City of Bellevue
Department of Planning and Community Development
Development Services Staff Report

Proposal Name:	Lower Coal Creek Sediment Pond
Proposal Address:	Coal Creek Natural Area
Proposal Description:	Application for Critical Areas Land Use Permit to construct an in-stream sediment pond with the capacity to capture 1,500 cubic yards of sediment per year in Coal Creek, a Type F stream. This project is part of a larger effort to control sediment erosion, transport, and deposition resulting from past coal mining and other watershed activities. Proposed work is part of the Coal Creek Stabilization Program which was reviewed under a programmatic Final EIS under file #05-117838 LE.
File Number:	07-132603 LO
Applicant:	Bruce Jensen, City of Bellevue Utilities Department
Decisions Included:	Critical Areas Land Use Permit (Process II - LUC 20.30P)
Planner:	Matthews Jackson, Planning Manager
State Environmental Policy Act Threshold Determination:	**Determination of Non-Significance** Carol V. Helland, Environmental Coordinator Department of Planning and Community Development
Director's Decision:	**Approval with Conditions** Matthew A. Terry, Director Department of Planning and Community Development

Application Date:	9/17/07
Notice of Application Publication Date:	10/18/07
Decision Publication Date:	2/7/08
Project Appeal Deadline:	2/21/08

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

I. Background

A. Project Description

The sediment pond is intended to provide a long, linear pond to minimize disturbance of adjacent areas, including stream side wetlands. The overall project length is approximately 340 feet, while the pond length is approximately 260 feet. The sediment pond will have an average width of 54 feet based on the proposed location of the ordinary high water mark. The total project footprint is .6 acres which includes .18 acre of stream channel and .42 acre of forested buffer. The side slopes of the banks will be approximately 3 horizontal l:1 vertical with the possibility of some areas being 2:1 to provide additional meandering. A total of six new weir structures are proposed at the upstream and downstream ends of the facility. The weirs are required to fit the sediment pond within the existing stream gradient. A single permanent access road at the downstream end of the pond and a stream flow bypass system will be developed for initial pond construction and annual maintenance.

Another significant design feature of the proposal includes the placement of large wood debris (LWD) along both banks of the pond and mitigation planting of native vegetation along the edges of the pond. LWD will be secured in place with anchors, but removable to facilitate annual maintenance activities. The goal of placing LWD along both banks of the pond is to create scour pools when the pond is full of sediment and to provide cover for salmonids.

Pursuant to LUC 20.25H.055.B, the sediment pond and weirs are considered in-stream structures and are allowed developments within critical areas and critical area buffers. In order to receive approval, the proposal must satisfy a range of performance standards intended to mitigate potential adverse impacts. A detailed discussion of applicable performance standards and how these standards are being met is included in Section V of this staff report.

B. Site Description

The project is located in the Coal Creek Natural Area in Section 16, Township 24 North, Range 5 East. The proposed sediment pond would be located on lower Coal Creek east of I-405, south of Coal Creek Parkway, at approximate river mile .9 upstream from Lake Washington. The site is located within Coal Creek Park which is a 550 acre park that is owned and managed by the City of Bellevue. The park is largely undeveloped and consists of third growth forest in a steep ravine with unpaved pedestrian trails.

C. Need For Improvement

The City of Bellevue has been mandated per a legal settlement agreement to undertake a number of projects in order to reduce the amount of sediment that accumulates at the delta of Coal Creek at Newport Shores. One of the required elements of the settlement agreement includes the construction of a sediment pond at or near the existing I-405 pond that has the capacity to capture 1,500 cubic yards of sediment on an annual basis. This project is part of the Coal Creek Stabilization Program which was evaluated with a programmatic Final Environmental Impact Statement.

II. Site Description and Context

A. Critical Areas:

Coal Creek - The proposed sediment pond is located in Coal Creek which is a Type F, fish-bearing stream. Activities within a Type F stream are restricted by the City of Bellevue Land Use Code Critical Areas Overlay District requirements. In-stream structures, such as sediment ponds, are identified in the Land Use Code as allowed activities under section LUC 20.25H.055. As an allowed activity, this proposal must meet the performance standards outlined in LUC 20.25H.055.C.2, LUC 20.25H.055.C.3.d, LUC 20.25H.080.A, and LUC 20.25H.080.B. These requirements are discussed in detail below.

Wetlands – Four wetlands have been identified within the immediate vicinity of the proposed work area. The original wetland delineation in this area was conducted in 1997. Wetland data forms were provided as Appendices F – I of the Lower Coal Creek Sediment Pond Critical Areas Report dated July 20, 2007 prepared by David Evans and Associates, Inc. The sediment pond has been located to avoid wetlands, and no direct or indirect wetland impacts will occur as a result of the proposal. The associated wetland critical area buffers are contained within the overlapping stream critical area buffer of Coal Creek. As an allowed activity, this proposal must meet the performance standards outlined in LUC 20.25H.100 as discussed in detail below.

Habitat Associated with Species of Local Importance - Several species of local importance are in the vicinity of the project area. As such, the project area is restricted by the City of Bellevue Land Use Code Critical Areas Overlay District requirements. Land uses consistent with the underlying land use district are allowed within habitats associated with species of local importance provided the activity complies with performance standards outlined in LUC 20.25H.160.

III. State Environmental Policy Act (SEPA)

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

Adverse impacts which are less than significant are usually subject to City Codes or Standards which are intended to mitigate those impacts. Where such impacts and regulatory items correspond, further documentation is not necessary. For other adverse impacts which are less than significant, Bellevue City Code Sec. 22.02.140 provides substantive authority to mitigate impacts disclosed through the environmental review process.

Incorporation by reference means the inclusion of all or part of any existing document in an agency's environmental documentation by reference. Pursuant to WAC 197-11-635, the Final Environmental Impact Statement for the Coal Creek Stabilization Program is incorporated by reference. This document provides a historical perspective on impacts of mining and development within the watershed and how those activities have affected the sediment load to the creek. This

document also includes an analysis of several different projects intended to reduce sedimentation in the creek including bank stabilization, in-stream sediment ponds, local source controls, as well as no action. The FEIS includes a final determination on the scope of projects that ultimately make up the Coal Creek Stabilization Program. Copies of the FEIS are available for review at City Hall during regular business hours and may be purchased.

A. Earth and Water

Mapped soils within the project area include, but aren't limited to Alderwood and Kitsap series. Pond construction will require approximately 1,100 cubic yards of excavation of sand, silt, gravel, cobble, and old mine tailings. To mitigate impacts to earth resources, the applicant will be required to implement a temporary erosion and sedimentation control plan (TESCP) based on Best Management Practices (BMPs). Elements to be included in the TESCP include covering of all exposed soils including stockpiles, use of City of Bellevue erosion control standards such as silt fences, construction entrances, and tree protection, as well as restriction of clearing and grading activity during the rainy season and storm events. The TESCP will be reviewed and approved as part of the required clearing and grading permit. See Section X for related conditions of approval.

Coal Creek is a Type F stream that is a tributary to Lake Washington. Flows from the creek will be temporarily diverted during construction activities and maintenance. A stream bypass pipeline will be constructed to allow for the isolation of the work area during maintenance activity. Other elements intended to mitigate potential impacts to water quality include turbidity monitoring, spill kits to be kept on site, materials to be placed in the water such as riprap will be sediment free, and water pumped from the work area will be treated to remove suspended sediment prior to returning it to the stream. Work within the stream will be limited to the approved fish window for Lake Washington and its tributaries. See Section X for a related condition of approval.

B. Animals

The project is within the Coal Creek Natural Area which is used by many birds, mammals, and fish. Birds and animals identified in the environmental checklist include songbirds, hawks, heron, deer, and beaver. A known beaver den is located in the work area and those animals will be moved out of the project area prior to commencing construction activity. Temporary impacts of construction and the removal of native vegetation to facilitate construction of the sediment pond will impact birds and mammals, however those impacts are not considered significant and will be mitigated with supplemental/mitigation native vegetation planting.

According to the Critical Areas Report titled The Lower Coal Creek Sediment Pond Critical Areas Report dated July 20, 2007 prepared by David Evans and Associates Inc., fisheries resources in Coal Creek include anadromous and resident species including fall Chinook salmon, coho salmon, sockeye salmon, winter steelhead, resident cutthroat trout, sculpin, and largescale sucker. The proposal was required to get an Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation from the Army Corp of Engineers (Corp) in order to comply with the Endangered Species Act for Puget Sound Chinook salmon and Puget Sound steelhead. A Biological Assessment dated July 20, 2007 prepared by David Evans and Associates, Inc. and a Memorandum for the Services dated August 31, 2007 were reviewed by the National Marine Fisheries Service (NMFS) and the Army Corps of Engineers. Consultation with NMFS and the Corps resulted in the following findings:

The project "may affect, not likely to adversely affect" Puget Sound Chinook salmon;
The project will have no effects on critical habitat associated with Puget Sound Chinook salmon;
The project "may affect, not likely to adversely affect" Puget Sound steelhead.

Review under the Magnuson Stevens Fishery Conservation and Management Act requires review of activities that may adversely affect essential fish habitat which are those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. NMFS determined that converting approximately 340 feet of stream and wetland buffer habitat to a sediment pond effectively eliminates low gradient spawning and rearing habitat. In addition, as the pond fills with sediment each year it can cause sheet flow across the pond and cause temporary impassable conditions at low flows for periods of weeks or months. In order to mitigate for these impacts, NMS offered the following conservation recommendations pursuant so Section 305 of the Magnuson Stevens Act in a concurrence letter dated October 5, 2007:

1. The pond shall be monitored for impassable conditions and attempts made to keep a passable channel open at all times.

2. The ponds should be monitored for seasonal use by juvenile and adult salmonids.

3. All fish handled during fish exclusion activities shall be documented as to species, size, and condition upon release.

The City of Bellevue Utilities Department intends to implement these recommendations by adding additional monitoring requirements to the Standard Operating Procedures manual for the new pond, detailed monitoring and data collection by the City Salmon Watcher Program and during maintenance activities, and supplemental electro-fishing surveys.

In order to mitigate impacts to fish when they are most at risk, in-water construction activities are limited to the approved work window of July 1 – August 31. In addition, a Hydraulics Project Approval is required from the State Department of Fish and Wildlife, which may also limit the times of construction to periods which will be less impacting to the fisheries resources. Refer to Section X for related conditions of approval.

One great blue heron has been observed foraging in the project reach, but no rookeries are known to exist within one mile of the project area. No nests have been observed in the project area. Impacts to great blue heron would be limited to exclusion from the immediate project area during construction and maintenance activities.

One red tailed hawk was observed flying over the project area during one of the site investigations, however, no nests have been observed in the project area. According to the Critical Areas Report, use of the project area is likely limited to migration between more suitable foraging and nesting habitats. Perching and foraging within the project area likely and habitat could support future nesting attempts. The removal of 37 trees with this proposal will result in a negligible reduction in the overall canopy cover in the vicinity and perching, foraging, and nesting opportunities for red tailed hawks will be sustained. As the proposed mitigation planting matures, significant numbers of new coniferous trees will provide more diversified habitat.

C. Plants

Upland areas are primarily forested and dominated by deciduous species. Red alder and black cottonwood are the most prevalent species. Big leaf maple and bitter cherry are also present. There are a few isolated mature conifers such as western red cedar, western hemlock, and Douglas fir. The shrub layer is dominated by salmonberry and Indian plum but other species such as scouler willow, red elderberry, and snowberry are also present. Downed logs are generally absent and in general, uplands in the project vicinity lack a coniferous component and downed woody debris.

Construction of the pond will result in the removal of approximately 37 trees with a dbh greater than 8 inches. Trees impacted are primarily red alder with a dbh of 8 to 10 inches with the largest being 14 inches dbh. A few black cottonwood trees will also be removed. In order to mitigate for the loss of these trees and for impacts to fisheries resources associated with the construction of the sediment pond, the proposal includes a mitigation planting plan that includes three tiers of new vegetation including more than 500 new conifers consisting of 108 western red cedar, 66 sitka spruce, 180 Douglas fir, 55 western hemlock, 46 black cottonwood, and 52 Oregon ash. Various shrubs and ground cover are included such as vine maple, red osier dogwood, pacific ninebark, salmonberry, and snowberry. The Buffer Mitigation Landscape Plan and Buffer Mitigation Plant Schedule, sheets L-3 and L-4 of 5 dated July 3, 2007 must be implemented as part of the required clearing and grading permit. This mitigation has been reviewed and determined to be consistent with the planting guidelines established within the City of Bellevue Critical Areas Handbook. See conditions of approval in Section X of this report.

D. Noise

The site is within the Coal Creek Natural Area. Construction noise will be limited by the City's Noise Ordinance (Chapter 9.18 BCC) which regulates construction hours and noise levels. See condition of approval in Section X of this report.

IV. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:
The site is located in the R-1 zoning district. No structural elements are included with the proposal, therefore, an analysis of compliance with dimensional requirements is not applicable.

B. Critical Areas Requirements:
The City of Bellevue Land Use Code (Section 20.25H.025) designates streams and wetlands as critical areas. The sediment pond proposed with this application is an allowed activity identified by LUC 20.25H.055.B under the category of "in-stream structures". As an allowed activity, the proposed development must meet the requirements identified in LUC 20.25H.055.C.2, 20.25H.080A & B, and LUC20.25H.100. LUC 20.25H.055.C.3.d establishes performance standards for in-stream structure projects within the critical area or critical area buffer. LUC 20.25H.080.A & B establish performance standards specific to Type S and F streams, LUC 20.25H.100 establishes performance standards specific to wetlands, and LUC 20.25H.160 establishes performance standards specific to species of local importance.

V. Consistency With Land Use Code Critical Areas Performance Standards:

A. Consistency With LUC 20.25H.055.C.3.d

d. In-stream Structures. In-stream structures may be permitted only in accordance with a design prepared by a qualified professional and where the applicant demonstrates measurable benefits, such as decreased erosion, peak flow reduction, improved water quality, stream stabilization or improved habitat from the proposal. The applicant shall obtain any required state or federal permits prior to undertaking development.

Finding: The sediment pond has been designed by qualified professionals with a stated goal of reducing sediment and improving water quality in Coal Creek. The pond is designed with the capacity to capture 1,500 cubic yards of sediment per year. The applicant is in the process of securing required state and federal permits, including but not necessarily limited to Hydraulic Project Approval, Army Corp of Engineers, and Endangered Species Act compliance.

B. Consistency With LUC 20.25H.080.A: Streams - Performance Standards - General

Development on sites with a Type S or F stream or associated critical area buffer shall incorporate the following performance standards in design of the development, as applicable:

1. Lights shall be directed away from the stream.

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

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

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

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

6. Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream critical area buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended.

Finding: No lights will be installed. Construction of the sediment pond will require the use of different types of equipment including a tracked excavator, back hoe, dump trucks, generators, pumps, chain saws, and various hand tools. No pile driving or blasting will be required. Construction related noise will have a temporary impact on wildlife in the area that is not considered significant. Less

than 500 square feet of new impervious surface will be created to construct an access path for maintenance purposes. Maintenance is anticipated to take approximately two weeks to complete on a yearly basis. No toxic runoff is anticipated from these activities. Water pumped from the work area will be treated to remove suspended sediments prior to returning to the water. The mitigation planting plan includes both trees at 10 feet on center and live stakes at 2.5 feet on center at the perimeter of the project limits. No use of pesticides, insecticides, or fertilizers has been proposed with this project. The applicant must submit as part of the required Clearing and Grading Permit information regarding the use of pesticides, insecticides, and fertilizers in accordance with the City of Bellevue's "Environmental Best Management Practices." See related condition of approval in Section X.

C. Consistency with LUC 20.25H.080.B:
Streams – Performance Standards – Modification of Stream Channel

i. **When Allowed.** The construction of the sediment pond is considered an in-stream structure. Therefore, modification of the stream channel is allowed pursuant to LUC 20.25H.080.B.1.d. The modification of the stream channel in this project is limited to the widening of the channel to create the sediment pond, installation of six weir structures, and a stream flow bypass system to allow temporary de-watering of the stream during the project's construction phase and future maintenance activities.

ii. **Critical Areas Report Required.** A Critical Areas Report titled The Lower Coal Creek Sediment Pond Critical Areas Report dated July 20, 2007 prepared by David Evans and Associates Inc. was submitted for this project pursuant to applicable sections of LUC 20.25H.230 through LUC 20.25H.270, as required because of the modification of the stream channel referenced above. The Critical Areas Report meets the submittal requirements outlined in LUC 20.25H.250.

A. Specific Proposal Required. The Critical Areas Report for the Lower Coal Creek Sediment Pond was submitted in support of the application for the specific project proposal to construct a sediment pond.

B. Minimum Report Requirements.

1. Identification and classification of all critical areas and critical area buffers on the site. The submitted Critical Areas Report identifies critical areas and critical area buffers including Coal Creek, wetlands, and habitat associated with species of local importance.

2. Critical areas and buffers on adjacent properties. All impacted critical areas and critical areas buffers impacted by and in the vicinity of the proposed sediment pond are located in the expansive Coal Creek Natural Area managed by the City of Bellevue Parks and Utilities Departments. The Critical Areas Report shows the identified critical areas and critical area buffers within the project area.

3. Identification of codes and standards. The Critical Areas Report adequately identifies the applicable code sections pertinent to the specific project proposal.

4. Habitat Assessment. The results of the field investigation and habitat impacts identified in the Critical Areas Report are consistent with LUC 20.25H.165. It provides a detailed description of the vegetation on the site. It identifies all of the probable species of local importance with a habitat association on the site. It discusses federal, state and local species management recommendations, including WDFW habitat management recommendations. It discusses the direct and indirect potential impacts to habitat presented by the project, including water quality impacts. It discusses measures used to avoid, minimize and mitigate potential impacts and restore degraded habitats.

5. Assessment of cumulative impacts. The Critical Areas Report addresses cumulative impacts through a discussion of the current conditions at the site, impacts of the proposal, long term goals and objectives, and the conservation and performance measures located in Section 4.4.1.

6. Analysis of protection provided by the codes and standards, compared with the proposed project. The Critical Areas Report discusses existing background conditions provided by the application of the existing codes and standards and those expected with completion of the proposed project.

7. Discussion of Performance Standards. The Critical Areas Report touches on performance standards in various sections of the report, but specifically in the mitigation plan in Section 5.0.

8. Discussion of Mitigation Measures. Section 5.0 of the Critical Areas Report outlines the proposed mitigation measures.

Finding: The proposed project is consistent with the performance standards set forth in LUC 20.25H.080.B.

D. Consistency With LUC 20.25H.100 Wetland - Performance Standards

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

A. Lights shall be directed away from the wetland.

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

C. Toxic runoff from new impervious area shall be routed away from the wetlands.

D. Treated water may be allowed to enter the wetland critical area buffer.

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

F. Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream (wetland) buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended.

Finding: No lights will be installed. Construction of the sediment pond will require the use of different types of equipment including a tracked excavator, back hoe, dump trucks, generators, pumps, chain saws, and various hand tools. No pile driving or blasting will be required. Construction related noise will have a temporary impact on wildlife in the area that is not considered significant. Less than 500 square feet of new impervious surface will be created to construct an access path for maintenance purposes. Maintenance is anticipated to take approximately two weeks to complete on a yearly basis. No toxic runoff is anticipated from these activities. Water pumped from the work area will be treated to remove suspended sediments prior to returning to the water. The mitigation planting plan includes both trees at 10 feet on center and live stakes at 2.5 feet on center at the perimeter of the project limits. No use of pesticides, insecticides, or fertilizers has been proposed with this project. The applicant must submit as part of the required Clearing and Grading Permit information regarding the use of pesticides, insecticides, and fertilizers in accordance with the City of Bellevue's "Environmental Best Management Practices."

E. Consistency with LUC 20.25H.160:
Habitat Associated with Species of Local Importance – Performance Standards

If habitat associated with species of local importance will be impacted by a proposal, the proposal shall implement the wildlife management plan developed by the Department of Fish and Wildlife for such species. Where the habitat does not include any other critical area or critical area buffer, compliance with the wildlife management plan shall constitute compliance.

Finding: The project area contains habitat associated with Chinook salmon, coho salmon, steelhead trout, great blue heron, and red tailed hawk, all of which are listed by the City of Bellevue as species of local importance. Development activity must follow the management recommendations prepared by the Washington State Department of Fish and Wildlife (WDFW). Habitat conditions in Coal Creek are variable, but typical of most urbanized streams in that habitat conditions have been degraded. According to the Critical Areas Report, the primary limiting factors affecting Coal Creek include increased sedimentation, loss of channel complexity, degraded riparian conditions, altered hydrology, and poor water quality. Increased sedimentation is the result of stream bank erosion and the occasional catastrophic failure of old coal mine tailings along the steep slopes above the creek. A detailed discussion regarding sedimentation within the creek is included in the referenced Final Environmental Impact Statement for the Coal Creek Stabilization Program.

Project elements and proposed mitigation are consistent with WDFW management recommendations for riparian habitat which are intended to provide habitat connectivity, vegetation diversity, abundance of large woody debris, and retention of riparian habitat functions. The effects of the proposal as summarized in the biological assessment prepared for the sediment pond are contained in Section III above. The proposed project is consistent with the performance standards set forth in LUC 20.25H.160.

VI. Summary of Technical Reviews

A. Clearing and Grading:

The Clearing and Grading Division of the Planning and Community Development Department has reviewed the proposed sediment pond for compliance with Clearing and Grading codes and standards. The Clearing and Grading staff found no issues with the proposed development. Clearing and Grading codes and standards will be applied to the required clearing and grading permit.

VII. Public Notice and Comment

Application Date:	September 17, 2007
Public Notice: (500 Feet)	October 18, 2007
Minimum Comment Period:	November 1, 2007

The Notice of Application for this project was published in the Seattle Times and the City of Bellevue weekly permit bulletin on October 18, 2007. It was mailed to property owners within 500 feet of the project site. Staff received one email with an attached comment letter sent to the Army Corp of Engineers regarding this proposal. The comment letter from the Muckleshoot Tribe included several questions regarding salmonid use of habitat in the stream, fish distribution, fish passage, and fish life cycle impacts. In a letter dated December 31, 2007 David Evans and Associates, Inc. responded to the Muckleshoot Tribe on the City's behalf. The response summarizes additional mitigation proposed for the project including:

- Enhancement of approximately 1.62 acres of riparian habitat around the proposed pond which includes planting approximately 2,442 shrubs and trees.
- Capture and temporary removal of beavers known to be in the work area.
- Installation of large woody debris in the immediate vicinity of the sediment pond.
- Installation of approximately 3,200 conifer seedlings within the riparian zone upstream of the project reach per discussions with Washington State Department of Fish and Wildlife.
- Installation of additional pieces of large woody debris upstream of the project reach per discussion with Washington State Department of Fish and Wildlife.
- Salvage of large woody debris entrapped in sediment pond during maintenance activities.

See related condition of approval in Section X.

VIII. Decision Criteria

The proposal, as conditioned below, meets the applicable regulations and decision criteria for a Critical Areas Report pursuant to LUC 20.25H.255 and Critical Areas Land Use Permit pursuant to LUC Section 20.30P.

A. Critical Areas Report – Decision Criteria (LUC 25.25H.255)

1. **The modifications and performance standards included in the proposal lead to levels of protection of critical area functions and values at least as protective as application of the regulations and standards of this code.**

   Finding: Per the discussion included in this report, the Critical Areas Report submitted with the proposal demonstrates that the proposed performance standards will be at least as protective of the functions and values as a strict application of the regulations and standards of the Land Use Code.

2. **Adequate resources to ensure completion of any required mitigation and monitoring efforts.**

   Finding: The project is owned and managed by the City of Bellevue Utilities Department. They have adequate resources to satisfactorily complete the project and comply with the mitigation and monitoring required.

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

   Finding: The impacts of the proposed sediment pond have been adequately mitigated so that modifications will not be detrimental. As discussed in Sections III and V above, the proposed modifications and performance standards are intended to increase the amount of streamside vegetation, reduce stream bank erosion along the pond edge by planting vegetation at its edges, and increasing wildlife function of the riparian zone by increasing plant diversity .

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

   Finding: The activities proposed by this project are compatible with the other uses and development in the same land use district as well as the activities intended to occur within the Coal Creek Natural Area.

B. Critical Areas Land Use Permit – Decision Criteria (LUC 20.30P)

a. **The proposal obtains all other permits required by the Land Use Code;**

   Finding: The applicant must obtain approval of a Clearing and Grading permit prior to commencing any work.

b. 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;

Finding: All significant trees within the immediate vicinity were surveyed so that the pond footprint could be designed to avoid impacts to trees to the greatest extent possible. The pond location within the reach was modified from its originally planned location in order to avoid impacts to wetlands, forested habitat, and to take advantage of existing access provided by a gravel road. The sediment pond will have an average width of 54 feet based on the proposed location of the ordinary high water mark. The total project footprint is .6 acres which includes .18 acre of stream channel and .42 acre of forested buffer. The width of the pond was reduced and the length increased in order to better respond to stream hydrology. Construction of the sediment pond will require the use of different types of equipment including a tracked excavator, back hoe, dump trucks, generators, pumps, chain saws, and various hand tools. No pile driving or blasting will be required.

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

Finding: As discussed in Section V of this report, the proposal meets the performance standards of LUC Section 20.25H.055.C.3.d for in-stream structures, LUC Section 20.25H.080.A for streams, LUC 20.25H.100 for wetlands, and LUC 20.25H.160 for species of local importance.

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

Finding: As necessary to provide public safety and serve the needs of the intended sediment pond, adequate public facilities are available to the site.

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

Finding: The Critical Areas Report includes a mitigation plan designed to mitigate for project impacts. The plan includes goals and objectives and includes a discussion of, installation of large woody debris, a planting plan, plant establishment and maintenance, and monitoring. The primary goals of the mitigation plan are to replace riparian and stream functions impacted by construction and maintenance of the sediment pond. The mitigation plan provides mitigation at a ratio exceeding 1:1 for permanent buffer impacts as required by LUC 2.25H.085.B.

As discussed in Section III above, the construction of the pond will result in the removal of approximately 37 trees with a dbh greater than 8 inches. Trees impacted are primarily red alder, but a few black cottonwood trees will also be removed. In order to mitigate for the loss of these trees and for impacts to fisheries resources associated with the construction of the sediment pond, the proposal includes a mitigation planting plan that includes three tiers of new vegetation including more than 300 new conifers such as western red cedar, sitka spruce, Douglas fire, western hemlock and 100 deciduous trees including black cottonwood and Oregon ash. The vegetation community, density and plant diversity included in the

mitigation plan comply with the targets set in the City of Bellevue Critical Areas Handbook. Specific objectives include off-setting the potential increase in-stream temperature by increasing the amount of streamside vegetation, reducing stream bank erosion along the pond edge by planting vegetation at its sides, and increasing wildlife function of the riparian zone by increasing plant diversity. The following details of the mitigation plan are included in Section 5.0 of the Critical Areas Report.

Mitigation Plan

The Mitigation Report Sheet, Sheet L-2 of 5, details the mitigation approach for stream impacts. Mitigation for the sediment pond will be accomplished with buffer enhancement that includes the installation of large woody debris (LWD) within the pond and 1,000 conifer saplings upstream of the pond. The proposal is intended to mitigate for 7,899 square feet of in-stream impacts and 18,298 square feet of critical area buffer impacts. Approximately 7,899 square feet of buffer enhancement will be provided next to the project area including the removal of invasive weeds, planting with native trees and shrubs to improve stream cover, and increased greater plant diversity. A total of 55,099 square feet of buffer enhancement will mitigate for the 18,298 square feet of critical area buffer impacts. Enhancement areas will be cleared of invasive weeds and planted with native trees and shrubs to provide vegetation canopy, and improve wildlife habitat. A discussion of proposed plant species is included in Section III of this report.

Appendix J of the Critical Areas Report contains buffer mitigation plan design sheets. A plant list, materials, specifications and details are provided. Large woody debris will be installed along both banks of the sediment pond including the installation of 19 wood structures with rootwads.. They will be installed in 7 clusters with 2 to 3 pieces of LWD per cluster.

Performance standards for the planting plan are discussed in Section 5.1.3 of the Critical Areas Report. The following performance standards are established for years 1, 3, and 5:

Year 1

- All planting zones will achieve 100 percent survival of planted species at the end of the firs year plant establishment period. If all species planted that die are replaced, the performance measure will be met.
- A minimum of two pools will be present in the project reach.

Year 3

- All planting zones will achieve 85 percent survival of planted species at the end of the third year.
- All planting zones will achieve 60 percent cover by the end of year three.
- A minimum of four native tree species and four shrub species will be established within the mitigation area.
- A minimum of two pools will be present in the project reach.

Year 5

- All planting zones will achieve 65 percent survival of planted species at the end of the fifth year.
- All planting zones will achieve 85 percent cover by the end of year five.

- A minimum of four native tree species and four shrub species will be established within the mitigation area.
- A minimum of two pools will be present in the project reach.

Mitigation monitoring shall be conducted by a wetland biologist for five years which includes installation inspection. The objective of the monitoring program shall be to assess planting success. Mitigation monitoring will include representative sampling for cover using the line-intercept method along transects. All planted trees and shrubs shall be evaluated in years 1 through 5 to document vegetation development. Reports describing the monitoring results shall be submitted to the City of Bellevue Planning and Community Development Department on a yearly basis for years 1 through 5.

Contingencies

Section 5.1.3 of the Critical Areas Report includes contingencies for poor performance of large woody debris and vegetation. Failure of the large woody debris to create scour pools within the pond when it is full of sediment will result in some or all of the following contingency actions:

1. Individual pieces of large woody debris will be repositioned to increase interaction with stream flow during low flow conditions.
2. Additional large woody debris will be installed.
3. The type of large woody debris structure will be re-evaluated.

Failure to meet the proposed vegetation standard of success for year 1, 3, or 5 will result in some or all of the following contingency actions:

1. Additional vegetation planting may be required to meet plant survival standards. Plant species will be evaluated in relation to site conditions to determine if species substitutions will be required.
2. Control of competitive weed species may be required if plant survival standards are not met. Methods of weed control could include hand or mechanical weeding, or mulching.

A third contingency regarding the loss of vegetation based on wildlife damage is not supportable as it would potentially require fencing, the use of repellants, and temporary barriers inconsistent with other aspects of this approval. The contingency plan must be modified to amend the 3rd contingency.

Monitoring

The mitigation plan includes monitoring of turbidity, fish salvage, and fish access. The purpose of the turbidity monitoring plan is to provide the framework for performance monitoring to assure compliance with State Surface Water Quality Standards. Since the background turbidity will likely be 50 NTUs or less and stream flow will be 10 cubic feet per second (cfs) or less during construction and maintenance, the project site must not increase turbidity downstream of the project site by 5 NTU over background levels past the appropriate mixing zone, which in this case is 100 feet. Should a major storm event occur during construction or any other non-project related activity that results in a background turbidity measurement in excess of 50 NTUs, the benchmark not to be

exceeded will be 10 percent above background turbidity as measured upstream of the project site. Monitoring will occur during the dry season and the designated in-water work window. Any violation of the aforementioned standards will trigger daily monitoring until standards are achieved. Results of turbidity monitoring will be recorded on City of Bellevue Turbidity Monitoring Data Sheets and reviewed as part of the required clearing and grading permit inspection process. Additional BMPs may be required if monitoring indicates maximum turbidity levels are exceeded. See related conditions of approval in Section X.

Fish Salvage

Fish salvage will be required during both construction and maintenance activities. The individuals conducting fish salvage must contact the Washington Department of Fish and Wildlife local area habitat biologist at least one week prior to conducting fish salvage, have a valid WDFW Scientific Collection Permit, NOAA Fisheries Section 10 Permit, and the crew leader will have at least 100 hours of experience electro-fishing with appropriate technical training. The proposed sequence for fish exclusion is as follows:

4. Isolation of the project area using block nets.
5. Install minnow traps and check frequently.
6. Dip or seine net exclusion.
7. Electro-fish project reach.
8. Salvage during dewatering.
9. Inspect dewatered reach for any remaining fish or other aquatic resources.
10. Identify and release fish.
11. Remove block nets.

The results of the fish capture efforts will be presented to the City of Bellevue, WDFW via annual reporting requirements associated with the Scientific Collection Permit, NOAA Fisheries per Section 10 of the ESA, and within required yearly monitoring reports mentioned elsewhere in this staff report. See related condition of approval in Section X.

Fish Access

Section 5.2.5 of the Critical Areas Report includes details regarding fish access monitoring. The purposed of monitoring fish access through the project site is to determine if the proposed sediment pond is impacting upstream fish passage. If sampling indicates the continued presence of fish upstream of the project reach, and continued movement of fish through the project area is documented, fish access will be considered sufficient. Weirs will be evaluated pursuant to WDFW criteria and if warranted potential contingencies include altering the height and location of the weirs. See related condition of approval in Section X.

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

Finding: As discussed in Section IV & V of this report, the proposal complies with all other applicable requirements of the Land Use Code.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of Planning and Community Development does hereby **approve with conditions** the proposal to construct a sediment pond in Lower Coal Creek.

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

X. Conditions of Approval

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

Applicable Ordinances	Contact Person
Clearing and Grading Code- BCC 23.76	Tom McFarlane, 425-452-5207
Land Use Code- BCC 20.25H	Matthews Jackson, 425-452-2729
Noise Control- BCC 9.18	Matthews Jackson, 425-452-2729

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

1. **Clearing and Grading Permit:** Before commencing any construction activity the applicant must apply for and obtain a Clearing and Grading Permit. On-going turbidity monitoring and submittal of turbidity monitoring data sheets will be required as part of the clearing and grading permit inspection process.

   Authority: Bellevue City Code Section 23.76.025
   Reviewer: Tom McFarlane, Planning and Community Development Department

2. **Mitigation and Monitoring Plan:** The mitigation plan included in Section 5.0 of the Lower Coal Creek Sediment Pond Critical Areas Report, dated July 20, 2007 prepared by David Evans and Associates Inc. must be implemented with the required Clearing and Grading Permit. This monitoring plan includes, but is not limited to installation of large woody debris (LWD), buffer planting, performance standards, fish salvage, fish access, and contingencies. In addition, the supplemental mitigation described in the letter sent to Karen Walter, Muckleshoot Indian Tribe Fisheries Division dated December 31,2007 must be incorporated into the mitigation plan. Demonstration that performance standards are being met must be provided on a yearly basis as part of a monitoring report for a period of five years following installation to the Planning and Community Development Department as part of a monitoring report.

   Authority: Land Use Code Section 20.25H.220
   Reviewer: Matthews Jackson, Planning and Community Development Department

3 **Rainy Season restrictions:** No clearing and grading activity may occur during the rainy season, which is defined as November 1 through April 30 without written authorization of the Department of Planning and Community Development. Should approval be granted for work during the rainy season, increased erosion and sedimentation measures, representing the best available technology, must be implemented prior to beginning or resuming site work.

Authority: Bellevue City Code 23.76.093.A,
Reviewer: Tom McFarlane, Planning and Community Development Dept

4. **Noise Control:** The proposal will be subject to normal construction 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. Upon written request to PCD, work hours may be extended to 10 pm if the criteria for extension of work hours as stated in BCC 9.18 can be met. 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: Matthews Jackson, Planning and Community Development Department

5. **Pesticides, Insecticides, and Fertilizers:** The applicant must submit as part of the required Clearing and Grading Permit information regarding the use of pesticides, insecticides, and fertilizers in accordance with the City of Bellevue's "Environmental Best Management Practices."

Authority: Land Use Code 20.25H.220.H
Reviewer: Matthews Jackson, Planning and Community Development Dept

6. **In-Water Work Window:** To mitigate adverse impacts to the fisheries resources, in-water construction shall occur during the period of July 1st through August 31st, unless otherwise determined by the Hydraulics Project Approval issued by the Washington State Department of Fish and Wildlife.

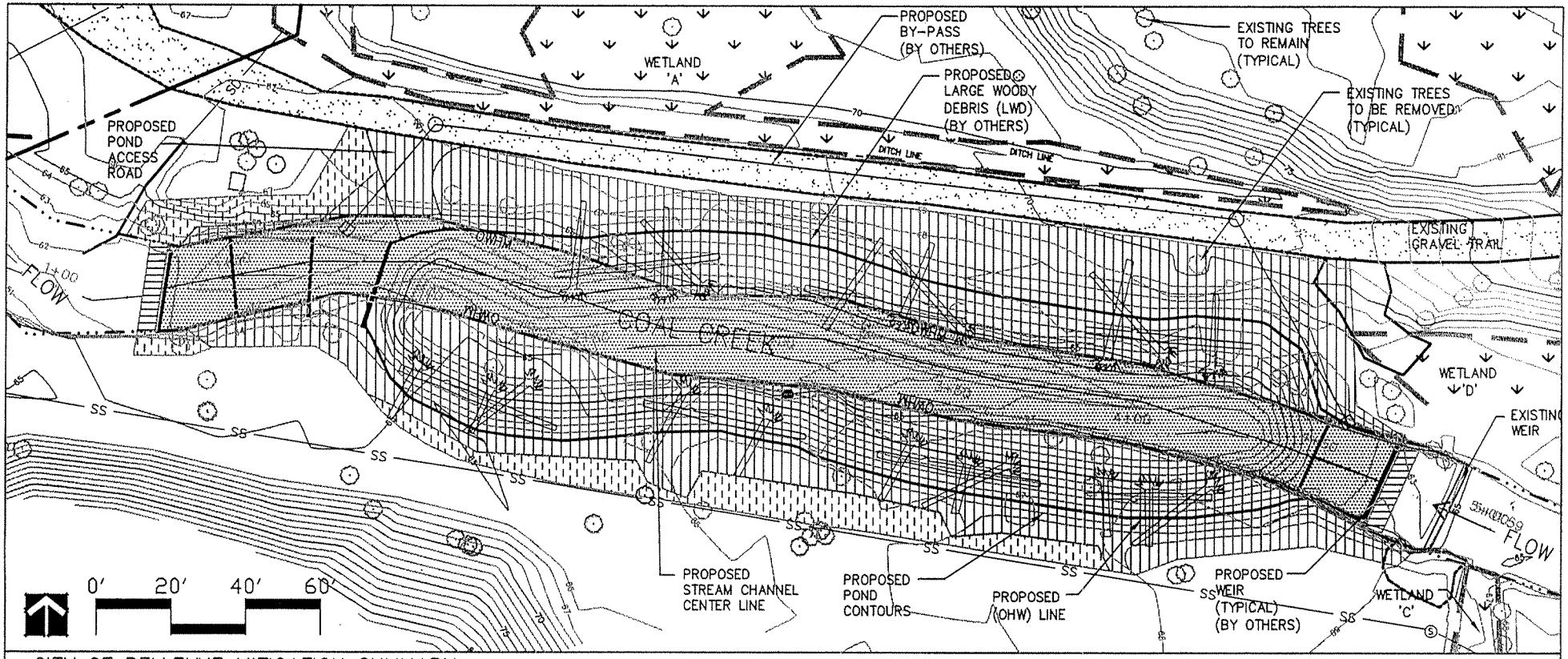
Authority: Land Use Code 20.25H.220
Reviewer: Matthews Jackson, Planning and Community Development Dept

7. **Federal and State Permits:** To mitigate adverse impacts, Federal and state water quality standards shall be met. All required federal and state permits and approvals must be received by the applicant prior to the commencement of any work. A copy of the approved Hydraulic Project Approval (HPA) issued by the Washington State Department of Fish and Wildlife shall be submitted to the City of Bellevue, prior to construction.

Authority: Land Use Code 20.25H.220
Reviewer: Matthews Jackson, Planning and Community Development Dept

XI. Attachments:

1. Site Plan
2. Buffer Mitigation Landscape Plan
3. Mitigation and Monitoring Plan
4. Environmental Checklist



CITY OF BELLEVUE MITIGATION SUMMARY

STREAM IMPACT (FROM POND)		PROPOSED MITIGATION		
PERMANENT IMPACT :	7,647 S.F.	⊙ 1:1 enhancement	7,647 S.F.	(0.17 AC)
TEMPORARY IMPACT :	252 S.F.	⊙ 1:1 enhancement	252 S.F.	(0.01 AC)
		MITIGATION REQUIRED =	7,899 S.F.	(0.18 AC)

STREAM BUFFER IMPACT (FROM POND)		PROPOSED MITIGATION		
PERMANENT IMPACT :	16,184 S.F.	⊙ 1:1 enhancement	16,184 S.F.	(0.37 AC)
TEMPORARY IMPACT :	2,114 S.F.	⊙ 1:1 enhancement	2,114 S.F.	(0.05 AC)
		MITIGATION REQUIRED =	18,298 S.F.	(0.42 AC)

TOTAL STREAM MITIGATION REQUIRED =	26,197 S.F.	(0.60 AC)
TOTAL STREAM MITIGATION PROVIDED =	55,099 S.F.	(1.26 AC)

PERMANENT IMPACT TO STREAM

PERMANENT IMPACT TO STREAM BUFFER

TEMPORARY IMPACT TO STREAM

TEMPORARY IMPACT TO STREAM BUFFER

EXISTING WETLAND

EXISTING TREES TO REMAIN

EXISTING TREES TO BE REMOVED

PROJECT NAME: LOWER COAL CREEK SEDIMENTATION POND	REFERENCE NO.: N/A	SITE LOCATION ADDRESS: ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I-405 CROSSING, BELLEVUE, WA	MITIGATION SUMMARY SHEET
PURPOSE: SEDIMENT REMOVAL	COUNTY OF: KING		APPLICATION BY: CITY OF BELLEVUE
DATUM: NAVD 88	WATER BODY: COAL CREEK		DATE: SHEET 9 OF 14

Attachment 1

1.0 MITIGATION PLAN OVERVIEW

1.1 UNAVOIDABLE IMPACTS COAL CREEK

A NEW SEDIMENT CONTROL POND HAS BEEN DESIGNED FOR COAL CREEK, LOCATED WITHIN THE CITY LIMITS OF BELLEVUE, WASHINGTON. THE PURPOSE OF THE POND IS TO CONTROL SEDIMENTATION FLOW INTO LAKE WASHINGTON. CONSTRUCTION OF THE POND WILL RESULT IN 7,647 SF (0.17 AC) OF PERMANENT UNAVOIDABLE IMPACTS FROM EXCAVATION OF THE POND, AND 252 SF (0.01 AC) OF TEMPORARY IMPACTS FROM THE CONSTRUCTION OF WEIRS LOCATED UPSTREAM AND DOWNSTREAM OF THE SEDIMENT POND.

1.2 UNAVOIDABLE IMPACTS TO STREAM BUFFER

CONSTRUCTION OF THE PROJECT (SEDIMENT CONTROL POND), WILL RESULT IN UNAVOIDABLE PERMANENT IMPACT TO 16,184 SF (0.37 AC) AND TEMPORARY IMPACT TO 2,114 SF (0.05 AC) OF STREAM BUFFER. THE EXISTING STREAM BUFFER CONSIST OF NATIVE FORESTED TREES AND SHRUBS.

1.3 MITIGATION APPROACH

STREAM IMPACTS

MITIGATION FOR THE CREATED POND IN COAL CREEK WILL BE ACCOMPLISHED BY STREAM BUFFER ENHANCEMENT THAT INCLUDES THE INSTALLATION OF LARGE WOODY DEBRIS (LWD) WITHIN THE POND AND 1,000 CONIFER TREE SAPLINGS UPSTREAM OF THE POND. MITIGATION AREA IS THE RESULT OF STREAM IMPACTS MULTIPLIED BY MITIGATION RATIOS ESTABLISHED BY THE CITY OF BELLEVUE. CITY OF BELLEVUE REQUIRES A 1:1 MITIGATION RATIO, FOR BUFFER IMPACTS, RESULTING IN 7,899 SF OF ENHANCEMENT. STREAM BUFFER NEXT TOTHE PROJECT AREA SHALL BE CLEARED OF INVASIVE WEEDS AND PLANTED WITH NATIVE TREES AND SHRUBS TO IMPROVE FUNCTIONS (PRIMARILY STREAM COVER) AND PROVIDE GREATER PLANT DIVERSITY, LARGE WOODY DEBRIS (LWD) WILL BE INSTALLED ON THE POND BANKS TO PROVIDE FISH AND WILDLIFE HABITAT AND 1,000 CONIFEROUS TREE SAPLINGS WILL BE INSTALLED UPSTREAM OF THE POND.

MITIGATION FOR IMPACTS TO 18,298 SF OF STREAM BUFFERS WILL BE ACCOMPLISHED BY STREAM BUFFER ENHANCEMENT. A TOTAL OF 55,099 SF (1.28 AC) WILL OCCUR ALONG THE NORTH AND SOUTH SIDES OF COAL CREEK. BUFFER ENHANCEMENT ARES SHALL BE CLEARED OF INVASIVE WEEDS AND PLANTED WITH NATIVE TREES AND SHRUBS TO PROVIDE VEGETATION CANOPY, AND IMPROVE PLANT DIVERSITY AND WILDLIFE HABITAT.

2.0 MITIGATION GOALS AND OBJECTIVES

THE MITIGATION PLAN HAS ONE MITIGATION GOAL:

1. REPLACE LOST FUNCTIONS FROM IMPACTS TO 7,899 SF OF STREAM AND 18,298 SF OF STREAM BUFFER, BY ENHANCING 55,099 SF OF EXISTING STREAM BUFFER. ENHANCEMENT WILL OCCUR BY REMOVING INVASIVE WEEDS AND INSTALLING NATIVE TREES, SHRUBS AND LARGE WOODY DEBRIS.

3.0 PERFORMANCE STANDARDS

PERFORMANCE STANDARDS HAVE BEEN ESTABLISHED THAT CORRESPOND TO THE STATED MITIGATION GOALS AND OBJECTIVES. THESE STANDARDS ARE THE PRIMARY FACTORS THAT SHALL BE USED TO JUDGE THE SUCCESS OF THE MITIGATION PROJECT. IT SHALL BE EXCEEDINGLY IMPORTANT TO EVALUATE THE DEVELOPMENT OF THE MITIGATION PLAN OVER THE ENTIRE MONITORING PERIOD WHEN DETERMINING WHETHER EACH INDIVIDUAL STANDARD HAS BEEN MET OR NOT. WHILE SPECIFIC PERFORMANCE CRITERIA PROVIDE IMPORTANT BENCHMARKS AND SHALL HELP TO DIRECT MAINTENANCE AND CONTINGENCY EFFORTS, THE SUCCESS OF MITIGATION MUST BE MEASURED AGAINST THE GOALS AND OBJECTIVES OF THE OVERALL MITIGATION PLAN. BY MONITORING THE PROJECT AND COMPARING MONITORING RESULTS TO PERFORMANCE STANDARDS, A DETERMINATION CAN BE MADE FOR THE NEED TO IMPLEMENT MAINTENANCE EFFORTS OR THE CONTINGENCY PLAN. PERFORMANCE STANDARDS ARE IDENTIFIED IN THE TABLE BELOW.

4.0 MONITORING PLAN

MITIGATION MONITORING SHALL BE CONDUCTED BY A WETLAND BIOLOGIST FOR FIVE (5) YEARS WHICH INCLUDES THE INSTALLATION INSPECTION (ONE YEAR WARRANTY INSPECTION). THE OBJECTIVE OF THE MONITORING PROGRAM SHALL BE TO ASSESS REVEGETATION SUCCESS. REPORTS DESCRIBING MONITORING RESULTS SHALL BE SUBMITTED TO THE CITY OF BELLEVUE, DEPARTMENT OF PLANNING AND URBAN DEVELOPMENT BY DECEMBER 31 OF YEARS 1 THROUGH 5. THE MONITORING RESULTS SHALL BE RELATED TO THE PERFORMANCE STANDARDS AND IF WARRANTED, RECOMMENDATIONS SHALL BE MADE BASED ON THESE FINDINGS.

4.1 ESTABLISHMENT OF SENSITIVE AREAS

ENCROACHMENT INTO SENSITIVE AREAS SHALL BE MONITORED DURING EACH VISIT. THE SENSITIVE AREAS SHALL BE INSPECTED FOR CLEARING, TRASH DUMPING AND OTHER UNAUTHORIZED DISTURBANCES. ANY ENCROACHMENTS IN THE SENSITIVE AREAS SHALL BE NOTED AND DIRECTED TO CITY OF BELLEVUE'S ATTENTION.

4.2 VEGETATION ESTABLISHMENT

ALL MITIGATION PLANTINGS SHALL BE MONITORED FOR 5 YEARS AND SHALL INCLUDE REPRESENTATIVE SAMPLING FOR COVER, USING THE LINE-INTERCEPT METHOD ALONG TRANSECTS. OVERVIEW PHOTOGRAPHS SHALL BE TAKEN FROM CONSISTENT PHOTOPOINTS. ALL PLANTED TREES AND SHRUBS SHALL BE EVALUATED IN YEARS 1, 2, 3, 4, AND 5 TO DOCUMENT VEGETATION DEVELOPMENT. THE INITIAL MONITORING SHALL BE A COMPLETE CENSUS OF PLANTINGS AND SHALL OCCUR 1 YEAR AFTER INSTALLATION IN ORDER TO IMPLEMENT THE ONE YEAR WARRANTY TO BE PROVIDED BY THE LANDSCAPE CONTRACTOR.

4.3 MITIGATION MAINTENANCE

IF NECESSARY, MAINTENANCE ACTIONS SHALL BE RECOMMENDED BY THE MONITORING BIOLOGIST. MAINTENANCE WITHIN THE MITIGATION AREAS SHALL BE PERFORMED BY THE LANDSCAPE CONTRACTOR DURING THE ONE YEAR WARRANTY PERIOD. FOLLOWING THE ONE YEAR WARRANTY PERIOD, MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE MITIGATION GOALS AND OBJECTIVES ARE MET. IMPLEMENTATION OF MAINTENANCE ACTIONS IS THE RESPONSIBILITY OF THE PROJECT PROPONENT (CITY OF BELLEVUE).

5.0 MITIGATION SEQUENCING

CONSTRUCTION OF THE MITIGATION SITES SHALL GENERALLY INCLUDE:

1. A PRE-CONSTRUCTION MEETING;
2. MARKING LIMIT OF WORK FOR MITIGATION BOUNDARIES;
3. REMOVAL OF INVASIVE SPECIES AND INSTALLATION OF PLANTS AS SPECIFIED;
4. POST-CONSTRUCTION MEETING BETWEEN ALL INVOLVED PARTIES;
5. REMOVAL OF LIMIT OF WORK DEMARCATIONS;
6. IMPLEMENTATION OF MONITORING PROGRAM;
7. ON-GOING MAINTENANCE AS NECESSARY.

5.1 PRE-CONSTRUCTION MEETING

5.2 MARKING OF CONSTRUCTION LIMITS FOR MITIGATION AREA BOUNDARIES

THE LIMIT OF WORK BOUNDARIES OF THE MITIGATION AREAS SHALL BE MARKED IN THE FIELD PRIOR TO PRELIMINARY SITE PREPARATION, EARTHWORK, OR PLANTING BY THE CONTRACTOR. BOUNDARIES SHALL BE MARKED BY INSTALLING ORANGE TEMPORARY CONSTRUCTION FENCING TO CLEARLY DELINEATE THE MITIGATION AREA.

5.3 PLANTING PLAN

ALL MITIGATON PLANTS SHALL BE NATIVE SPECIES. SEE PLANT SCHEDULE ON SHEET L-4 OF 5.

5.4 POST-CONSTRUCTION MEETING

6.0 CONSTRUCTION OBSERVATION

THE WETLAND BIOLOGIST OR LANDSCAPE ARCHITECT (CONSTRUCTION OBSERVER) SHALL BE ON-SITE PERIODICALLY DURING THE IMPLEMENTATION OF THE MITIGATION AREA TO REVIEW THE PLANT INSTALLATION. THE RESPONSIBILITIES OF THE CONSTRUCTION OBSERVER(S) SHALL INCLUDE: RESPONDING TO CONTRACTOR QUESTIONS REGARDING UNIQUE CONSTRUCTION OR PLANTING TECHNIQUES; REVIEW OF CONSTRUCTION MATERIALS AND NURSERY STOCK, AND REVIEW OF PLANT LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT PLAN SPECIFICATIONS HAVE BEEN MET.

7.0 CONTINGENCY PLAN

THE CONTINGENCY PLAN SHALL PROVIDE REMEDIATION FOR THE MITIGATION GOALS THAT HAVE NOT BEEN MET. IF THE DESIRED MITIGATION GOALS, AS MEASURED BY THE MONITORING PROGRAM AND PERFORMANCE STANDARDS, HAVE NOT BEEN MET AND CANNOT BE ACHIEVED THROUGH ROUTINE MAINTENANCE, THEN A DETERMINATION BY CITY OF BELLEVUE AND THE PROJECT PROPONENT MAY BE MADE TO REQUIRE SUBMITTAL OF A CONTINGENCY PLAN. AFTER WRITTEN APPROVAL BY THE CITY, A CONTINGENCY PLAN SHALL BE IMPLEMENTED THAT COMPENSATES FOR THE FAILED GOALS OF THE APPROVED MITIGATION PLAN. IF THE CONTINGENCY PLAN IS SUBSTANTIAL, THE CITY SHALL EXTEND THE MONITORING PERIOD.

8.0 PERFORMANCE SECURITY

A. MITIGATION COST ESTIMATE:

BOND ESTIMATE (INCLUDES LABOR, MATERIALS, MAINTENANCE AND MONITORING FOR 5 YEARS, 30% CONTINGENCY AND MOBILIZATION)

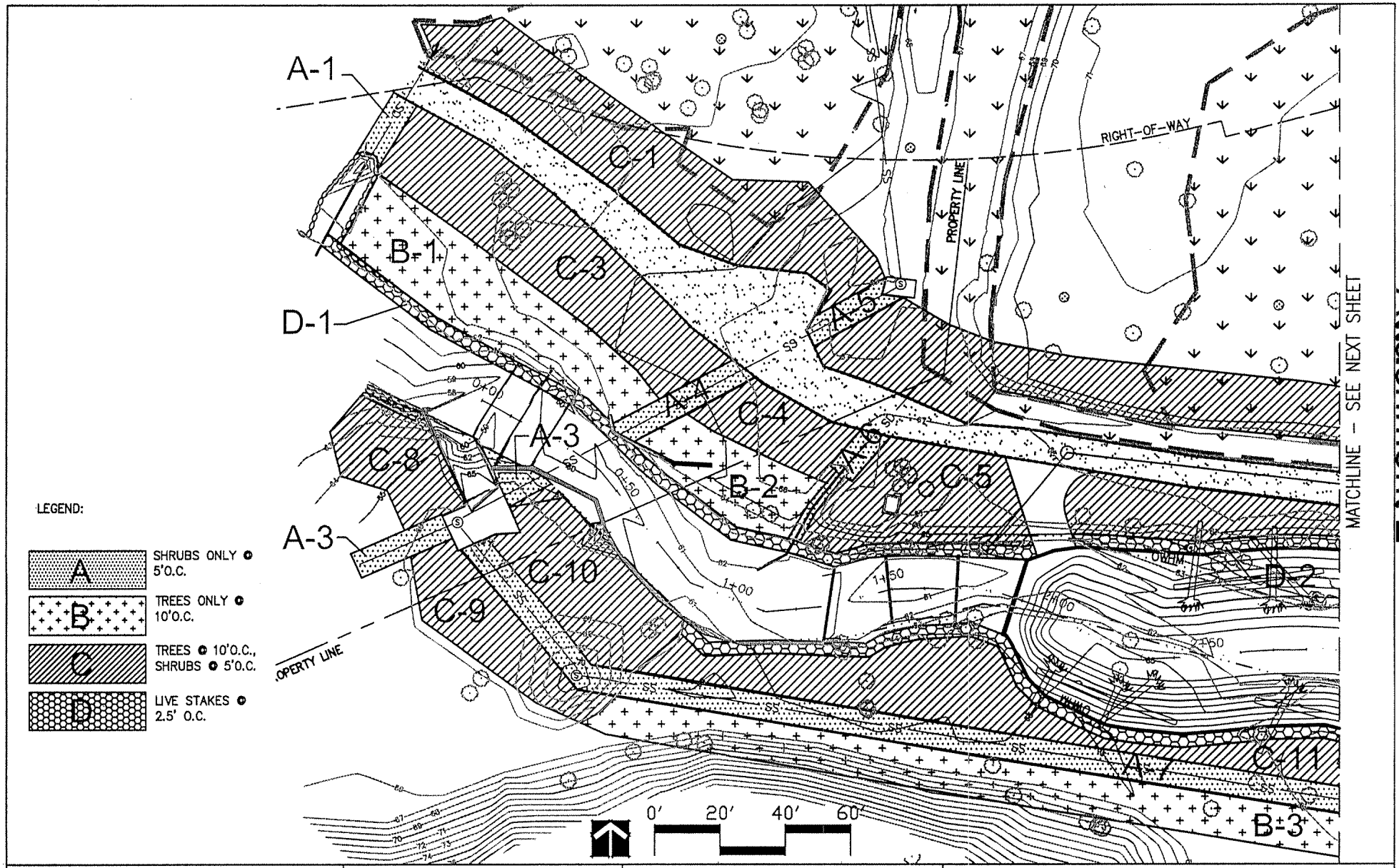
TOTAL COST ESTIMATE:

B. THE PERFORMANCE BOND (120% OF A) IS ESTIMATED TO BE:

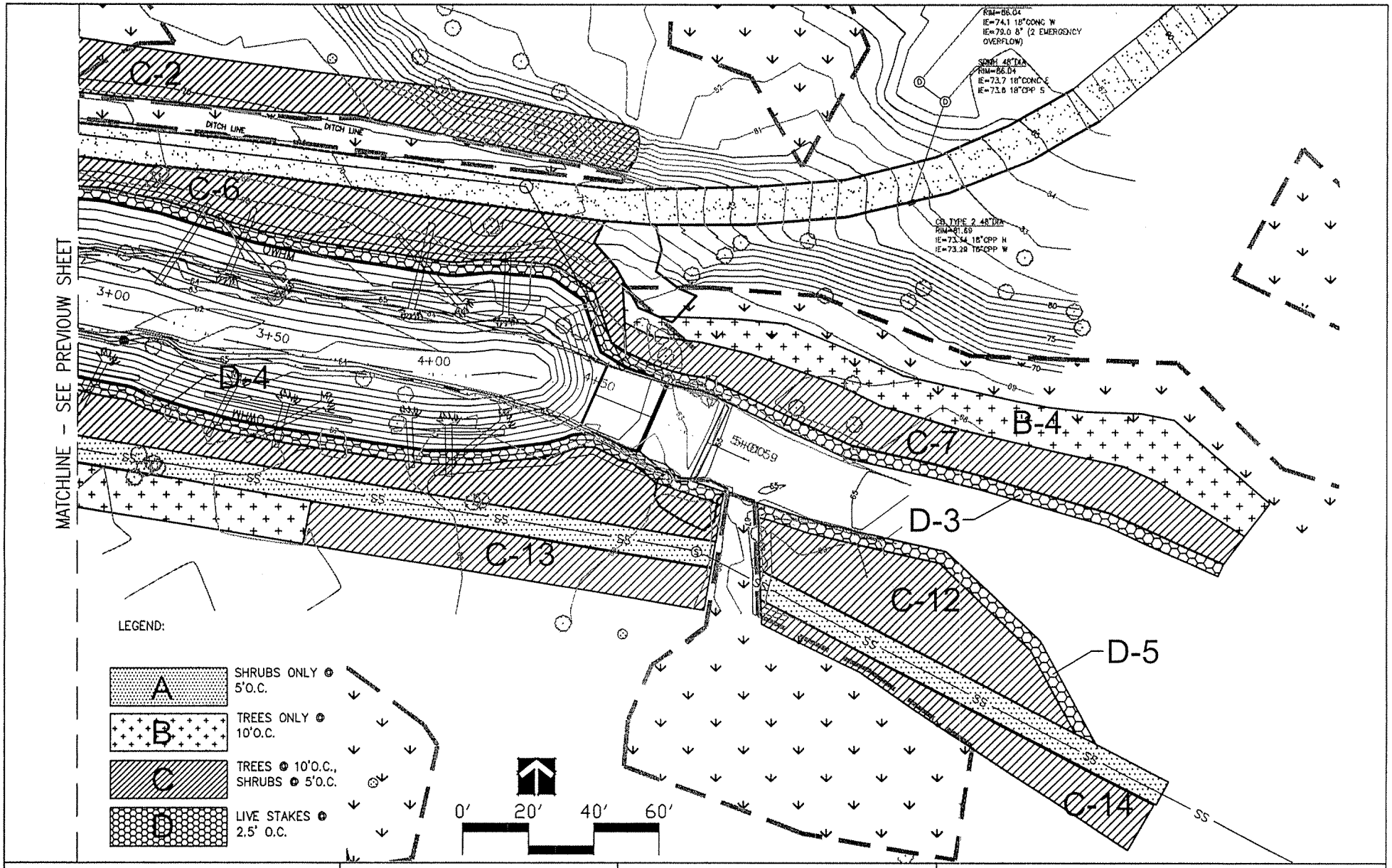
PERFORMANCE STANDARDS	MONITORING METHODS	MONITORING INTERVAL
1. 100 PERCENT SURVIVAL OF ALL INSTALLED NATIVE TREES AND SHRUBS ONE-YEAR POST INSTALLATION. 2. ESTABLISHMENT OF TRANSECTS IN MITIGATION MONITORING PLANTING AREAS FOR FIVE YEARS OF COVERAGE DATA. 3. FOR STREAM BUFFER MONITORING: TREE AND SHRUB COVER: >60% BY YEAR 3, 85% BY YEAR 5, TREE AND SHRUB SURVIVAL: 100% BY YEAR 1, 85% BY YEAR 3, 60% BY YEAR 5.	1. TOTAL PLANT COUNT OF INSTALLED TREES AND SHRUBS SHALL DETERMINE ONE YEAR WARRANTY AND PERFORMANCE STANDARD OF SURVIVAL. 2. INSTALLED TREE AND SHRUB COVERAGE SHALL BE ESTIMATED USING THE LINE-INTERCEPT METHOD ALONG TRANSECTS ESTABLISHED IN THE MITIGATION AREAS (AS NOTED IN PERFORMANCE STANDARDS) 3. PHOTOGRAPHIC DOCUMENTATION SHALL OCCUR WITH EACH MONITORING FROM ESTABLISHED PHOTOPOINTS TO PROVIDE ADDITIONAL DOCUMENTATION OF PLANT SUCCESS.	YEARS 1, 2, 3, 4 AND 5 (STREAM BUFFER VEGETATION) YEARS 1, 2, 3, 4 AND 5 (STREAM BUFFER)
4. AT LEAST 4 NATIVE TREE SPECIES AND 4 NATIVE SHRUB SPECIES SHALL BE ESTABLISHED IN THE MITIGATION AREA.		YEARS 1, 2, 3, 4 AND 5 (STREAM BUFFER)
5. UP TO 20% OF ANY STRATUM CAN BE COMPOSED OF DESIRABLE NATIVE VOLUNTEERS WHEN MEASURING COVER. NO MORE THAN 10% COVER OF NON-NATIVE OR OTHER INVASIVES, E.G., HIMALAYAN BLACKBERRY, JAPANESE KNOTWEED, EVERGREEN BLACKBERRY, REED CANARYGRASS, SCOTS BROOM, ENGLISH IVY, MORNING GLORY, ETC. IS PERMISSIBLE IN ANY MONITORING YEAR. BOND HOLDERS ARE ENCOURAGED TO MAINTAIN MITIGATION SITES WITHIN THESE STANDARDS THROUGHOUT THE MONITORING PERIOD, TO AVOID CORRECTIVE MEASURES.		YEARS 1, 2, 3, 4 AND 5 (STREAM BUFFER)

PROJECT NAME: LOWER COAL CREEK SEDIMENTATION POND	REFERENCE NO.: N/A	SITE LOCATION ADDRESS: ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I-405 CROSSING, BELLEVUE, WA	MITIGATION REPORT SHEET
PURPOSE: SEDIMENT REMOVAL	COUNTY OF: KING		APPLICATION BY: CITY OF BELLEVUE
DATUM: NAVD 88	WATER BODY: COAL CREEK		DATE: SHEET 10 OF 14

Attachment 2



PROJECT NAME: LOWER COAL CREEK SEDIMENTATION POND	REFERENCE NO.: N/A	SITE LOCATION ADDRESS: ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I-405 CROSSING, BELLEVUE, WA	BUFFER MITIGATION LANDSCAPE PLAN
PURPOSE: SEDIMENT REMOVAL	COUNTY OF: KING		APPLICATION BY: CITY OF BELLEVUE
DATUM: NAVD 88	WATER BODY: COAL CREEK		DATE: SHEET 11 OF 14



PROJECT NAME: LOWER COAL CREEK SEDIMENTATION POND	REFERENCE NO.: N/A	SITE LOCATION ADDRESS: ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I–405 CROSSING, BELLEVUE, WA	BUFFER MITIGATION LANDSCAPE PLAN
PURPOSE: SEDIMENT REMOVAL	COUNTY OF: KING		APPLICATION BY: CITY OF BELLEVUE
DATUM: NAVD 88	WATER BODY: COAL CREEK		DATE: SHEET 12 OF 14

PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QUANTITY A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	B-1	B-2	B-3	B-4	C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9	C-10	C-11	C-12	C-13	C-14	D-1	D-2	D-3	D-4	D-5	TOTAL
TREES																																			
THUJA PLICATA	WESTERN RED CEDAR	2 GAL	10' O.C.									10	4	8	6	10	3			3	12	4	5	5	4	23	6		5							108
PICEA SITCHENSIS	SITKA SPRUCE	2 GAL	10' O.C.												5	10	3				21	9				12	6								66
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	2 GAL	10' O.C.									10	5	20	6	11	30	20	7	10		9	6	6	10	11	6	7	6						180
TSUGA HETEROPHYLLA	WESTERN HEMLOCK	2 GAL	10' O.C.											5	5		10	5		2				3	5	3	6	7	4						55
POPULUS BALSAMIFERA	BLACK COTTONWOOD	2 GAL	10' O.C.										3	6	3	5	8	4	2	4		3				3		5							48
FRAXINUS LATIFOLIA	OREGON ASH	2 GAL	10' O.C.									6		5	4	5	7	4			11	4				6									52
SHRUBS																																			
ACER CIRCINATUM	VINE MAPLE	2 GAL	5' O.C.				2									6	10				16				5	9	7	6	4						65
CORYLUS CORNUTA	WESTERN HAZELNUT	2 GAL	5' O.C.	2		4	1									12	18	15		6		12	3		6	9	7	6	4						105
CORNUS SERICEA	RED OSIER DOGWOOD	2 GAL	5' O.C.																		31	17				26									74
LONICERA INVOLUCRATA	BLACK TWINBERRY	2 GAL	5' O.C.							44	10					18	27			15	32	21	6		8	35	11								227
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	2 GAL	5' O.C.													25	37				8					9									79
RUBUS SPECTABILIS	SALMONBERRY	2 GAL	5' O.C.																	15	18		5		8	9									55
SYMPHORICARPOS ALBUS	SNOWBERRY	2 GAL	5' O.C.				4		5	35	10							25	4	5				12		17	7	14	11						149
HOLODISCUS DISCOLOR	OCEAN SPRAY	2 GAL	5' O.C.	2	4		3											15	5	10		9	6	6		17	14	8	7						106
OEMLERIA CERASIFORMIS	INDIAN PLUM	2 GAL	5' O.C.		3					27	10							9	3			9	6	4		9	6								86
ROSA NUTKANA	NOOTKA ROSE	2 GAL	5' O.C.			4		5		44	11					50	73	25	10		27	17	5	12	17	17	11	14	11						353
MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	2 GAL	5' O.C.	4	4		5	5	5	27	10					12	18	9	5	7			6	6	12	17	7	8	7						174
SALIX LUCIDA	PACIFIC WILLOW	LIVE STAKES	2.5 O.C.																											30	34	20	42	18	144
SALIX SCOULERIANA	SCOULER WILLOW	LIVE STAKES	2.5 O.C.																												24		35	10	69
SALIX SITCHENSIS	SITKA WILLOW	LIVE STAKES	2.5 O.C.																											30	34	20	36	10	130
CORNUS SERICEA	RED OSIER DOGWOOD	LIVE STAKES	2.5 O.C.																											30	24	12	43	10	119
		AREA TOTALS		8	11	8	15	10	10	177	51	26	12	44	29	164	244	131	36	77	176	114	48	54	75	232	94	75	59	90	116	52	156	48	2,442

HYDROSEED MIX

KIND/VARIETY	% BY WEIGHT	MIN. % GERM
PERENNIAL RYEGRASS	60%	90%
RED CREEPING FESCUE	30%	90%
HARD FESCUE	10%	90%

APPLICATION RATE:	120 LBS/ACRE
CANFOR ECO-FIBER WOOD FIBER MULCH:	2,000 LBS/ACRE
SLOW RELEASE FERTILIZER (12-24-24):	200 LBS/ACRE
CANFOR ECO TAC GG 1200-TACKIFIER:	60 LBS/ACRE
STAY MOIST MOISTURE RETENTION AGENT	60 LBS/ACRE

PROJECT NAME: LOWER COAL CREEK SEDIMENTATION POND

PURPOSE: SEDIMENT REMOVAL

DATUM: NAVD 88

REFERENCE NO.: N/A

COUNTY OF: KING

WATER BODY: COAL CREEK

SITE LOCATION ADDRESS: ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I-405 CROSSING, BELLEVUE, WA

BUFFER MITIGATION PLANT SCHEDULE

APPLICATION BY: CITY OF BELLEVUE

DATE:

PLANTING NOTES:

LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST IS REQUIRED TO PROVIDE CONSTRUCTION OBSERVATION SERVICES FOR ALL LANDSCAPING ACTIVITIES INCLUDING PLANT LOCATIONS, FIELD MODIFICATIONS AND PLANTING TECHNIQUES.

CONTRACTOR SHALL GIVE LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST A MINIMUM OF SEVEN (7) DAYS NOTICE PRIOR TO INTENTION TO PROCEED WITH CONSTRUCTION.

CONSTRUCTION WILL BEGIN ONLY AFTER AN ON-SITE PRE-CONSTRUCTION MEETING BETWEEN CONTRACTOR AND LANDSCAPE ARCHITECT.

ALL PLANT MATERIAL, PLANTING TECHNIQUES AND SEEDING ACTIVITIES SHALL CONFORM TO TYPICAL LANDSCAPE INDUSTRY STANDARDS.

ALL MATERIALS TO BE USED WILL BE NATIVE TO THE PACIFIC NORTHWEST, AND GROWN IN THE PUGET SOUND LOWLAND.

ALL NURSERY GROWN PLANTS SHALL BE CONTAINERIZED OR BALLED AND BUR LAPPED OR BARE ROOT STOCK. PROVIDE ONLY SOUND, HEALTHY VIGOROUS PLANTS, FREE OF DEFECTS, DISEASES AND ALL FORMS OF INFESTATION. LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST CAN SUPPLY A LIST OF NURSERIES KNOWN TO CARRY NATIVE PLANTS.

THE LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST WILL INSPECT PLANT MATERIALS TO VERIFY CONFORMANCE TO THE PLANT SCHEDULE AND TO PLANT CHARACTERISTICS. THE LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST RESERVES THE RIGHT TO REQUIRE REPLACEMENT OR SUBSTITUTION OF PLANTS THAT ARE DEEMED UNSUITABLE.

DIG, PACK, TRANSPORT AND HANDLE ALL PLANTS WITH CARE TO ENSURE PROTECTION FROM INJURY. STORE PLANTS IN THE MANNER NECESSARY TO ACCOMMODATE THEIR HORTICULTURAL REQUIREMENTS. HEEL-IN PLANTS IF NECESSARY TO KEEP THEM FROM DRYING OUT.

EXCAVATE CIRCULAR PLANT PITS A MINIMUM OF 2 TIMES THE ROOT BALL SIZE WITH VERTICAL SIDES AND INSTALL PLANTS AS SHOWN ON THE PLANTING DETAILS AND BACKFILL WITH PLANTING SOIL.

AMEND PLANTING AREAS AROUND POND WITH 4" OF COMPOST INCORPORATED TO 12" DEPTH.

PLANTING SOIL FOR PIT PLANTING SHALL COMPRISE OF 50% CEDAR GROVE 2-WAY TOPSOIL AND 50% EXISTING NATIVE SOIL.

AFTER PLANTS ARE SET, CONTRACTOR SHALL MUDDLE PLANTING SOIL MIXTURE AROUND ROOT BALLS AND REFILL ALL VOIDS. REPEAT PROCESS UNTIL ALL VOIDS AROUND ROOT BALLS ARE FILLED.

FOLLOWING INSTALLATION OF PLANTING MATERIALS OUTSIDE THE GRADED SEDIMENT POND, ALL BASES SHALL RECEIVE THREE (3) INCHES OF BARK MULCH. ALL PLANT MATERIAL INSTALLED IN THE GRADED SEDIMENT POND AREA WILL RECEIVE EROSION CONTROL HYDROSEED AS A MULCH.

STAKE ALL COTTONWOOD AND ASH TREES.

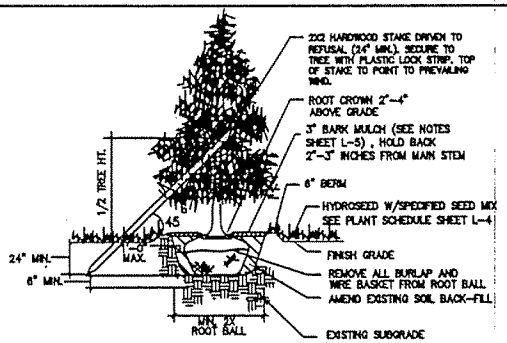
MAINTENANCE NOTES:

CONTRACTOR WILL BE RESPONSIBLE FOR WATERING NEWLY INSTALLED PLANT MATERIALS.

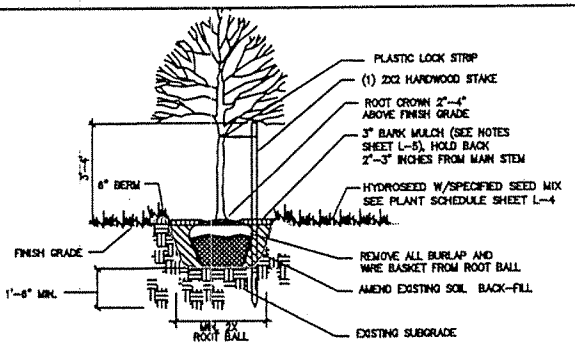
ALL PLANTS WILL RECEIVE AT LEAST ONE INCH OF WATER PER WEEK DURING THE FIRST TWO GROWING SEASONS (JUNE 15 TO OCTOBER 15) FOLLOWING MITIGATION INSTALLATION, LANDSCAPERS WILL WATER THE ENTIRE AREA WEEKLY, EXCLUDING SIGNIFICANT RAINY PERIODS.

THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANTS AND MATERIALS UNTIL THE FORMAL ACCEPTANCE OF THE PROJECT. CONTRACTOR SHALL WARRANT ALL PLANT MATERIALS TO REMAIN ALIVE AND HEALTHY FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE OF PLANTING. THE CONTRACTOR SHALL REPLACE ALL DEAD OR UNHEALTHY PLANTS, PER PLANS AND SPECIFICATIONS, THAT ARE IDENTIFIED AS REQUIRING REPLACEMENT BY THE LANDSCAPE ARCHITECT/ WETLAND BIOLOGIST DURING THE ONE YEAR WARRANTY INSPECTION.

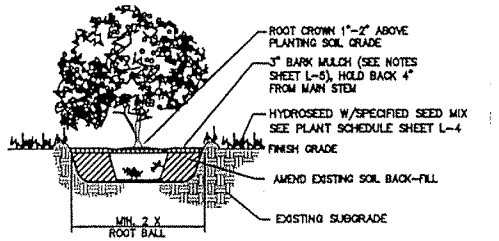
ALL MITIGATION PLANTING AREAS WILL BE MAINTAINED TWICE DURING THE FIRST YEAR BY WEED REMOVAL BY HAND (IN EARLY APRIL/MAY AND SEPTEMBER/ OCTOBER). ALL HIMALAYAN BLACKBERRY, EVERGREEN BLACKBERRY AND SCOT'S BROOM WILL BE REMOVED WITH ROOT CROWNS GRUBBED OUT. OTHER WEEDS TO BE REMOVED INCLUDE REED CANARYGRASS, CLIMBING NIGHTSHADE, PURPLE LOOSESTRIFE, MORNING GLORY, VETCH, TANSY RAGOWRT, AND THISTLE.



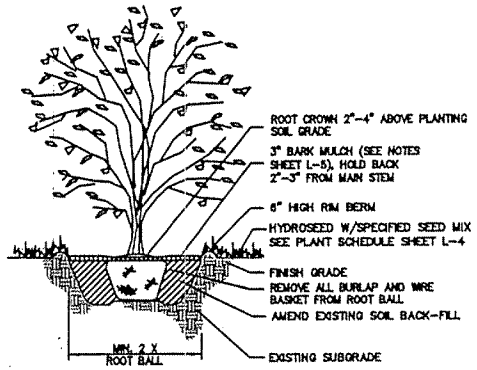
EVERGREEN TREE PLANTING



DECIDUOUS TREE PLANTING



SHRUB PLANTING



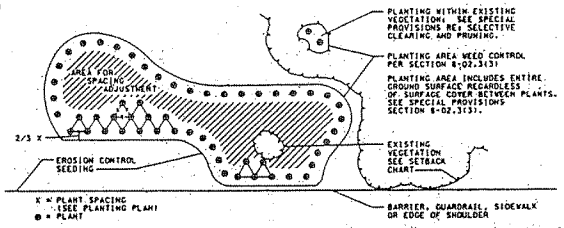
DECIDUOUS MULTI-STEM TREE PLANTING

PLANT MATERIAL SETBACK CHART

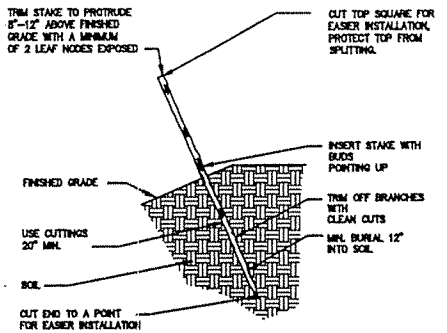
THIS CHART SUPPLEMENTS SECTION 8.02.3(7) OF THE STANDARD SPECIFICATIONS

	GUARDRAIL BARRIER	EDGE OF ROADWAY	WALL	FENCE	SIGNS	EXISTING TREE, TRUNK	EXISTING VEGETATION MASS
EVERGREEN TREE	10'	10'	10'	10'	15'	15'	10'
DECIDUOUS TREE	10'	10'	10'	10'	15'	15'	10'
SHRUB	5'	10'	5'	6'	6'	10'	10'

TYPICAL SETBACKS FOR PLANT MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER DURING LAYOUT AND STAKING OF PLANT LOCATIONS. DISTANCE NOTED IS TO STEM OR TRUNK OF PLANT.



PLANTING AREA LAYOUT, SETBACK, AND WEED CONTROL



LIVE STAKE PLANTING

PROJECT NAME:	LOWER COAL CREEK SEDIMENTATION POND	REFERENCE NO.:	N/A	SITE LOCATION ADDRESS:	ALONG COAL CREEK, APPROX FROM 550 TO 880 FEET UPSTREAM OF I-405 CROSSING, BELLEVUE, WA
PURPOSE:	SEDIMENT REMOVAL	COUNTY OF:	KING		
DATUM:	NAVD 88	WATER BODY:	COAL CREEK		

PLANTING NOTES AND DETAILS

APPLICATION BY: CITY OF BELLEVUE

DATE:

Attachment 3

5.0 MITIGATION

The project area includes Coal Creek, wetlands, and uplands. Most, if not all, uplands within the project area are within the designated buffer of Coal Creek, wetlands, or both where they overlap. No direct wetland impacts would result from implementation of this project, therefore, no mitigation is proposed for direct wetland impacts. Impacts to buffers include permanent and temporary impacts. Permanent impacts are associated with the pond footprint, access ramp, weirs, and the water bypass system. Temporary impacts include areas accessed or utilized during construction, such as, perimeter of the pond disturbed during construction, and where pipes are buried for the water bypass system. Based on overlaying the project footprint map (**Appendix A**) over the existing conditions map (**Appendix E**), the project will result in 0.37 acre of permanent buffer impact and 0.05 acre of temporary buffer impact. Furthermore, the project would result in 0.18 acre of permanent stream impact and 0.006 acre of temporary stream impact. Construction activities will require the removal of approximately 37 significant trees, defined as trees greater than 8 inches diameter at breast height. The predominance of impacted trees are red alders, plus a few black cottonwood trees. It is important to note that an existing access road will be utilized during construction and that the road footprint was not included in the area impact calculation. Per City of Bellevue code, critical area buffers disturbed or impacted shall be replaced at a minimum ratio of one to one. The Mitigation Plan proposes to enhance 1.26 acres of existing buffer habitat as a result of impacting 0.60 acre of stream and buffer. Mitigation for both permanent and temporary impacts includes three primary actions designed to mitigate for both stream and buffer impacts.

1. Installation of LWD around the pond edge;
2. Mitigation for buffer impacts through buffer enhancement; and
3. Revegetation of temporarily disturbed areas around the sediment pond and new weirs.

5.1 MITIGATION PLAN

The following mitigation plan has been designed to mitigate for project impacts. It includes goals and objectives, installation of LWD, a planting plan, plant establishment and maintenance, and monitoring. **Appendix J** includes the mitigation design sheets.

5.1.1 Goals and Objectives

The primary goals of this mitigation plan are to replace riparian and stream functions impacted by construction and maintenance of the sediment pond. The proposed mitigation plan intends to mitigate for stream impacts by providing refugia and access through the project reach by installing LWD along both edges of the new sediment pond. The proposed mitigation plan intends to mitigate for riparian impacts by mitigating for permanent buffer impacts at a 1:1 ratio. Specific objectives include off-setting a potential increase in stream temperature by increasing the amount of streamside vegetation, reducing streambank erosion along the pond edge by planting vegetation along its edges, and increasing wildlife function of the riparian zone by increasing plant diversity.

5.1.2 Installation of LWD

LWD will be installed along both banks of the sediment pond. The plan includes installing 19 pieces of LWD with rootwads. These will be installed in 7 clusters with 2 to 3 pieces of LWD per cluster, plus one key log per cluster. Key logs are used to help secure clusters and assist in removal of LWD during maintenance activities.

5.1.3 Buffer Planting Plan

A plant list, materials, specifications, and details are provided in **Appendix J**. Plants will be installed per the planting plan.

Plant Establishment and Maintenance

Plant establishment throughout the monitoring period is essential to plant community development and the success of the overall mitigation plan. The plant establishment period for this project is five years. During this time, the City of Bellevue or their designee will monitor the site for plant survival, health and growth, herbivory, weeds, and vandalism. Monitoring will occur on a yearly basis. Performance Standards are set for Years 1, 3, and 5 as summarized below.

Performance Standards

Year 1

- All planting zones will achieve 100 percent survival of planted species at the end of the first-year plant establishment period. If all species planted that die are replaced, the performance measure will be met.
- A minimum of two pools will be present in the project reach.

Year 3

- All planting zones will achieve 85 percent survival of planted species at the end of the third year.
- All planting zones will achieve 60 percent cover by the end of year three.
- A minimum of four native tree species and four shrub species will be established within the mitigation area.
- A minimum of two pools will be present in the project reach.

Year 5

- All planting zones will achieve 65 percent survival of planted species at the end of the fifth year.
- All planting zones will achieve 85 percent cover by the end of year three.
- A minimum of four native tree species and four shrub species will be established within the mitigation area.

- A minimum of two pools will be present in the project reach.

Contingencies

Failure of the LWD to create scour pools within the pond when it is full of sediment will result in some or all of the following contingency actions:

- Individual pieces of LWD will be repositioned to increase interaction with stream flow during low-flow conditions.
- Additional LWD may be installed.
- The type of LWD may be altered including use of larger rootwads or clusters of LWD.

Failure to meet the proposed vegetation standard of success will result in some or all of the following contingency actions:

- Additional vegetation planting may be required to meet plant survival standards. Plant species will be evaluated in relation to site conditions to determine if species substitutions will be required.
- Control of competitive weed species may be required if plant survival standards are not met. Methods of weed control could include hand or mechanical weeding, or mulching.
- Appropriate damage control methods may be required if vegetation survival standards are not met due to herbivory. The wildlife species responsible for plant damage will be identified, and possible control methods include fencing, use of repellents, and temporary barriers. However, loss of plants due to predation by beaver or deer activity will not be replaced.

Third Year Success and Mitigation Approval

Mitigation success will be achieved during the third year if year-three success standards have been met.

Monitoring Plan

All planting zones and LWD will be monitored annually for a minimum of three years, which includes the first year warranty inspection. Formal monitoring will occur during Years 1, 2, 3, 4, and 5. A monitoring report will be submitted to the City of Bellevue and other resource agencies for review and comment. These reports will address progress toward meeting the performance measures and success standards as specified, and any recommended contingency actions taken to correct deficiencies that occurred in meeting these standards. Report submittals will occur following each monitoring period. Successful mitigation will be measured by attainment of the performance measures and success standards described in this mitigation plan document.

The City of Bellevue or their designee will conduct the monitoring at the mitigation site. Compliance monitoring provides a means for tracking the development of the mitigation site

over time, and for determining compliance with permits issued by federal, state, local, or tribal jurisdictions.

Mitigation site monitoring will utilize a variety of ecological monitoring techniques. Many standard techniques such as transect lines, and sample plots may be used. Monitoring will also include tracking mortality, photo points, as well as additional methods deemed necessary to adequately document development of the buffer over the monitoring period. Monitoring methodology will be included in annual monitoring reports. Monitoring reports will include the results of the additional actions outlined below.

5.2 ADDITIONAL ACTIONS

Additional actions are required due to site and project-specific factors. This includes monitoring during construction and maintenance. Monitoring includes six primary actions: monitoring of turbidity, fish salvage, beaver removal, sediment monitoring, temperature monitoring, and monitoring of fish access. These actions are required as part of the permit approval process. The results of these additional actions will be documented in the yearly monitoring reports.

5.2.1 Turbidity Monitoring Plan

The following Turbidity Monitoring Plan has been developed at the request of the City of Bellevue for issuance of a Clearing and Grading Permit. The purpose of this plan is to provide the framework for performance monitoring to assure compliance with State Surface Water Quality Standards (WAC 173.201 A).

Monitoring Standards. Since the background turbidity will likely be 50 NTUs or less and stream flow will be 10 cubic feet per second (cfs) or less during construction and maintenance, the project site must not increase turbidity downstream of the project site by 5 NTU over background levels past the appropriate mixing zone, which in this case is 100 feet. However, should a major storm event occur during construction or any other non-project related activity that results in a background turbidity measurement in excess of 50 NTUs, the benchmark not to be exceeded will be 10 percent above background turbidity as measured upstream of the project site.

Monitoring Sites. Since the appropriate mixing zone in this case is 100 feet, the downstream limits of compliance is downstream of the existing metal weirs (**Appendix K**). Background turbidity will be determined at the beginning of each monitoring event upstream of the project site as indicated in **Appendix K**.

Monitoring Frequency. Since construction will occur during the dry season and within the designated WDFW in-water work window, sampling will occur at least once a week. However, monitoring will also occur during/after any significant rainfall events should one occur during construction. A significant rainfall event shall be defined as a storm event greater than 0.5 inch of rainfall within 24 hours, or as requested by the City of Bellevue. The station of record for rainfall measurements will be the National Oceanic and Atmospheric Administration (NOAA) weather report for Bellevue, Washington. Additional sampling will be required if the turbidity results are high or turbid water is observed. Any violation of the aforementioned standards will trigger daily monitoring until standards are achieved. During each monitoring event, a minimum

of three measurements will be taken to determine background turbidity at the upstream site and compliance at the downstream site.

Monitoring Reporting. The results of turbidity monitoring will be recorded on a City of Bellevue Turbidity Monitoring Data Sheet (**Appendix L**). The City of Bellevue Clearing and Grading Inspector should be immediately contacted by telephone if the standard is exceeded. Hardcopies of this form should also be faxed on each day of monitoring to the Clearing and Grading Inspector (425.452.7930). If turbidity standards are not met, the construction contractor must also be notified immediately (follow-up with a written notification) and all work will stop until corrective measures have resulted in satisfactory NTU measurements at the downstream monitoring site. All corrective actions and outcome of additional sampling must be recorded on the data sheet. Once the project has been completed, the turbidity monitor will provide a letter report to the Clearing and Grading Inspector outlining the results of the monitoring, which will include copies of the turbidity monitoring data sheets.

A monitor will document BMPs have been implemented as required by the clearing and grading permit, and other requirements outlined in all applicable permits. The monitor will also have the authority to require the installation of additional BMPs should they be deemed necessary. A monitor not affiliated with the construction contractor will conduct a site visit at least twice per week during the construction period.

5.2.2 Fish Salvage Plan

Fish salvage is required during both construction and maintenance. The individuals conducting fish salvage must contact the WDFW local area habitat biologist at least one week prior to conducting fish salvage, have a valid WDFW Scientific Collection Permit, NOAA Fisheries Section 10 Permit, and the crew leader will have at least 100 hours of experience electrofishing and will have attended the Backpack Electrofishing and Fish Handling Techniques training offered by the Northwest Environmental Training Center. The following is the proper sequence for fish exclusion:

1. Isolate the project area (install block nets).
2. Install minnow traps and check frequently.
3. Dip or seine net exclusion.
4. Electrofish project reach.
5. Salvage during dewatering.
6. Inspect dewatered reach for any remaining fish or other aquatic resources.
7. Identify and release fish.
8. Remove block nets.

Isolate the Project Reach. Block nets will be installed at the upstream and downstream project limits to isolate the entire affected stream reach and prevent fish and other aquatic wildlife from moving into the work area. Block net mesh size, length, type of material, and depth will vary based on site conditions. Generally, block net mesh size is the same as seine material (9.5 mm stretched). Block nets will be installed securely along both banks and in channel to prevent failure during unforeseen rain events or debris accumulation. Some locations may require

additional block net support such as galvanized hardware cloth, additional stakes, or metal fence posts. Block nets will be left in place throughout the construction period or the maintenance activity, and may require daily leaf and debris removal to ensure proper function.

A biologist will be designated to monitor and maintain the nets. The flow rate in the stream and the amount of leaves and other debris collected on the net will determine how often the nets need to be checked. Once the stream reach has been isolated, all attempts to remove fish and other aquatic life will be made with the least amount of handling.

Install and Check Minnow Traps. The use of minnow traps is the first level of fish removal as it is the least detrimental, but will not capture all fish within the project reach. Minnow traps will be deployed in pools, and baited with canned salmon. Each minnow trap will be inspected daily. Each minnow trap will be tagged with waterproof labels that list the project proponent, project biologist, contact information including phone number, and valid scientific collection permit number. Minnow traps will be deployed for a minimum of three consecutive days.

Dip or Seine Net Exclusion. Aquatic life remaining after minnow traps are removed will be captured by hand or with dip nets and immediately put in dark-colored 5-gallon buckets filled with clean stream water. Net drags or seining through the isolated stream reach may also be used. Depending on the site, various lengths of 9.5 mm stretched nylon mesh minnow seines are used throughout the isolated stream reach. The seine is approximately 3 feet wide and of varying lengths with approximately 15 feet of rope attached to either end. Sets are conducted with one person on shore and one to two people working the other end of the net through the isolated stream reach area. Once the net is out and the lead line dropped to the bottom, the other end of the 15-foot line is brought to shore and both ends of the net are pulled in quickly in tandem.

Electrofishing. Electrofishing of the project reach will commence one day prior to dewatering, after minnow traps and dip net/seine capture techniques have been completed. Electrofishing will occur while moving upstream and will continue until no more fish are captured during three consecutive passes. The electrofisher will be set to use direct current at the lowest voltage and pulse rate needed to effectively capture fish based on water temperature and conductivity. No electrofishing will occur when visibility is less than one foot or water temperature is below 4 degrees Celsius or above 18 degrees Celsius. Conductivity and stream temperature will be measured and recorded prior to electrofishing. Conductivity measurements will be used to set initial electrofisher settings, while stream temperature will be measured hourly. The crew leader will have at least 100 hours of experience electrofishing and will have attended the Backpack Electrofishing and Fish Handling Techniques training offered by the Northwest Environmental Training Center.

Salvage during Dewatering. The affected reach shall be dewatered slowly while using dip nets to remove any remaining aquatic vertebrates from pools where they may congregate during dewatering. The team of biologists will scour the project reach during dewatering and salvage all remaining aquatic vertebrates. Salvage during dewatering is the final action designed to ensure most, if not all, aquatic vertebrates are safely removed from the dewatered stream reach prior to construction of the sediment pond.

Fish Release. Regardless of capture technique, fish should be handled properly. A healthy environment for the stressed fish must be provided and all fish should be released as soon as

possible. There should not be overcrowding in the buckets and holding time should be minimized. Large fish will be kept separated from smaller prey-sized fish to avoid predation during containment. Water to water transfers, the use of shaded or dark containers, and supplemental oxygen shall be used during fish handling operations. Aquatic vertebrates shall be released to a location upstream of the project reach and block net. They will be released into an area that provides the best available habitat. Several buckets will be available with clean stream water to hold the fish until counting and release can be completed. These buckets will be equipped with air pumps to maintain proper dissolved oxygen levels. Frequent monitoring of bucket temperature and well being of the specimens should be done to assure that all specimens will be released unharmed. Perforated buckets may also be used and placed upstream of the block nets until the fish are counted.

Remove Block Nets. Block nets will be removed, following completion of the activity, as soon as the work area is stabilized. Block nets will not be left in place for an extended amount of time. Block nets will be removed with care and checked for aquatic vertebrates.

Documentation. The results of the fish capture effort(s) will be presented to the City of Bellevue, WDFW via annual reporting requirements associated with the Scientific Collection Permit, NOAA fisheries per Section 10 of the ESA, and within yearly monitoring reports.

5.2.3 Beaver Protection

A qualified trapper who is approved by the WDFW to safely capture and relocate beavers will be employed to remove beavers currently utilizing the project reach. A beaver den was located in the project reach during field investigations. This den was active as of April 2007 within an area designated for excavation. The beavers themselves are not a problem and the goal is not to relocate them, but to protect them from being entombed in their den or killed during excavation of the pond. Although they may damage some riparian plantings proposed as mitigation for project-related impacts, their ecological benefits outweigh these potential minor inconveniences. Therefore, they should not be relocated out of the project area, but moved upstream during excavation of their den. One potential trapper is "A Wildlife Pro of Seattle" who can be reached by calling (206) 799-6403.

5.2.4 Temperature Monitoring

The purpose of monitoring temperature is to determine if the proposed lower Coal Creek sediment pond is influencing stream temperature after construction. This will be ascertained by installing continuous in-stream temperature monitors upstream of the pond, within the pond, and downstream of the pond. If it is documented that temperature immediately downstream of the pond is higher than the temperature immediately upstream of the pond, additional actions will be required. Additional actions include determining how far downstream stream temperature is being affected and are stream temperature reduction measures warranted. The results of the temperature monitoring will be included in the yearly monitoring reports. The monitoring report will include raw data, a discussion of the results, and if warranted, contingency actions may be proposed. Potential contingency actions could include additional plantings or altering the maintenance schedule.

5.2.5 Fish Access Monitoring

The purpose of monitoring fish access through the project site is to determine if the proposed lower Coal Creek sediment pond is impacting upstream fish passage. If anadromous salmonids or adfluvial species (largescale suckers) are documented upstream of the project reach after construction, fish access through the project reach will be considered sufficient. In addition to documenting fish passage, weirs and LWD within the project reach will be inspected. Weirs will be inspected and assumed passable if WDFW criteria are met. LWD will be inspected to determine if scour pools are being created and working as designed. The results of the fish access monitoring will be included in the yearly monitoring reports. Contingency actions may be proposed, if warranted. Potential contingency actions could include altering the height and location of weirs and/or repositioning LWD.