning doves commonly use snags as lookout/loafing perches.
- Snags also provide weather protection for birds mammals and butterflies, resting and sleeping areas, and food storage areas by mice, squirrels and birds.
- Snags and woody debris provide foraging substrates for wildlife.

For a snag to be suitable as a cavity site for wildlife, its diameter must be large enough to accommodate cavity users. Most hole nesting birds have been shown to prefer snags with a diameter greater than 15 inches and to select specific stages of decomposition for feeding and nesting. As a snag decomposes, texture and moisture content of wood fibers change, which in turn affects suitability of the snag as insect habitat. In urban and suburban areas, whenever possible, snags should be well distributed across the landscape. In very small lots, it is best to locate snags in quiet, partially shaded areas. (Appendix C)

Recreation

The Larsen Lake Management Area provides many passive recreational opportunities to the community such as walking, jogging, and wildlife viewing. There are three entrance points off of 148th avenue into the Open Space. One of these entrances is the main parking area and produce stand. There are two access points to the south, one is directly off of Lake Hills BLVD and connects Larsen Lake to the rest of Lake Hills Green Belt to the south when you cross the boulevard. The other southerly entrance is off of 150th Place SE and is located near residences. On the east side of Larsen Lake there is another entrance from the Lake Hills library parking lot and one from SE 4th street. The single entrance to the north is at 151st place SE.

Trails are the most widely used recreational facility managed by Parks and Community Services. The Parks Open Space and Recreational element in the Comprehensive Plan states that it will be the goal of the City “to protect and preserve open spaces that are ecologically significant sensitive areas, serve as buffers between uses and link open space; provide trails, wildlife corridors and greenways.” The development of trails in open spaces is further supported in the Parks and Open Space Systems Plan and the Pedestrian and Bicycle Transportation Plan. As a result of such high usage, it is important to maintain high quality trail conditions and forest habitat in order to directly support the types of passive recreation occurring at the site. Improving trail quality will reduce the risk of injury to joggers and hikers, and a healthy forest habitat will increase the wildlife viewing potential. Improving access to and through Larsen Lake as well as the aesthetic value is an important goal of the City of Bellevue.

Liabilities

As stewards, we are responsible for the safety of people visiting our sites and in many instances the safety of immediate neighbors. Assuring the safety of visitors and preventing damage to private property are important stewardship tasks. Common liabilities are the accumulation of refuse and debris that may cause injury to children, steep eroding stream banks or cliffs, poorly maintained improvements like fences, trail bridges, or picnic tables, tree houses, and poorly placed and constructed trails. Other liabilities may include mine shafts, wells, septic tanks, drainage/erosion problems and tree houses. Negligence, poor management and maintenance, overuse, carelessness and inappropriate behavior can all lead to liability suits.

A well planned, implemented and documented stewardship plan not only prevents many liabilities from occurring but also can be an important mitigating factor in the event of a lawsuit. Government agencies should be particularly concerned about immediate correction of these problems because of the public access mandate and the high exposure to personal injury claims in the judicial system. Non-profit organizations should seek legal council before accepting the risk and liabilities associated with land ownership. Every organization must assess their risk tolerance and exposure and act accordingly. The removal of liabilities almost always improves the appearance and quality of the open space. In natural areas liabilities result from either deteriorated natural conditions or human activities. Correction of these problems will result in a safer and more natural environment.

In forested natural areas a common management concern is the assessment and removal of hazard trees. The trees in this site have been carefully monitored over time to prevent potential hazard trees from falling on a neighbor's property or in the way of recreational trails. Lake Hills Greenbelt Larsen Lake Management Area has a limited number of large diameter trees that would pose a risk to private residences. At present there are no hazard trees within the enhancement area, and the site will continue to be monitored on a yearly basis for hazard potential.

Another concern in forested open spaces is the safety of trails, bridges and stairways that are used by the public. Routine maintenance will reduce the risks associated with utilizing these amenities. Currently the trails around Larsen Lake are well maintained and the trails at the enhancement area are a mix of bark, compacted ground, gravel and pavement.

Forest Action Plan

In the Lake Hills Greenbelt Larsen Lake Management Area, there are four different areas that will be directly managed using modified silvicultural treatments, Zone 1, 2, 3 and 4 (see page 15 for map). Managing for forest health and public safety requires many considerations. Traditionally practiced on larger plots of land and often for the benefit of timber production, silvicultural systems are adaptations of natural processes which hasten the development of healthy, desirable forest types. These systems can be modified and applied to Bellevue's urban open space management objectives which focus not on timber production but on providing the benefits of a healthy forest to the surrounding community. Although all silvicultural systems are based on the biological requirements of the trees themselves, how they are applied depends on the specific desires and goals of the landowner. The landowner may want to grow commercial timber, provide a habitat for wildlife, regulate and protect a water supply, maintain the forest for aesthetics, or combine several of these goals. Silviculture merely provides the most effective means to achieve that end. The Lake Hills Greenbelt Larsen Lake Management Area will be managed for the six management goals previously mentioned, with a focus on public safety, and on moving the forest into its next successional stage.

A forester tries to create conditions favorable for the regeneration process within the natural constraints on any given site. In an urban setting, regeneration is most successful when produced unnaturally through planting. Conditions of the land are considered such as topography, moisture, microclimate as well as vegetative characteristics when selecting which system to base management actions on. The prevalence of invasive species as well as ability of planted trees to thrive will affect success rates. Important too, in considering how best to regenerate a forest is the concept of uneven-aged and even-aged forests. In nature, an uneven-aged forest tends to contain many shade tolerant trees, which grow under the canopy of the mature trees. Uneven-aged forests are also structurally complex and support a wide range of wildlife species, and maintain diversity while changing over time. It is our recommendation that the Parks Open Spaces are managed to promote uneven-aged forests.

The Selection System will be used to manage any of the thinning activities done in the Lake Hills Green Belt Larsen Lake project area. In the selection system, the forester selects trees individually (or in small groups) for cutting. Trees of all sizes are removed in this type of regeneration cutting. Large trees are removed to create openings for new growth: smaller trees are removed to reduce undesirable species and crowding and hence stimulate growth on the remaining trees. This system depends upon and is intended to maintain an uneven-aged condition.

There will be no grading done on this project. No soil will be removed from the site, and no new soil will be brought into the site.

Zone 1 is composed of reed canarygrass meadows spread out in the restoration area. The primary actions for these areas will be to control and eliminate the invasive species and replant with native species from the plant pallet (Appendix B for plant pallet and spacing). The method of control for invasive species, in particular reed canarygrass, is derived from the management recommendations given by Skillings and Connelly from their Lake Hills Green Belt Assessment report. The use of herbicide application over the course of year 1 and year 2 will be the control method used for removal of the reed canarygrass. The herbicide will be applied during the plants growing season. Mowing will be used to cut down and limit the look of dead growth. This method of removal is preferred because hand removal and weedeating do not eliminate the extensive root structure of the plant, and in some instances can promote its growth. Other methods of control such as burning and laying black plastic down are also not preferred due to the location of the site and its high usage and visibility. For further information see Appendix A for the Skillings and Connelly Habitat Assessment control and management of reed canarygrass recommendations for this site. During year 3 trees will be established in this zone while continuing to monitor for reed canarygrass. During year 4 a shrub layer will be planted on the site. Year 5 will consist of monitoring the site for invasive species and maintenance to the planting area.

Zone 2 is composed of deciduous forest and is abundantly covered by Himalayan blackberry. The blackberry will need to be removed by weedeating during year 1 in order to make room for future planting. There are a large number of alders growing within this zone that will need to be thinned. During year 2 declining trees and alders that are smaller than 8 inches in diameter will be thinned. This will open up the canopy and allow better growth of future plantings as described by the silvicultural selection system management discussed above. The larger thinned wood will remain on site to increase the amount of coarse woody debris. This zone is very wet in sections and those areas will be heavily willow staked during year 2 of the project. Drier portions of the site will not be willow staked during this year. During year 3 the drier areas of this zone will be planted with a shrub layer while all other areas will continue to be monitored and maintained. Year 4 through 5 will consist of monitoring the site for invasive species and maintenance to the planting areas.

Zone 3 is composed of mixed forest and the shrub layer is composed of Himalayan blackberry. During year one the invasive species will be removed by weedeating the blackberry. During year 2 the smaller (less than 8 inches in diameter) or declining deciduous trees will be thinned or snagged. This thinning will remove no more than 30% of the canopy cover and the trees to be removed or snagged will be selected by hand. This will open up the canopy and allow better growth of future native species plantings as described by the silvicultural

selection system management discussed above. During this same year the area will be planted with trees and a shrub layer. Year 3 through 5 will consist of monitoring the site for invasive species and maintenance to the planting area.

Zone 4 is composed of a coniferous forest that has started to lose a majority of its shrub layer to Himalayan blackberry. The blackberry will need to be eliminated before a new shrub layer can be planted. There are three openings in the canopy cover of the forest where conifers need to be re-established. During year 1 the blackberry will be removed by weedeating. During year 2 the three openings within the canopy cover will be planted with trees and a shrub layer (See plant pallet and spacing in Appendix B). Years 3 through 5 will consist of monitoring the site for invasive species and maintenance to the planting area.

Year	Zone 1	Zone 2	Zone 3	Zone 4
1	Application of herbicide to reed canarygrass.	Manual removal of blackberry.	Manual removal of blackberry.	Manual removal of blackberry.
2	Application of herbicide to reed canarygrass.	Declining trees and aiders will be thinned and then the area will be willow staked. Monitor previously enhanced areas for invasives.	Declining and smaller deciduous trees will be thinned, and then the area will be planted with trees and shrubs. Monitor previously enhanced areas for invasives.	Plant trees and shrub layer in 3 designated openings within the zone. Maintain and monitor for invasives.
3	Trees will be planted on the site while monitoring for invasives	Drier areas will be planted with a shrub layer while monitoring previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives	Maintain and monitor previously enhanced areas for invasives.
4	Shrub layer will be planted while monitoring previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives.
5	Monitor previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives.	Monitor previously enhanced areas for invasives.	Maintain and monitor previously enhanced areas for invasives.

Figure 9: Each Year of the Plan * See Forest Action Plan maps on page 17

All activity will fulfill the Bellevue Parks and Community Services management goals for the forested open space properties. Activity will follow standards outlined in Land Use Code 20.25H as well as take into account and follow the City of Bellevue's BMP's.

Due to the presence of a wetland in the project area and the impact it has on the surrounding community's water supply and flood control capabilities best management practices (BMPs) will be used. These including:

- Where mechanical or manual removal is neither possible nor practical but control is essential, careful and selective use of an approved herbicide is permitted. The list of approved herbicides is limited to Roundup Pro, Rodeo or Garlon 3A. The use of these products shall conform to those BMPs described as followed
- Cut and stem treatment (daubing or painting) is the preferred choice for natural area management.
- Certain invasive plants are difficult to treat and control in their mature form. If possible, remove existing growth manually or mechanically. Wait for new growth to emerge, and then treat with the appropriate and approved herbicide.
- Only invasive and noxious weeds are controlled through mechanical or cultural methods.

- Approved wetland herbicides are used only when necessary, and never near standing water.
- Only native species are planted within a wetland area, unless the wetland is part of one of the agricultural areas that are preserved within the parks system.
- Trails are kept to a minimum and specifically designed to decrease habitat disturbance
- When invasive brush is a major problem, it may be necessary to mow the meadow on an annual basis. Mowing should be timed to avoid disturbing wildlife. Spring should be avoided to allow protection for ground nesting birds. Mowing should also be done before seed set of the targeted species. Mowing heights should be a minimum of 6 inches high to prevent excessive grass clippings and to minimize exposing bare ground.

Implementation Recommendation

- Thinning, removal and snag creation will be performed with hand operated equipment
- Selectively leave large woody debris/logs on site for erosion control, habitat and decomposition with logs in ground contact. Lop and scatter, on site, limbs smaller than 3'' in diameter.
- Logs to be removed will be done by hand or methods approved by Parks and DSD. If too much coarse woody debris is on site, it adds to fire and fuel loading, is more difficult for the decaying process to take place, is difficult to site prep/re-plant and access for maintenance and establishment. In addition, different stages of decaying debris on the forest floor increases wildlife and insect diversity, and eventually improve soil quality.
- New scope of work to be sent separately every year to a list of qualified contractors detailing the actions for that particular year. Scope to include work hours, tools utilized, desired plant numbers from planting palette, and what action each specific tree will receive.

Maintenance and Monitoring

During the monitoring and maintenance portion of the plan there will be two main goals for the site. A high plant survival rate of 80% or greater will be ensured through regular watering and weeding. All invasive exotic species that attempt to re-vegetate the area will be removed. A report to Land Use will be submitted annually with an assessment of growing season success. After the 5 year project timeline the site will continue to be on the natural resources maintenance and monitoring contract until it becomes well established. The 5 year management plan laid out above is the best way to meet forest management goals while remaining in compliance with Land Use code 20.25H as well as the City of Bellevue's BMP's. Below is a summary of how each goal of the Forest Management Department will be met specifically regarding this project:

Forest health

- Move forest into next successional stage will promote diversity
- Improve lateral complexity
- Reduce invasive species by planting and maintaining bare open areas

Wildlife habitat

- Create wildlife snags
- Maintain connectivity, water sources and structural complexity/diversity of the forest

Recreation

- Monitor and maintain trail for safety
- Create a more well defined trail out of diminishing historic trails
- Maintain connectivity to other parks

Water/Air quality

- More conifers will be established. Conifers play an important role in intercepting and slowing down rain water.
- Conifers also remove particulates and pollution from the air year-round
- Maintaining good ground cover will reduce erosion

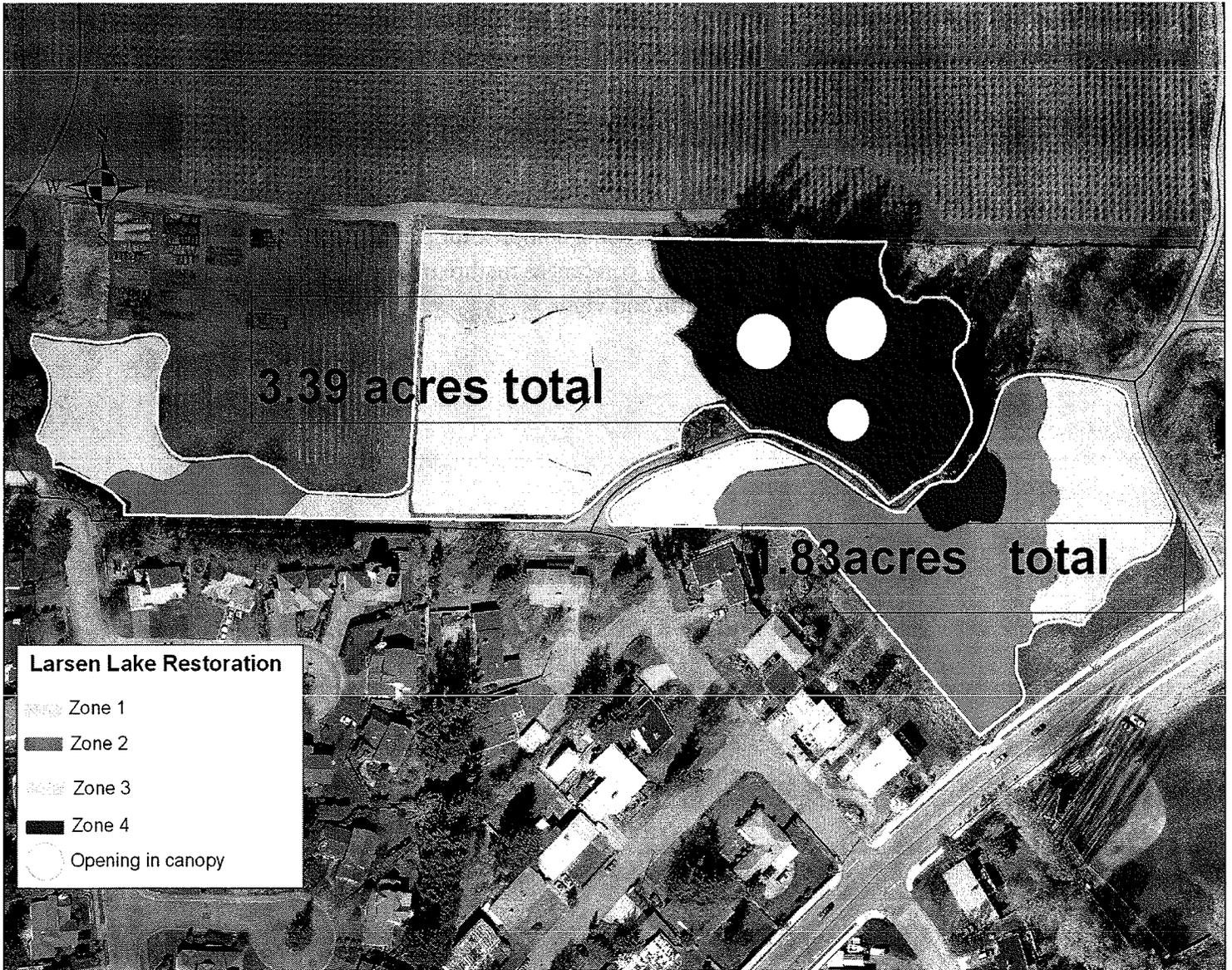
Public Safety

- Remove and monitor hazard trees
- Remove leaning red alders on eastern side
- Re surface trail

Neighborhood buffering

- Re-plant bare areas with native shrubs behind housing complex for privacy and aesthetics
- Retain tree canopy in forested areas by planting conifers as mature trees decline and area removed
- Actively manage forest to maintain tree health and vigor

General Zone Map

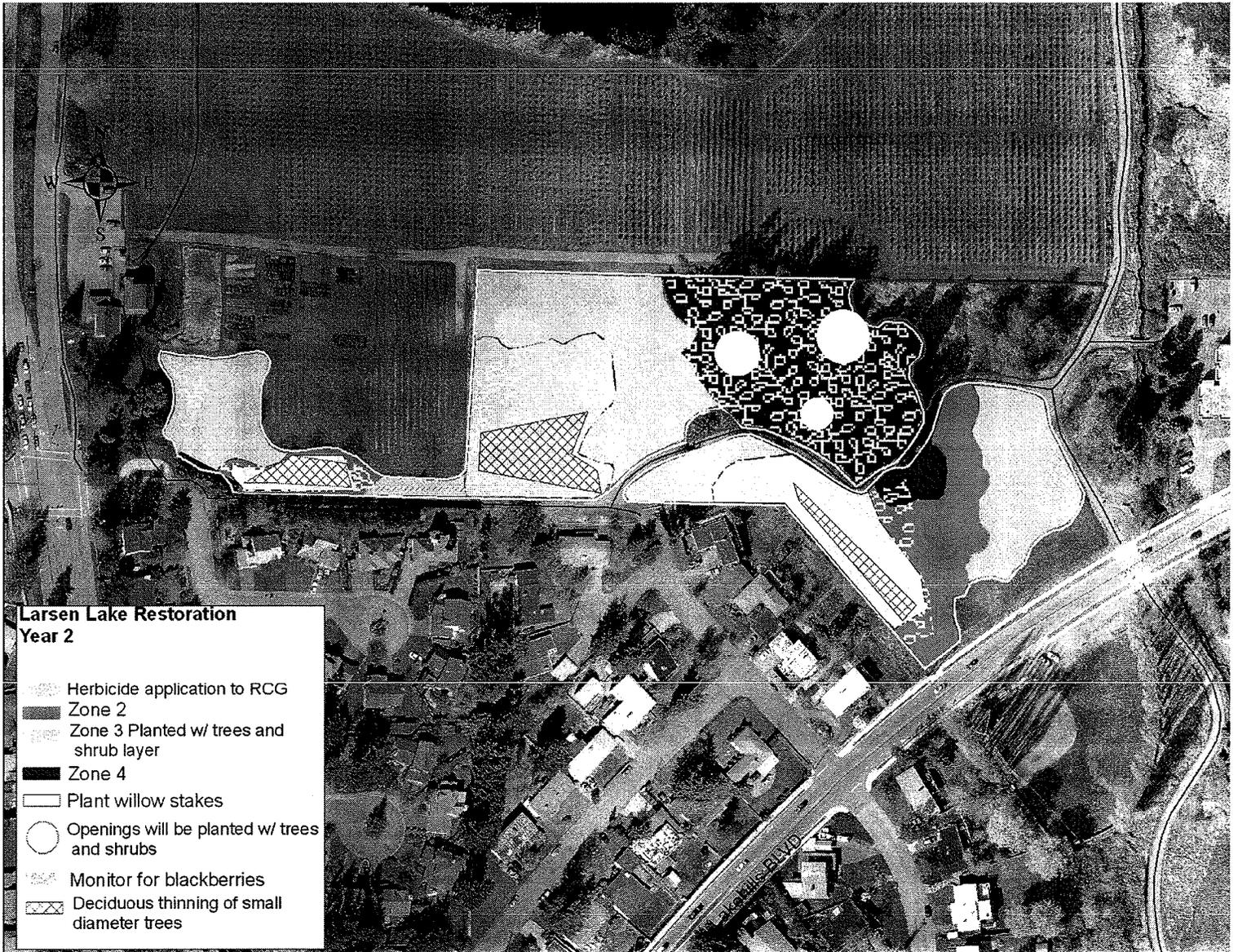


Management Actions/ 5 Year Plans

Year 1



Year 2



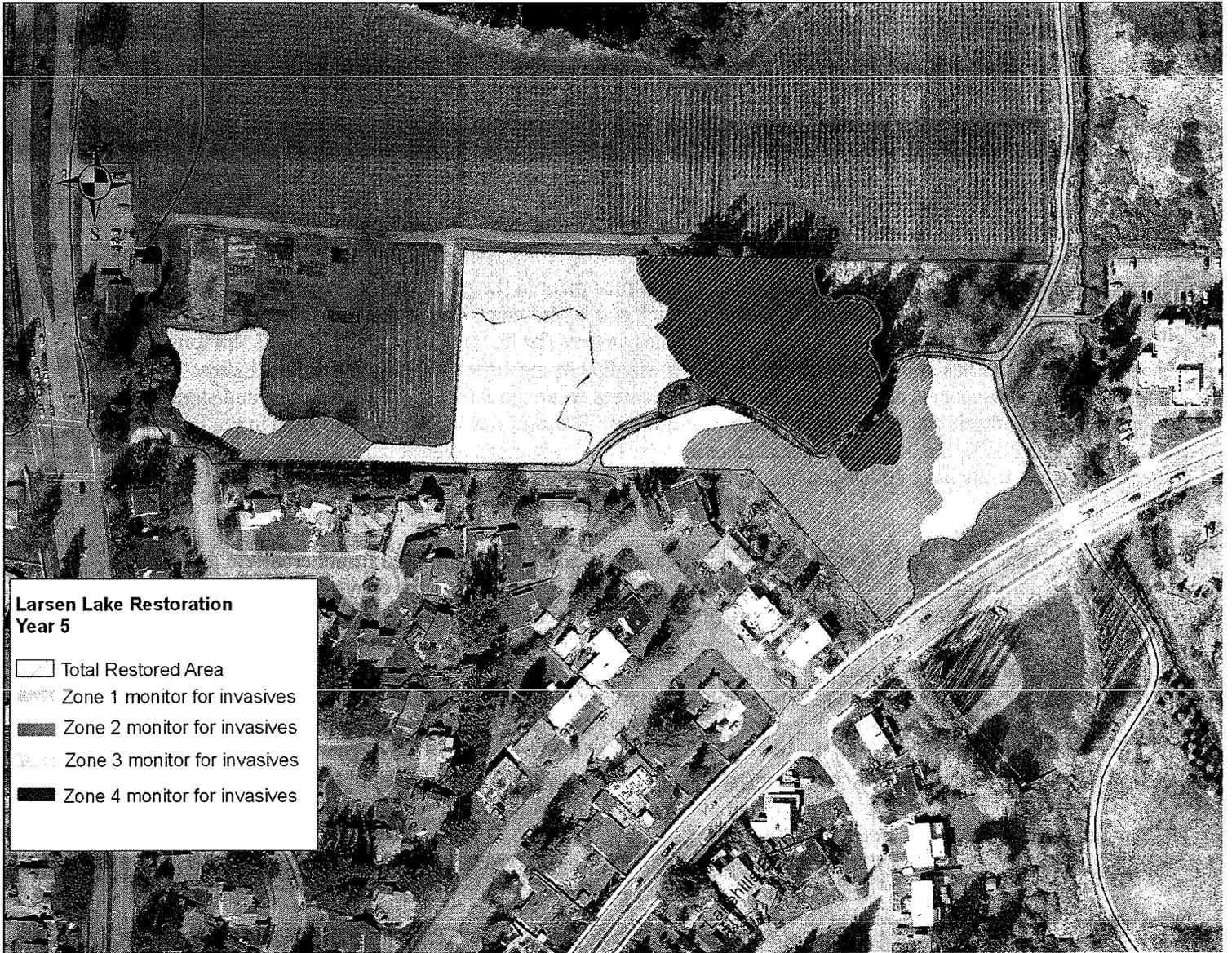
Year 3



Year 4



Year 5



APPENDIX A

Control and Management of Reed Canarygrass (*Phalaris arundinacea* L.)

Introduction

First and foremost, control of reed canarygrass (RCG) within the boundaries of the Lake Hills Greenbelt Park and its vicinity (Kelsey Creek Watershed) is paramount if the wildlife-habitat types representative of the Park and vicinity are going to improve. The relative importance of native plant diversity to native wildlife species was made apparent within the body of this report. Because RCG is, by far, the dominant invasive plant species growing within Park boundaries, the following discussion of control and management is focused primarily on RCG. Control of Himalayan blackberry and English ivy is briefly discussed later in this appendix under "Other Species".

General Description

Reed canarygrass is a perennial, cool-season, rhizomatous plant in the grass family (Poaceae / Gramineae). Its creeping rhizomes often form a thick sod layer, which can exclude all other plants. Its upright stems grow to 2 meters tall from the rhizomes, and its flat leaf blades measure up to 0.5 m long by 2 cm wide. RCG has open sheathes, hollow stems, small clasping auricles and membranous ligules. Its panicles (inflorescences) are compact and resemble spikes when immature, but become open and slightly spreading at anthesis (blooming thru stamen maturation). When in full bloom (May to June in the Pacific Northwest (PNW)), the inflorescences change in color from pale green to dark purplish, becoming straw colored when fruits have developed and dispersed.

Origin and Habitat

RCG is a native to Eurasia. A study by Meriglian and Lesica (1998) determined from herbarium specimens collected prior to 1900, determined that RCG was native to some river systems in Montana, Idaho, and Wyoming. Due to its agronomic potential, RCG trials and plantings began in Oregon as early as 1918 for pasture and erosion control. It is very likely that what is now abundant and invasive throughout many of the wetlands in the PNW are European cultivars of RCG specifically bred for high rates of growth, vigor, and adaptability to a range of environmental conditions.

RCG occurs in the PNW on both the west and east sides of the Cascades. It most commonly occurs in low elevation wetlands, wet ditches, along roadsides, and in river floodplains disturbed by past grazing or soil movement. RCG prefers seasonally or continually wet habitats and does not survive in dry upland, but can tolerate prolonged periods of drought.

Basic Reproduction and Ecology

RCG can reproduce vegetatively by its rhizomes and rhizome fragments, as well as sexually by its abundantly produced seed. Although each inflorescence can produce approximately 600 seeds, it probably has a low successful establishment rate from seeds, especially within dense infestations. Therefore, most plants and recurring populations of RCG are likely from rhizomes.

RCG rhizomes and dead stems and leaves can form a sod layer measuring over 0.5 meters thick. A few native plants may be able to survive within RCG infestations:

- Creeping spike rush (*Eleocharis palustris*);
- Common cattail (*Typha latifolia*);
- Marsh veronica (*Veronica scutellata*); and
- Columbia sedge (*Carex aperta*),

but wetlands without RCG tend to have a much higher diversity of native species.

RCG seeds can be dispersed in animal fur, on human clothing or on automobiles. The most common vector for RCG seeds and rhizome fragments however, is probably dispersal by water. RCG seeds have a relatively low rate of germination, and do not germinate in dense shade. Seedlings are susceptible to prolonged flooding, prolonged drought, and do not appear to be highly competitive with perennial native species. Established populations can survive prolonged drought and can survive over one year of flooding, especially if parts of the plant are not submerged. Large plants can effectively compete and exclude almost all native plant species, provide little food for desirable wildlife, and will perpetuate itself for many years.

Control of *P. arundinacea*

The management plan begins with a description of methods to control *Phalaris arundinacea* L. (RCG) prior to other wetland restoration activities (restoring hydrology, reestablishing native species). As achievable, the utilization of the following techniques for RCG control should be initiated at the highest points along the Park boundary (and beyond if acceptable) to minimize re-infestation of control areas via water borne contamination by RCG propagules. This plan is based on inference from the results of a thorough literature search and is also a product of the best professional judgment of the author within the context of the City of Bellevue Parks Department's multiple management objectives.

Current vegetation species composition of the site

Under this plan, the wetland areas of the property are divided into management units based on current vegetation species composition. Each area on the site is classified as one of several vegetation communities based on dominant species: 1) RCG dominated emergent wetland (RCG cover is >75%, other wetland species are present at 1-25%); 2) mixed native species/RCG emergent marsh (RCG cover is 50%, several native species are present at cover >25%); 3) native species-dominated riparian zone (several species are present at high cover, RCG cover is <25%); 4) Cattail-dominated emergent marsh (cattail cover is >75%, RCG cover is <25%); 5) Conifer/deciduous woodland (shaded area where RCG cover is substantial in patches); and 6) upland areas. Management recommendations are based on these units because RCG control strategy and subsequent native revegetation will vary according to the species composition of the area.

Hydrology

Flood pulsing and site hydrology will be important determinants of the resulting vegetation community. The control sites receive stormwater runoff from the Kelsey Creek watershed which is almost exclusively residential or an urban medium density zone. A high percentage of impervious surface in the watershed contributes to hydrologic bounce (excessive peak flow frequencies), which inhibits the survival of key native species but does not have a significant negative impact on RCG. Stormwater from urban areas is generally nutrient-rich, which increases the growth and competitive ability of RCG. Also, RCG propagules (i.e., seed, rhizome fragments) from upstream populations will likely be transported via stormwater inputs. Because hydrology of the sites will likely create conditions that favor RCG persistence, long-term management of RCG will be necessary, even after effective site management has minimized RCG populations. Although preventing dispersal of RCG propagules to the site is unrealistic, reducing hydrologic bounce and nutrient content of the stormwater will limit RCG's competitive advantage and may reduce the level of aftercare needed to control RCG.

General recommendations for RCG control

The dense populations of RCG that exist on the Park site will need to be removed for native species to establish. In addition to the existing vegetation, in areas where RCG has been established for multiple years the RCG seed bank may be as high as 1200 seeds per square meter. Because this density of the RCG seed bank presents competition for any planting of native species, it must be considered in the management plan. Seeds near the surface will germinate when the RCG canopy is removed. Subsequent herbicide applications will remove these seedlings, and burning/herbicide treatments will deplete the seed bank in this way. For the RCG seed bank to deplete to levels that will not prevent native species establishment, RCG control will likely need to take place over several growing seasons. Minimize disturbance of the soil to prevent turning up additional RCG seed in these areas. While areas are undergoing herbicide treatment, large areas of exposed soil will need to be stabilized, e.g. through the use of stabilization blankets.

Herbicide applications are a major part of the plan to control RCG. A glyphosate-based herbicide is recommended because 1) it is relatively non-toxic, 2) its effect on RCG has been demonstrated, and 3) it is widely available and easy to apply. To maximize glyphosate herbicide effectiveness, apply herbicide in the later season, after late August, to ensure translocation of the herbicide to rhizomes (and therefore rhizome mortality). Apply glyphosate herbicide at the rate and concentration specified by the label for weedy perennial grasses; this will differ with respect to the glyphosate-based product chosen. Since RCG frequently grows in wet areas, only "aquatic-approved" herbicides (i.e., Glyphosate - Rodeo(r), Aquamaster(r), Glypro(r)) are recommended by this plan for use where contamination of water is likely or unavoidable.

RCG-dominated areas will require herbicide control over several growing seasons. Removal of RCG will result in areas of temporarily exposed soil that are subject to erosion. Implementing control on selected management units separately through time will minimize erosion-related problems on site. Further discoveries about best management practices may result from observing the implementation of this plan over time, and the plan may be modified according to lessons learned during the management process (i.e., adaptive management).

Recommendations based on current species composition

For RCG-dominated emergent wetland

For RCG-dominated emergent wetlands, a broad-scale herbicide application is recommended, as damage to non-target species within these management units does not need to be considered. As described above, because of risks associated with soil erosion, management units may be divided in sections. Control of RCG in sections should be staggered over time. For example, a single and large area is divided into four treatment sections: begin treatment with sections 1 and 3 in year one, receiving herbicide applications in years 1-3, and seeded with native vegetation in year 4; begin treatment of sections 2 and 4 in year three, receiving herbicide applications in years 3-5, and seeded in year six. Apply herbicide in late August and later as this application timing maximizes translocation of the herbicide to the rhizomes, ensuring maximum rhizome mortality, which is crucial to control of RCG. Two herbicide applications can be implemented during this window if necessary.

After the standing RCG vegetation is killed in the first year of treatment, a heavy layer of thatch will remain. A controlled burn is recommended to remove thatch and encourage germination of RCG from the seed bank in the interests of reducing RCG seed bank density. Subsequent herbicide applications will control this flush from the seed bank. A late fall burn is recommended to remove thatch (spring burns may encourage growth from rhizome-based shoots).

If burning is not a plausible option, mowing (mower, brush cutter, tractor-drawn mower) may be an effective alternative for thatch management. After mowing the previously killed patch of RCG it is

recommended that the remaining above ground dead litter be removed to an upland location where it can be burned or discarded in a suitable fashion. Removal of the remaining dead litter is only a recommendation; the shredded mulch may remain but will likely inhibit seed bank germination by effectively shading the ground surface (therefore slowing depletion of the RCG seed bank). As explained above subsequent herbicide application will be required to control the expected flush from the seed bank.

For either of the above alternatives (herbicide/burning or herbicide/mowing) allow the RCG stems and leaves to regrow to boot height. This helps obtain better herbicide coverage and reduce total herbicide use, since one is spraying only living green RCG that is 12-inches tall vs. 6-foot tall stems mixed with old dead stems and leaves. Even after two years of effective herbicide application, RCG will recolonize, largely from the seed bank and from incoming propagules, and outcompete native vegetation that has begun to establish from active restoration and/or a remnant native seed bank. Therefore, three years of herbicide application are recommended as a minimum. Follow-up monitoring and treatment (i.e., manual digging, spot treatment with herbicide) should be considered for an additional several years to ensure a complete kill.

For areas with native species cover

Native species are present with substantial cover in a management area/site. For these areas, selective removal of RCG will be critical to the maintenance of these native populations. Hand weeding of RCG seedlings is recommended in the early spring as soon as they reach an identifiable stage (removal will be easiest before the seedlings establish a network of rhizomes) and herbicide wicking or spot spraying of established RCG individuals or mats in the fall (damage to non-target species will be lowest at this time when many native species have already senesced or matured). Herbicide wicking/controlled spraying is also an option in the early spring, but hand weeding is preferable, as herbicide applications during the early spring may not achieve complete mortality. This treatment schedule is also recommended for management areas dominated by cattail (*Typha* sp.). Selective control of RCG in these areas can begin immediately and continue for as long as needed.

For areas with woody species cover

These areas are invaded by RCG, although other species exist in the understory. Similar to the areas with native species cover, selective removal of RCG, rather than homogeneous treatment over a large scale area, is recommended. Hand weeding of RCG seedlings in the early spring and herbicide wicking/selective spraying of established RCG individuals in the fall is recommended. Herbicide wicking/controlled spraying is also an option in the early spring, but hand weeding is preferable, as herbicide applications during the early spring may not achieve complete mortality. Selective control of RCG in these areas can begin immediately and continue for as long as needed.

Reestablishment of native vegetation

Following control of RCG, seeding with native species restoration mix will be needed to stimulate reestablishment of native vegetation. Given that there are no high quality wetlands nearby to serve as propagule sources, and that years of drainage have made the seed bank depauperate, it is highly unlikely that vegetation will establish through natural means of propagule dispersal to this site.

Areas that have been treated with broad-scale herbicide applications must be seeded uniformly. To prepare the soil for the native seeding in late March or early to mid-April, first clear the area to remove dead vegetation (i.e., burning or mowing/raking). A wet meadow grass mixture should be seeded at 13 lbs/ac pure live seed (PLS) or greater, and a wet meadow forb mixture seeded at 4 lbs/ac PLS or greater. The combined seeding rate of 17 lbs/ac PLS is an average seeding rate, increasing seeding rate will likely increase native species establishment. Apply grass seed first, and rake into the soil. Then apply forb seed on top of the grass seed.

For areas that have received selective removal of RCG (not broadcast herbicide application), interseeding is recommended for areas left open after RCG removal. Species-appropriate seedings will be necessary, e.g. woodland forb species in the understory of areas with woody species cover, and aquatic species in the cattail-dominated emergent wetland/s.

After seeding with native species, monitoring of RCG recruits will likely be necessary for as long as the site is exposed to an influx of new RCG propagules (i.e., indefinitely). As native species begin to establish, selective removal of new recruits of RCG is recommended as they emerge within the establishing native community, via hand-weeding or selective treatment with herbicide.

Prevention

Prevention of new invasions is the most efficient and cost effective method of invasive species management and control. Maintaining a healthy community of native or otherwise desirable plants, taking care to not disperse RCG seed or propagules, and carefully monitoring managed areas periodically (especially along roadside ditches and other disturbed areas) and eradicating small RCG populations as soon as possible and in neighboring lands can greatly benefit efforts to manage the reestablishment or spreading of RCG.

Another prevention method is to work to change those environmental conditions that allowed RCG invasion in the first place. Recent research completed from Wisconsin and Minnesota has shown that when levels of available soil nutrients (namely nitrogen) are reduced via carbon enrichment (pine saw dust) a native sedge is able to competitively suppress the growth of RCG. In addition, sustaining a mosaic of microtopographies (by preventing sediment accumulation) facilitates native species richness, and maintaining complex herbaceous canopies also work to prevent RCG infestation, since RCG seed germination is dependent on amounts of light penetration.

Other strategies

Restoration/Competition

Planting fast-growing shrubs or trees may eventually eliminate RCG since it is intolerant of year-round shade, but depending on management goals and objectives, this may not be a viable option. In the Puget Sound region where forested wetlands are common, planting native evergreen trees (Douglas fir, Sitka spruce) may be desirable and can successfully shade-out and eliminate RCG. One way to add conifers into a RCG dominated system is to cut holes into large downed woody debris, and plant the conifer seedling into that hole. If planting trees directly into the RCG wetland, the trees will do better if the RCG is kept mowed, or if the trees are planted on top of soil mounds.

Planting of coniferous trees into a system may not be desirable. Because RCG can survive under the deciduous canopy of cottonwoods and Oregon ash, the planting of these trees and other native shrubs alone is not likely to be successful at fully eliminating RCG. However, the City of Portland Bureau of Environmental Services reports success with planting high-density cottonwood or alder. Where they have reached a closed Canopy by year five, they report almost near eradication of RCG. While this is not true eradication, it is enough to allow success in moving the site into an artificial conifer succession stage justifying further efforts in establishing native forbs.

The likeliest scenario for successful exclusion of RCG using native species is habitats that are marginal for RCG in the first place; those that are submerged for much of the year.

In the transitional zone between the emergent plant community and the upland, where it is most difficult to manage RCG and native sedges, grasses and other emergent species have difficulty in holding their own against RCG. The City of Portland Bureau of Environmental Services suggests those areas are most easily managed by planting either one of the two following strategies:

1. live stakes- living branch sections from adapted trees/shrubs like willow and dogwood;
2. shrub clusters- first scalp the sod off the top of an area about 5-feet by 3-feet, then plant a cluster of shrubs (10 per cluster) and mulch well with a coarse grained mulch which will keep RCG from coming up from the bottom but also prevent broadleaf weed invasion from the top.

Summary of Control Options

There is no immediate one-year “fix” to convert a RCG infestation into a native community, but much can be accomplished within 2 to 3 years. Continued monitoring and follow-up treatments will be required for up to 5 to 10 years to prevent reinvasion.

Reed canarygrass is difficult to control due to its persistent rhizome system and its ability to reproduce both vegetatively and sexually. However, depending on available time and resources, even highly infested areas can be restored to more desirable vegetation. An adaptive management process is suggested to determine management objectives, develop a work plan, and allow for continual plan updating as the results from plan actions become apparent. The successful restoration of a wetland system from RCG will likely involve the following five step process.

1. The control/removal/kill/local eradication of the existing RCG plants and rhizomes system.
2. Exhausting the RCG seed bank.
3. Depending on the age of the RCG infestation, active restoration (replanting or reseeding of desirable vegetation) may be required. If the RCG infestation is no older than 5 to 10 years, enough of a remnant native seedbank may be present to allow passive restoration.
4. Prevention of new seeds or stem fragments from entering the managed area, and/or changing the conditions that facilitate RCG invasion (i.e., nitrogen loading, constant exposure to the sun, offsite sources of invasive components).
5. Dedicated monitoring and follow-up treatments are normally necessary for lasting results.

There are a variety of methods available for the control of RCG. Which method or combination of methods chosen will depend ultimately on project/plan management goals and objectives (i.e., full wetland restoration or the addition of structural diversity to a riverbank). In addition, investment of resources and for how long, what resources are readily available, and the size, distribution, and location of the RCG infestation will all be factors in determining what option or combination of options will be chosen to manage RCG. Typically, long-term successful management and control of RCG requires a multi-year commitment.

Other Species

Himalayan Blackberry (*Rubus discolor*)

Himalayan blackberry is a shrubby weed that is native to Eurasia and has naturalized throughout Washington in riparian areas and other moist, disturbed sites. Himalayan blackberry is known to take over entire stream channels and ditch banks shading out nearly all other vegetation.

Control of Himalayan blackberry is considered very difficult because it is so successful at vegetative reproduction and dispersal (birds). Two widely used removal and/or control methods are as follows.

- The first method consists of cutting the canes and then grubbing the roots. Resprouting is generally abundant, and many years of follow-up are necessary.
- The second method involves hand cutting of canes followed by a highly targeted, cut-stump application (wicking) of approved herbicide (glyphosate) in the fall, when carbohydrates are

being translocated to the roots. This method is particularly useful on rocky stream banks or under other conditions where removal of roots is not possible or feasible by hand.

English Ivy (*Hedera helix*)

English ivy is a vine and native to Europe. It can be found anywhere people have lived as it is a popular landscaping plant. English ivy is one of the few exotics that can become established and grow in deep shade. It forms thick carpets on forest floors thereby choking out native vegetation, including tree seedlings. It can creep up trees and extend into the canopy weighing down branches causing them to break. Its range is difficult to control because its berries are eaten and seeds dispersed by birds. English ivy infestations may be eradicated as follows.

- Stems and roots of ground based infestations must be pulled and the area monitored for resprouts.
- Cutting vines from ground level will kill all ivy growing on and into the canopy of trees.

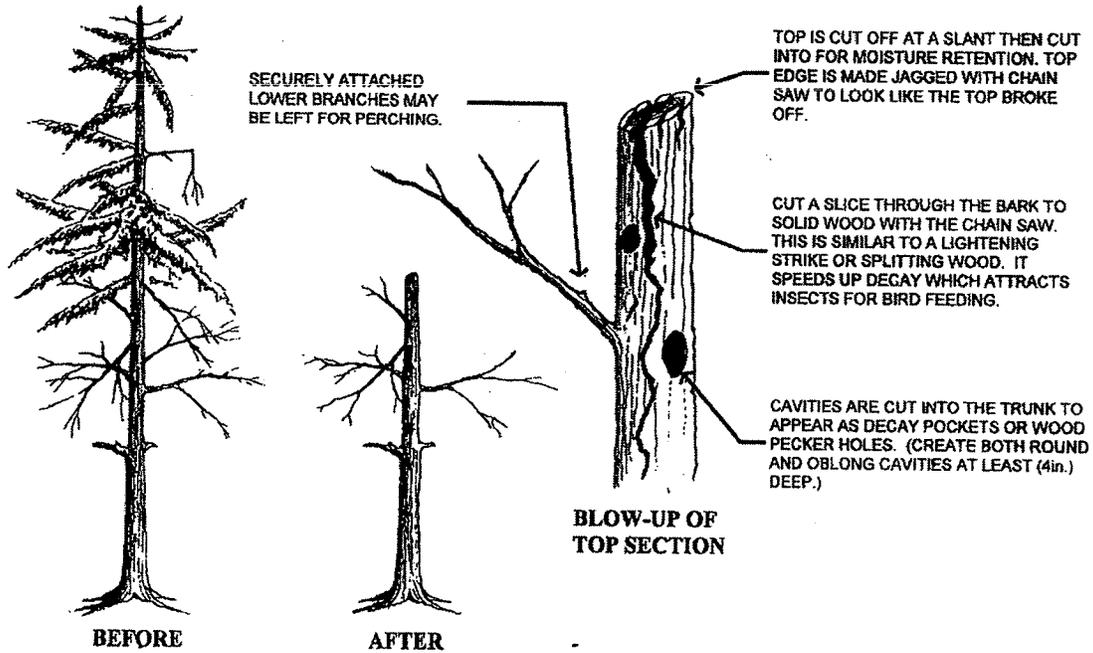
Appendix B

Larsen Lake Management Area Plant Pallet		zone 1 meadow	zone 2 deciduous	zone 3 mixed	zone 4 coniferous
Western redcedar	<i>Thuja plicata</i>			+	+
Western hemlock	<i>Tsuga heterophylla</i>			+	+
Sitka spruce	<i>Picea sitchensis</i>	+		+	+
vine maple	<i>Acer circinatum</i>	+		+	+
shore pine	<i>Pinus contorta</i>	+			
Cascara	<i>Rhamnus purshiana</i>	+		+	
salmonberry	<i>Rubus spectabilis</i>	+		+	+
Oregon grape	<i>Mahonia nervosa</i>	+		+	+
Indian plum	<i>Oemlaria cerasiformis</i>	+		+	+
elderberry	<i>Sambucus racemosa</i>			+	+
red dogwood	<i>Cornus sercicea</i>	+	+		
hooker willow	<i>Salix hookeriana</i>		+		
pacific willow	<i>Salix lasiandra</i>		+		
sitka willow	<i>Salix sitchensis</i>		+		
saskatoon	<i>amelanchier alnifolia</i>	+			
beaked hazelnut	<i>Corylus cornuta</i>	+		+	+
snowberry	<i>Symphoricarpos albus</i>	+		+	
red huckleberry	<i>Vaccinium parviflorum</i>			+	+
Pacific Ninebark	<i>Physocarpus capitatus</i>	+		+	
sword fern	<i>Polystichum munitum</i>	+		+	+

Plant spacing will be dependent on the site conditions after it has been cleared of invasive species and size and availability of plants ordered. Areas with no shrub or tree layer will be more heavily planted in an attempt to crowd out the invasive species. Existing plant density will be taken into account in areas that have a partial tree or shrub layer and will be planted accordingly. The City of Bellevue's Critical Areas Handbook plant spacing recommendations will be used as applicable.

Appendix C

WILDLIFE SNAG DETAIL
NOT TO SCALE



FROM : URBAN FORESTRY SERVICES, INC.

PHONE NO. : 360/428-1822

May 17 2002 09:28AM P2

URBAN FORESTRY SERVICES, INC.
Urban Forest Nursery
Ph: 360/428-5810 Fax: 360/428-1822
15119 McLean Road
Mount Vernon, WA 98273

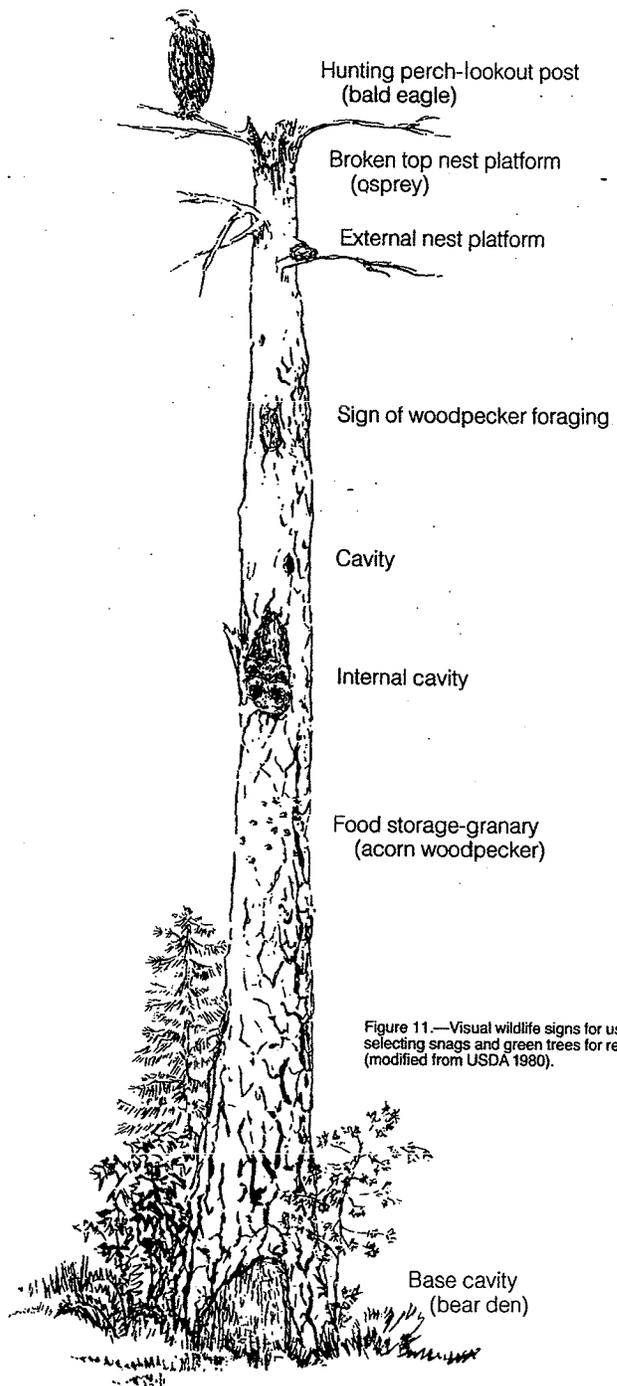


Figure 11.—Visual wildlife signs for use in selecting snags and green trees for retention (modified from USDA 1980).

JULY 1 11:11 AM
Aug. 11, 2010

City of Bellevue Submittal Requirements

27a

ENVIRONMENTAL CHECKLIST

4/18/02

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

BACKGROUND INFORMATION

Property Owner: *City of Bellevue*

Proponent: *COB Parks & Community Services*

Contact Person: *Kali Hopf*

(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: *450 110th Ave NE Bellevue WA 98004*

Phone: *206-255-8137*

Proposal Title: *Larsen Lake Management Plan*

Proposal Location: *Township 24 Range 5E Section 2*

(Street address and nearest cross street or intersection) Provide a legal description if available.

Please attach an 8 1/2" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: *Removal of non-native invasive species and replant with native site specific plants over a 5yr period.*
2. Acreage of site: *5.22 acres*
3. Number of dwelling units/buildings to be demolished: *N/A* ✓
4. Number of dwelling units/buildings to be constructed: *N/A* ✓
5. Square footage of buildings to be demolished: *N/A* ✓
6. Square footage of buildings to be constructed: *N/A, 0* ✓
7. Quantity of earth movement (in cubic yards): *N/A, 0*
8. Proposed land use: *Vegetation enhancement* *LUC 20.25H.055.C.3.i.i*
9. Design features, including building height, number of stories and proposed exterior materials: *vegetation management*
10. Other: *N/A*

Estimated date of completion of the project or timing of phasing:

5 year plan

Plans included for each year

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Vegetation will be monitored and maintained.

For 3 yrs after any planting activity (condition of approval)

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

None

Lake Hills Greenbelt Park Wildlife ~~Enhancement~~ - Habitat Assessment & Enhancement Rec's

July 25, 2006, Skilling/Connolly

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

Critical Areas Land Use Permit (XE)

Clear and Grade in Critical Areas (XB) Shoreline Substructure Development (XQ)

Please provide one or more of the following exhibits, if applicable to your proposal. (Please check appropriate box(es) for exhibits submitted with your proposal):

- Land Use Reclassification (rezone) Map of existing and proposed zoning
- Preliminary Plat or Planned Unit Development Preliminary plat map
- Clearing & Grading Permit Plan of existing and proposed grading Development plans •
- Building Permit (or Design Review) Site plan Clearing & grading plan
- Shoreline Management Permit Site plan

for removal of veg.

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: Flat Rolling Hilly Steep slopes Mountains Other

b. What is the steepest slope on the site (approximate percent slope)?

15%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Seattle muck (Sk) and Arents, Alderwood material (AmC)

SN

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. ✓

No

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill. ✓

None

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. ✓

The removal of exotic species could cause erosion due to clearing.

Erosion Control per
CA 9 Inspector
BCC 23.76 ✓

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

None

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: ✓

Areas will be replanted and maintained after any clearing activity.

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. ✓

Hand operated power tools will add to air pollution as well as ride-on mowers

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. ✓

No

c. Proposed measures to reduce or control emissions or other impacts to the air, if any: ✓

Hand operated power tools and ride on mowers will be the only tools used, nothing larger

3. WATER

a. Surface

(1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If

appropriate, state what stream or river it flows into.

Larsen Lake is to the North of the project site and canals connecting that lake to Phantom Lake are to the East of the project site.

Work in associated wetland
Kelsey Creek Basin
Phantom Lake

- (2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

No the project site is too far from the water source

- (3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

in associated wetlands not in water
out of floodplain as mapped on FEMA maps

- (4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No

- (5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No

- (6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b. Ground

- (1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

No

~~Temporary ground water discharge~~

- (2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

N/A

c. Water Runoff (Including storage)

(1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

N/A

(2) Could waste materials enter ground or surface waters? If so, generally describe.

N/A

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

N/A

4. Plants

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

noxious species:
Red Canary Grass, Ivy, Knotweed, Blackberry

Refer to Lake Hills Greenbelt Park -
Wildlife Assessment & Enhancement
Recommendations by Skilling/Connolly
in project file
Project includes removal of noxious
species, especially Red Canarygrass
and replanting w/ native species.

b. What kind and amount of vegetation will be removed or altered?

Invasive exotic species will be removed, this includes Red canarygrass and Himalayan blackberry. The entire site will have these species removed. Smaller trees and declining trees will be thinned and replanted with site specific tree species.

c. List threatened or endangered species known to be on or near the site.

None Known

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Installing native vegetation tree and shrub layers on the site.

Please spacing per
Critical Areas Handbook
in file

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: hawk, heron, eagle, songbirds, other:

Mammals: deer, bear, elk, beaver, other:

Fish: bass, salmon, trout, herring, shellfish, other:

species of lowlands forest, herbaceous wetlands, urban/mixed environ
 ✓ Refer to Lake Hills Easement + File
 Wildlife Assessment by Skillings/Conroy 7/24/06
 In project file ✓

b. List any threatened or endangered species known to be on or near the site.

None known

c. Is the site part of a migration route? If so, explain. ✓

Yes, for migratory bird species due to its proximity to a body of water (Larsen Lake)

d. Proposed measures to preserve or enhance wildlife, if any: ✓

Native vegetation installed, creation of wildlife snags

removal of noxious species. snags added
 Enhanced habitat via wood recruitment & snags

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy need? Describe whether it will be used for heating, manufacturing, etc.

N/A

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. ✓

No

c. What kinds of energy conservation features are included in the plans of the proposal? List other proposed measures to reduce or control energy impacts, if any: ✓

N/A

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. ✓

exposure to exhaust from hand power tools, and to herbicides designated for wet area use.

(1) Describe special emergency services that might be required. ✓

None

(2) Proposed measures to reduce or control environmental health hazards, if any.

Hire trained professionals, Hire licensed professionals

Condition of Approval - use only "aquatic approved" glyphosate-based herbicide - info must be submitted to land use and use in accordance w/ COB Environmental Best Management Practices
 ✓ COB BMPs

b. Noise

- (1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)? ✓

None

- (2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site. ✓

Noise from power tools. Work hours constrained by
Noise Control Code 9-18 COB.

BCC 9-18
Noise Ordinance ✓

- (3) Proposed measures to reduce or control noise impacts, if any: ✓

None

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties? ✓

Open space and trails surrounded by residences to the south and a blueberry farm to the north

- b. Has the site been used for agriculture? If so, describe. ✓

No

- c. Describe any structures on the site. ✓

None

- d. Will any structures be demolished? If so, what? ✓

No

- e. What is the current zoning classification of the site? ✓

R-1

- f. What is the current comprehensive plan designation of the site? ✓

P/SF-L

- g. If applicable, what is the current shoreline master program designation of the site? ✓

N/A

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify. ✓

comprehensive
Plan for
southeast Bellevue subarea ✓

- i. Approximately how many people would reside or work in the completed project? ✓

None

- j. Approximately how many people would the completed project displace? ✓

None

- k. Proposed measures to avoid or reduce displacement impacts, if any? ✓

N/A

41

- i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: ✓

None

*Veg Management
plan per LWC
20-25TH-0555.C.3.i*

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. ✓

N/A

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. ✓

N/A

- c. Proposed measures to reduce or control housing impacts, if any: ✓

N/A

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? ✓

N/A no structures proposed

- b. What views in the immediate vicinity would be altered or obstructed? ✓

N/A

- c. Proposed measures to reduce or control aesthetic impacts, if any: ✓

N/A

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? ✓

None

- b. Could light or glare from the finished project be a safety hazard or interfere with views? ✓

No

no lighting

c. What existing off-site sources of light or glare may affect your proposal? ✓

None

d. Proposed measures to reduce or control light or glare impacts, if any: ✓

N/A

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity? ✓

Walking trails, wildlife viewing

b. Would the proposed project displace any existing recreational uses? If so, describe. ✓

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: ✓

Increased habitat will increase wildlife viewing

~~increased~~

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe. ✓

No

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site. ✓

None

c. Proposed measures to reduce or control impacts, if any: ✓

None

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. ✓

Lake Hills Boulevard to the south and 148th Ave SE to the West

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? ✓

NA

c. How many parking spaces would be completed project have? How many would the project eliminate? ✓

N/A

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). ✓

NA

no new roads

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. ✓

No

SN

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur. ✓

None

g. Proposed measures to reduce or control transportation impacts, if any: ✓

N/A

BCC 14.30
R.O.W. we permit
may be needed for
Hauling

15. Public Services

a. Would the project result in an increased need for the public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe. ✓

No

b. Proposed measures to reduce or control direct impacts on public services, if any. ✓

N/A

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None Utilities in vicinity, but not needed for this proposal

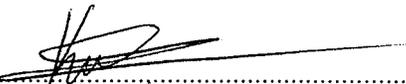
b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. ✓

N/A none

shown on
plans. Work does
not require utilities/
will not interfere

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature 

Date Submitted 6/21/10