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CITY OF WOODINVILLE
STATE ENVIRONMENTAL POLICY ACT (SEPA) CHECKLIST

WAC 197-11-960 Environmental Checklist.

ENVIRONMENTAL CHECKLIST

Purpose of checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

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CITY OF WOODINVILLE
SEPA CHECKLIST

A. BACKGROUND (TO BE COMPLETED BY APPLICANT)

1. Name of proposed project, if applicable:

Sammamish River Bridge and Road (SR 202) Project

2. Name of applicant:

City of Woodinville, Public Works Department

3. Address and phone number of applicant and contact person:

Thomas E. Hansen
Director, Public Works Department
17301 133rd Avenue NE
Woodinville, WA 98072
Phone: (425) 877-2291
tomh@ci.woodinville.wa.us

4. Date checklist prepared:

June 27, 2012 (Revised)

5. Agency requesting checklist:

City of Woodinville

6. Proposed timing or schedule (including phasing, if applicable):

Construction of the project is expected to begin in March of 2013, pending various federal, state, and local approvals and permits. The known and expected permitting and approval requirements associated

with the project are listed in Section A.10; the City expects to be able to complete all permitting and approval processes in such a manner to meet the proposed schedule, which was developed in consideration of these processes. Construction is expected to last approximately 9 months pending contract schedules, and to extend into 2014.

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

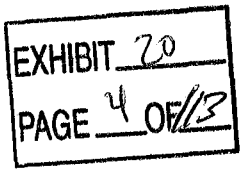
SR 202 serves as one of five entrances to the downtown core. The City's proposed Sammamish River Bridge and Road (SR 202) Project is part of a larger overall strategy to reduce congestion in the downtown core of the city. Intersection improvements at both ends of the project, at Woodinville-Redmond Road NE and 131st Avenue NE, have already been completed. The City is also planning a traffic light synchronization project on SR 202 (NE 175th Street) from 127th Place NE to 140th Avenue NE.

There are no other plans for future additions or expansions of transportation facilities related to or connected with the proposed project.

Mitigation Activities Related to this Proposal:

Because the project will require working over the Sammamish River and will permanently shade a section of the river, a Hydraulic Project Approval (HPA) is required from the Washington Department of Fish and Wildlife (WDFW). Based on a site visit and discussions with WDFW, the City will remove invasive vegetation species and replant with native species to improve habitat conditions along the banks of the Sammamish River. A detailed planting plan will be developed as part of the landscape design for the project

The proposed project will permanently alter 0.28 acres (12,286 square feet) of stream/wetland buffer of a DNR Type 1 stream (the Sammamish River) and an adjacent Class 1 (Woodinville Municipal Code [WMC]) wetland (Wetland A) (see Attachment A). The standard buffer width for both a Type 1 stream and Class 1 wetland is 150 feet. The WMC requires replacement or enhancement when a stream or buffer is altered pursuant to an approved development proposal. The WMC also requires a 1:1 enhancement ratio when reducing the standard buffer for a Class 1 wetland (WMC 21.24.350).



The design, implementation, maintenance, and monitoring plans for these mitigation activities will be developed in consultation with the appropriate regulatory agencies.

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

1. Cultural Resources Report (Western Shore Heritage Services 2007)
2. Wetland Delineation Report (Shannon & Wilson 2007)
3. Draft Geotechnical Report (Shannon & Wilson 2007)
4. Hydraulic Analysis (Technical Memo, Northwest Hydraulic Consultants 2007)
5. Endangered Species Act (ESA) Section 7 - No Effect Letter (AECOM 2011)
6. Traffic Noise Report (AECOM 2011)
7. Conceptual Mitigation Plan for Stream/Wetland Buffer Impacts (AECOM 2011)
8. Joint Aquatic Resources Permit Application (JARPA)
9. National Environmental Policy Act (NEPA) Environmental Classification Summary
10. De Minimis 4(f) Evaluation
11. Air Quality Conformity Analysis (AECOM 2011)
12. Analysis of Geotechnical Effects of Proposed Roadway Bridge Construction on Existing Railroad Bridge (Shannon & Wilson 2012)

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None identified

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10. List any government approvals or permits that will be needed for your proposal, if known.

1. NEPA Environmental Classification Summary (ECS) for Class II Categorically Excluded project (WSDOT)
2. Endangered Species Act (ESA) Effects Determination (WSDOT)
3. De Minimis 4(f) Evaluation
4. Approval/Variance for approximately 12 Design Deviations, including one for Bike Lane Width (WSDOT)
5. Section 106 Consultation with the Tribes/State Historic Preservation Office (SHPO) - SHPO concurred with no effect on cultural resources on June 23, 2011.
6. Shoreline Substantial Development Permit (City of Woodinville)
7. Floodplain Development Permit (City of Woodinville)
8. CAO Review/Permit (City of Woodinville)
9. Hydraulic Project Approval (HPA) (WDFW)
10. National Pollutant Discharge Elimination System (NPDES) General Construction Permit (Ecology)
11. Revised easement, maintenance, and operations agreement; right of entry to build (Port of Seattle and operator of existing railroad)

In addition, the City will need to coordinate with other potentially affected entities that have easement rights, or may be in the process of obtaining such rights, to the existing rail corridor to get their input, comments, resolve potential differences, and if appropriate, get their concurrence/approval for the project. Entities the City needs to coordinate with include: Puget Sound Energy (PSE), Sound Transit, MTS/Starcom, GNP/bankruptcy trustee, and King County.

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11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Introduction:

The City is proposing to widen State Route (SR) 202 (NE 175th St.) from the intersection of 131st Avenue NE (MP 0.31) to Woodinville-Redmond Road NE (MP 0.55). This east-west segment of SR 202 spans the Sammamish River and covers a distance of approximately 0.25 mile. The project includes the construction of a new bridge adjacent to the existing bridge crossing, and road widening and lane reconfiguration at both the east and west approaches to the bridge. Currently, there is one eastbound through/right-turn lane, two eastbound left-turn lanes, and one westbound lane at the intersection of 131st Avenue NE. At the intersection of Woodinville-Redmond Road NE, there is currently one westbound through/right-turn lane, one westbound left-turn lane, and one eastbound through lane. The center of the project corridor consists of an existing two-lane bridge (one lane in each direction) that crosses over the Sammamish River. The project corridor includes two railroad crossings, one just east of Woodinville-Redmond Road NE, and the other just east of the existing bridge.

The proposed project will follow the WSDOT Design Manual (July 2010). The functional class of SR 202 is Urban Minor Arterial. The posted speed limit on SR 202 is 35 mph and the design speed is 35 mph. The Washington State Pavement Management System (WSPMS) indicates that two-way traffic on SR 202 is 17,000 vehicles per day (Average Daily Traffic, ADT), of which 4.14% are trucks. VDT is expected to grow at a rate of 3.2%. Concrete sidewalks, curbs, and gutters are present along the majority of both sides of the roadway.

The new bridge will be built adjacent to the existing bridge without affecting traffic and will require no in-water work below Ordinary High Water Mark (OHWM).

Proposed Corridor Improvements:

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At the river crossing, SR 202 will be widened to four lanes by constructing a new two-lane bridge adjacent to and south of the existing bridge. At the intersection of 131st Avenue NE, an additional through-lane will be added to the existing configuration. At the Woodinville-Redmond Road NE intersection, an additional eastbound through-lane and a westbound right-turn pocket will be added to the existing configuration. The proposed project includes bike lanes, curb and gutter, and sidewalks along both sides of the road. The existing wire-span signal at the Woodinville-Redmond Road intersection will be upgraded with new signal poles. The existing railroad signals will be relocated and modified for the new roadway width.

Design Deviations:

The project will follow the WSDOT Design Manual (July 2010), with several necessary design deviations (e.g., reduced width bike and sidewalk lanes over the existing bridge crossing).

Construction Sequence:

Construction is expected to start in March 2013 and last for about 9 months. Initial work will include all clearing, excavation, grading, and erosion control necessary to construct the new bridge. The new bridge will be built adjacent to the existing bridge during the summer. Installation of the new bridge will not affect traffic, although occasional single lane and road closures may be required at night for certain project elements. Once the south side of SR 202 is constructed, traffic will be shifted to the new bridge to allow the north side to be widened, and to remove and replace the existing bridge barriers with new bridge rails and widened sidewalk. The final stage will include landscaping, final clean-up, laying asphalt, and striping. Signal replacements for the Woodinville-Redmond Road intersection and the two railroad crossings will happen concurrently with the other improvements.

Design Alternatives Analysis:

As part of the proposed project, the City developed and analyzed four design alternatives, as described and documented in the Draft Design Report for the Sammamish Bridge and Road (SR 202) Project (DMJM Harris 2007). Recommendation of the preferred alternative (the proposed project) is based on the analysis of the initial alternatives, which included an assessment of alignment amenities, right-of-way and easements, utility impacts, environmental mitigation, constructability, and cost.

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12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project is located in Section 9, Township 26 North, Range 5 East in the City of Woodinville in King County, Washington. The project is located on SR 202 (NE 175th Street) from the intersection of 131st Avenue NE (MP 0.31) to Woodinville-Redmond Road NE (MP 0.55). See the attached location/vicinity and topographic maps (Attachments A and B).

TO BE COMPLETED BY APPLICANT

B. ENVIRONMENTAL ELEMENTS
1. EARTH

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other . . . . . .

The project site occurs within the Sammamish River valley. Topography at the project site varies greatly, and includes both relatively flat areas and areas with steep slopes (up to 71% at the riverbank). The steepest slopes include riverbanks, and road and railroad embankments. Aside from these features, site topography ranges from 0 to 30% slopes. The bridge abutments will be located within the steep stream bank (above the OHWM). All other work will occur on relatively flat ground and mild slopes.

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

The steepest slope on the site is approximately 71%. This slope is on the east side of the bridge where the ground surface slopes up from the Sammamish River to the project roadway at a 1.4 Horizontal (H) to 1 Vertical (V) (H:V).

On the west side of the bridge, the ground surface slopes up from the Sammamish River to the project roadway at about 2.75 H:1 V, approximately 36%.

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

Soil types found on the project site include urban fill, clay, silt, sand, and gravel. No agricultural soils are located on the project site.

d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**
No.

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

Approximately 2,000 cubic yards (cy) of fill will be required to raise the ground surface to accommodate widening SR 202 and to meet the elevation of the existing road and new bridge. It will also be necessary to grade in the new road surfaces. Fill material will be appropriate to the specific engineering use and acquired from a commercial construction source. Filling and grading will only occur above the stream banks.

f. **Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**
The existing ground surfaces to be graded and filled are generally flat with negligible erosion potential. However, erosion could occur from rain running off exposed soils on slopes excavated for the bridge abutments or on fill embankments constructed to widen the existing roadway.

g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**
Approximately 70–80% of the project area (2.07 acres) is currently covered with impervious surfaces. The project will add approximately 0.37 acre of additional impervious surfaces, for a total of approximately 2.44 acres. After project construction, the percent of the project site

covered with impervious surface would still fall within the 70–80% range.

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

The contractor will comply with minimization measures and Best Management Practices (BMPs) contained in the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction. The BMPs would reduce and control erosion during construction. A project-specific Temporary Erosion and Sediment Control (TESC) plan will be developed and implemented. Erosion and sediment control specifications will focus on soil and slope protection and stabilization measures, followed by site restoration methods (including planting materials). Specific measures will include (but not be limited) to the following:

- Erosion control measures (e.g., silt fences) will be installed between the bridge and the Sammamish River.
- Removal of riparian vegetation above the OHWM, if needed, will be limited to the minimum necessary to install the drilled shafts and abutments for the bridge.
- The boundary of clearing limits associated with site access and construction limits will be flagged to prevent ground disturbance outside the limits.
- Construction impacts will be confined to the minimum area necessary to complete the project.
- Exposed soils will be stabilized during the first available period and will not be allowed to sit idle for more than 2 to 7 days without being treated as specified in the TESC plan. In the Puget Sound region, no soils can remain unstabilized for more than 2 days from October 1 to April 30, and no more than 7 days from May 1 to September 30.
- Landscaping will be installed along the north and south sides of SR 202.

All erosion control measures will meet the City's adopted standard in the 2009 King County Surface Water Design Manual.

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2. AIR

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

During construction of the project, temporary air quality impacts would include emissions from the operation of construction equipment and vehicles, and fugitive dust, particulates, and odors from construction activities. These emissions would be temporary and localized. The temporary emissions would not cause ambient concentrations to approach the national or state ambient air quality standards in the vicinity of the project study area. The operation of diesel- and gasoline-powered vehicles and equipment to transport workers, soils, and materials to the site and for construction activities on the site would generate greenhouse gas (GHG) emissions.

Modeling conducted for an Air Quality Conformity Analysis for the project indicated that during long-term operation of the project, CO concentrations at both intersections in the project study area would not exceed national or state ambient air quality standards, or increase when compared to the No Build Alternative.

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

There are no known off-site sources of emissions or odor that would affect this proposal.

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

During construction, impacts on air quality would be reduced and controlled through the implementation of standard federal, state, and local emission control criteria and Woodinville standard construction practices. These could include (but would not be limited to) the following:

- Turn off vehicles and equipment when not in use to reduce idling time.
- Install Best Available Control Technology (BACT) emission controls on temporary portable stationary construction equipment.
- Spray exposed soil with water or other suppressant to reduce emissions of and the deposition of particulate matter.
- Minimize dust emissions during the transport of fill material or soil by wetting down or covering the load.
- Promptly clean up spills of transported material on public roads.
- Schedule hauling and other work tasks to minimize congestion of existing vehicle traffic.
- Locate construction equipment and truck staging areas away from residences as practical, and in consideration of potential effects on other resources.
- Provide wheel washers to remove particulate matter that would otherwise be carried off site by construction vehicles.
- Cover dirt, gravel, and debris piles, as needed, to reduce dust and wind-blown debris.
- Maintain construction equipment in good mechanical condition to minimize exhaust emissions.
- Work with the contractor to establish equipment staging areas and material transfer sites so as to reduce the amount of time the engines of heavy equipment are running while waiting, thus reducing fuel usage and emissions.
- Develop and implement a project-specific spill prevention, control, and countermeasure (SPCC) plan and a temporary erosion and sediment control (TESC) plan).

The proposed project is expected to relieve congestion along the project corridor and improve traffic flow, which would reduce idling and GHG emissions.

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3. WATER

a. Surface:

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

The Sammamish River is a perennial stream that flows through the project site to Lake Washington, and is hydrologically connected to Puget Sound.

An 872 square foot palustrine emergent (PEM)/riverine wetland (Wetland A) is present on the south bank of the river within the floodway (Shannon and Wilson 2007).

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

Yes. Construction of the new bridge and approach roadways will require work within 200 feet of the Sammamish River and Wetland A, and over the Sammamish River.

Bridge and road construction will not require work within Wetland A, below the OHWM of the Sammamish River. See Attachment C.

However, WDFW will require the City to mitigate for shading effects of the new bridge on the river. The new bridge would create approximately 2,800 sq ft of overwater coverage, although direct shading would be less due to the bridge height and southern exposure to the sun under the bridge. To compensate for these effects, WDFW has indicated that the HPA for this project will require non-native invasive species (primarily Himalayan blackberry [Rubus armeniacus]) to be eradicated from beneath the new bridge structure, and the area to be planted with native species such as those present in shade under the existing bridge — nootka rose (Rosa nutkana), oceanspray (Holodiscus discolor), and salmonberry (Rubus spectabilis). The mitigation area is approximately 2,400 sq ft; once native shrubs mature, they would provide natural cover to shallow portions of the Sammamish River for juvenile salmon and steelhead that seek protection from larger fish. A

detailed planting plan will be developed as part of the landscape design for the project.

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

Road and bridge construction activities for the proposed project will not require any fill or dredge materials to be placed in or removed from surface waters or wetlands.

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

No.

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

Although the proposed project spans the Sammamish River, no elements of the proposed road and bridge construction project (i.e., earthwork or structures) will be located within the 100-year floodplain.

The removal of invasive plant species and the planting of native species to mitigate shade impacts (described above) would occur within the 100-year floodplain.

Off-site plantings for mitigation for impacts on wetland and stream buffer area would occur within the floodplain of Little Bear Creek, as described in the Conceptual Mitigation Plan (Attachment D).

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
The project would not produce or discharge waste materials to surface waters or wetlands. All runoff from the bridge will be captured in the storm drain system and treated prior to discharge to the Sammamish River.

b. Ground:
1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.
No. Groundwater would not be withdrawn nor would water be discharged to groundwater.

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

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served (if applicable), or the number of animals or humans the system(s) are expected to serve.
No waste materials would be discharged into the ground from septic tanks or any other sources. Concrete shafts for the bridge abutments will be installed below the groundwater table.

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

Currently, there are five stormwater discharge points/outfalls in the project area. Stormwater runoff from existing impervious surfaces is currently either: (1) collected in a series of catch basins and pipes and conveyed to a ditch that discharges directly into the Sammamish River (a flow control exempt waterbody); or (2) it flows on the surface (as sheetflow) onto adjacent property and into the river, or as sheetflow directly into the river.

Stormwater falling onto new impervious surfaces associated with the proposed project will be managed in accordance with the City's adopted standard (2009 King County Surface Water Design Manual) and will meet standards of the American Railway Engineering and Maintenance-of-Way Association (AREMA), as documented in its 2012 Manual for Railway Engineering.

Specifically, after the project is constructed, runoff from new impervious surfaces will be collected in a series of catch basins and pipes and conveyed to two catch basins with natural treatment filters, such as a Filterra Bioretention system. Treated stormwater will either infiltrate on site, or be discharged to the Sammamish River via existing stormwater outfalls. No changes are proposed to the collection and disposal of runoff from existing impervious surfaces. Direct discharge to the Sammamish River does not require detention per the 2009 King County Surface Water Design Manual.

The construction and operation of the proposed project will not alter existing surface water drainage patterns or stormwater management

standards and would have no effect on the existing adjacent railroad and associated ballast.

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

Construction-related spills or waste materials could inadvertently enter the surface water. A project-specific Spill Prevention, Control, and Countermeasure (SPCC) plan will be developed and implemented to address hazardous waste, hazardous substances management, and pollution control. See (d.) directly below and B.7 (Environmental Health).a.2 (page 23) for impact avoidance measures.

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

The project-specific TESC and SPCC plans will be developed and implemented in accordance with the King County Surface Water Design Manual (SWDM). The TESC plan will include BMPs to reduce and control potential surface, ground, and runoff water impacts. BMPs would be implemented to prevent run-off and sedimentation from reaching streams and aquatic habitats. Specific BMPs would include (but not be limited to) the following:

- Erosion control measures (e.g., silt fences) will be installed adjacent to the bridge.
- Construction stormwater will be pumped to an infiltration site, Baker Tank, or upland settling area where it will be treated and sediments consolidated prior to returning the water to the river.

Sediments will be removed and disposed of in accordance with the King County Surface Water Design Manual (SWDM).

- Concrete truck chute cleanout areas will be established to contain wet concrete and washwater. The contractor will protect all inlets and catchments from fresh concrete, tackifier, paving, and paint striping in case inclement weather unexpectedly occurs.
- When practicable, all fueling and maintenance of equipment will occur more than 300 feet from the river.
- No paving, chip sealing, or stripe painting will be conducted in rainy weather.
- Work requiring an HPA (i.e., based on proximity to adjacent waterbodies) will fully comply with all included provisions.

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4. PLANTS

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

- ☒ **Deciduous tree: Alder, maple, aspen, other**
- ☒ **Evergreen tree: Fir, cedar, pine, other**
- ☒ **Shrubs**
- ☒ **Grass**
- ☐ **Pasture**
- ☐ **Crop or Grain**
- ☒ **Wet soil plants: Cattail, buttercup, bullrush, skunk cabbage, other**
- ☐ **Water plants: Water lily, eelgrass, milfoil, other**
- ☐ **Other types of vegetation**

b. **What kind and amount of vegetation will be removed or altered?**
The proposed project would require the removal of both landscape vegetation and stream/wetland buffer vegetation.

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Landscape vegetation: Ornamental trees, screening trees, and shrubs will be removed along the road within 10 feet of the existing edge of pavement.

Stream/wetland buffer vegetation: Approximately 3,770 square feet of upland vegetation within the 150-ft stream buffer and 150-ft wetland buffer will be permanently displaced. Vegetation to be removed on the south bank of the Sammamish River includes some native species planted as part of a 2003 WSDOT mitigation project, including: red-osier dogwood (Cornus sericea), snowberry (Symphoricarpos albus), nootka rose, oceanspray, salmonberry, red elderberry (Sambucus racemosa), Douglas-fir (Pseudotsuga menziesii), bigleaf maple (Acer macrophylum), and red alder (Alnus rubra). These plantings are overgrown with Himalayan blackberry. Other vegetation to be removed on the south bank of the river includes reed canarygrass (Phalaris arundinacea) and creeping buttercup (Ranunculus repens). Vegetation to be removed on the north bank of the river is predominantly Himalayan blackberry.

As part of the HPA, WDFW has recommended the removal of invasive plant species and replanting native species along the banks of the Sammamish River under the new bridge span.

c. **List threatened or endangered species known to be on or near the site.**
Based on the Washington State Department of Natural Resources (DNR) Natural Heritage database, the U.S. Fish and Wildlife Service (USFWS) website, and a site visit, there are no state or federally listed plant species on or near the project site.

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

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Project landscaping will include plantings along both sides of the new roadway sections and will include a mix of appropriate native and ornamental species and in accordance with WSDOT standards.

In accordance with anticipated WDFW HPA provisions, non-native invasive species along the banks of the Sammamish River under the footprint of the new bridge will be removed and the area re-planted with natives species.

Wetland/stream buffer habitat that is permanently altered by the project (approximately 0.28 acre [12,286 sq. ft.) will be compensated for by enhancing 0.28 acre of riparian buffer habitat at a nearby off-site mitigation site along Little Bear Creek that has been identified by the City. A Conceptual Mitigation Plan has been prepared that details the proposed mitigation approach and planting plan. The mitigation plan will be finalized in consultation with the appropriate regulatory agencies and detailed in a Final Mitigation Plan. Once approved, the mitigation plan will be incorporated into the final landscape plans for the project.

5. ANIMALS

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

Birds: Hawk, heron, eagle, songbirds,

other: [circle songbirds, herons]

Mammals: Deer, bear, elk, beaver,

other: [circle beaver]; other small mammals typical of suburban environments

Fish: Bass, salmon, trout, herring, shellfish,

other: [circle salmon, trout]

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b. **List any threatened or endangered species known to be on or near the site.**
Chinook salmon (Oncorhynchus tshawytscha), steelhead (O. mykiss), and bull trout (Salvelinus confluentus).

Two stocks of Chinook salmon occur in the Sammamish River watershed: the North Lake Washington tributaries stock, which may be native but has likely been influenced by Issaquah Hatchery strays, and the Issaquah Creek stock, which is non-native. Both stocks are summer/fall runs, and adults enter the Lake Washington basin from June through November. Spawning occurs from September through November, and fry emerge from redds from January through March. However, Chinook are generally not expected to spawn in the Sammamish River. King County's 2007 Volunteer Salmon Watcher Program counted a total of 18 Chinook in Sammamish River tributaries and 16 in the river mainstem.

Steelhead trout throughout the greater Lake Washington basin are considered one stock. No spawning is known to occur in the Sammamish River. Few steelhead are observed in the tributaries to the river, and none were counted during the 2007 Volunteer Salmon Watcher Program. Critical habitat is being considered for steelhead.

The stock status for bull trout in the Lake Washington basin is largely unknown, and information on their abundance is extremely limited. It is possible that the headwaters of Issaquah and Bear creeks could provide suitable habitat for bull trout. However, it is unlikely that bull trout are present in the Sammamish River because of elevated water temperatures.

c. **Is the site part of a migration route? If so, explain.**
The Sammamish River serves as a migration route for salmonids in the watershed.

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

Measures to preserve and enhance wildlife include construction BMPs, including an SPCC plan and TESC plan, to avoid impacts on water quality in the Sammamish River; landscaping with native trees, shrubs, and ground cover; mitigation for temporary and permanent stream/buffer impacts (described earlier); and invasive plant species removal and replanting with native species under the footprint of the new bridge to mitigate for shade effects (also described earlier). The design, implementation, maintenance, and monitoring plans for these mitigation activities will be developed in consultation with the appropriate regulatory agencies and in accordance with permit requirements, and as described in the Conceptual Mitigation Plan.

6. ENERGY AND NATURAL RESOURCES

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

Electrical for street lighting and traffic signals.

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

No effects on potential energy use.

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

No energy conservation features included.

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7. ENVIRONMENTAL HEALTH

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

There is the potential for an inadvertent spill from construction equipment. The project-specific SPCC plan will be developed and implemented to prevent and manage any construction-related spills and reduce the potential for adverse health hazards. See (2) below.

1) Describe special emergency services that might be required.

No special emergency services would be required.

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

Project-specific SPCC and TESC plans will be developed and implemented to reduce and control environmental health hazards. Specific BMPs would include (but not be limited to) the following:

- All construction equipment would be cleaned and inspected before it arrives at the project site to avoid and minimize the potential for fuel or lubricant leaks. Equipment would be inspected for leaking hoses, mechanical joints, and hydraulic pistons.
- As possible, construction equipment would use vegetable-based oils and lubricants.
- When practicable, all fueling and maintenance of equipment will occur more than 300 feet from the river.
- Temporary control measures for both erosion and hazardous material spills would be installed to minimize access pathways to the Sammamish River in the event of a spill or leak.
- Hazardous material spill response materials would be available onsite for the duration of the construction work.
- Concrete truck chute cleanout areas will be established to contain wet concrete and washwater.
- The contractor will protect all inlets and catchments from fresh concrete, tackifier, paving, and paint striping in case inclement weather unexpectedly occurs.
- No paving, chip sealing, or stripe painting will be conducted in rainy weather.

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b. **Noise**

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

Noise in the project area is dominated by road traffic, with intermittent industrial/commercial noises from surrounding properties, and infrequent train traffic noise (including noise from signal arms and train whistles). Existing road traffic noise does not exceed FHWA Noise Abatement Criteria (NAC).

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

Construction noise for the proposed project is anticipated to be typical of that for road and bridge construction. Construction activities will include: clearing, excavation, grading, drilling, laying base course material, and paving. Construction equipment will likely include: backhoes or bobcats, graders, paving machines, dump trucks, cranes, drilling rig, concrete pump truck, and concrete trucks. Based on construction equipment noise data tabulated by the U.S. Environmental Protection Agency (EPA) and WSDOT, sound levels generated during construction are not expected to exceed 95 dBA at 50 feet from the source. Businesses and recreational areas immediately adjacent to the project corridor are expected to experience moderate noise impacts during construction, which is anticipated to last approximately 9 months. Because construction vehicle and equipment sounds (usually point sources) decrease about 6 dBA per every doubling of the distance, residential, commercial, and recreational areas farther from the project corridor would experience progressively less construction noise. However, minor construction noise impacts could extend up to 1 mile from the project corridor, depending upon intervening topography and landscape features.

Based on a traffic noise analysis conducted for the project in accordance with FHWA and WSDOT regulations and guidance, the proposed project would increase traffic noise in the project area over the long term. However, only one noise receiver in the project noise study area, the Elliot Tire store, would experience a long-term noise impact. The proposed project is predicted by the traffic noise model

to generate a noise level of 71.9 dBA at the Elliot Tire store; the FHWA NAC for commercial properties is 71 dBA.

3) Proposed measures to reduce or control noise impacts, if any:
Short-term construction noise impacts on surrounding properties would be minimized by:

- Complying with construction noise regulations contained in Chapter 8.08 (Noise Regulation) of the City of Woodinville Municipal Code.
- Limiting nighttime construction activities.
- Using the best available noise abatement technology on construction equipment.

While the entrance to the Elliot Tire store can be considered an outdoor area of human use, the use is transitory in nature and would not benefit from a reduction in noise levels. No areas of frequent outdoor human use in the project study area would experience traffic noise impacts under the modeled conditions; thus, no abatement measures are proposed for long-term noise impacts.

8. **LAND AND SHORELINE USE**

a. **What is the current use of the site and adjacent properties?**
The majority of the project is located within WSDOT right-of-way (ROW) which includes SR 202 (NE 175th Street) and the existing SR 202 Sammamish River Bridge. The project site also includes areas within Port of Seattle ROW. Port of Seattle ROW within the project limits includes two railroad line crossings of the Woodinville Subdivision (a.k.a. the Eastside Railroad) described further in Section B.14(e). GNP has been using the line for low volume freight traffic under an easement agreement with the Port of Seattle, but has recently declared bankruptcy. Sound Transit has entered into an easement agreement with the Port of Seattle for future use of the line. PSE also has an agreement with the Port of Seattle for use of its ROW within the project limits. PSE facilities on Port of Seattle ROW within the project limits include a power line and two power poles. Additionally, the project corridor crosses the Sammamish River, an adjacent wetland (referred to in this document at Wetland

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A), stream and wetland buffers, and King County's Sammamish River Trail. The project site includes portions of the stream and wetland buffers.

Properties adjacent to the project site include: McCorry's Restaurant, Mercury's Coffee Company, the City of Woodinville's Wilmot Gateway Park, an ARCO convenience store/gas station, Elliot Tire Store, a King County pump station, Woodinville Water District property, and an undeveloped commercial property currently being used as a storage yard.

The City is working with all property owners and easements holders as part of the proposed project, and issues associated with future right-of-way and easements will be addressed during the right-of-way acquisition phase of the project, following permitting. Attachment E includes ROW plan sheets showing the locations and areas of ROW acquisition and easements for the project.

b. Has the site been used for agriculture? If so, describe.
The site has no history of recent agricultural use.

c. Describe any structu res on the site.
Structures on the project site include the existing SR 202 roadway (described earlier), the Sammamish River Bridge, two railroad crossings, a 35-inch diameter storm sewer trunk line, a short culvert, overhead and underground utilities, and Mercury's Coffee Company. The project also crosses over the Sammamish River Trail.

The existing Sammamish River Bridge was built in 1963 and originally supported a 26-foot roadway (two 12-foot lanes and 1-foot shoulders) and 3-foot sidewalks on either side, with traffic barriers and bridge railings. Recently, WSDOT reduced the lane widths to provide for a 5-foot sidewalk with handicap ramps on the south (upstream) side of the bridge. WSDOT also added a beam guardrail along both sides of the bridge. The beam guardrail is attached to the sidewalk with steel post just inside the existing bridge rails and extends off both sides of the bridge to meet clear zone requirements. The bridge consists of three roughly equal spans with a total length of approximately 158 feet, supported on driven concrete piles located on either side of the Sammamish River below the OHWM.

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A 74-foot long railroad crossing at the western edge of the project corridor consists of a cantilever-supported flashing light signal and automatic gates. A 120-foot long railroad crossing just east of the Sammamish River Bridge consists of cantilever-supported flashing light signals. This rail line crosses the Sammamish River on a railroad trestle just south/east of the Sammamish River Bridge.

Utilities include overhead and underground power, underground telephone, water, gas, sanitary sewer, and fiber optic.

Mercury's Coffee Company is a small drive-through coffee stand located on the McCorry's on the Slough restaurant property near the property's entrance off of SR 202.

The Sammamish River Trail below the project roadway is 10 feet wide and includes a concrete trail barrier on one side of the trail and metal fencing on the other side.

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

Existing curb, gutter, and sidewalk on the existing SR 202 roadway will need to be removed to widen the roadway. The existing bridge barriers (including sidewalk and rails) on the north side of the existing bridge will be removed to replace them with new bridge rails and a widened sidewalk. The existing Mercury Coffee Company stand will need to be relocated to a different spot on the same property.

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

Central Business District

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

Retail Services

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

The Sammamish River from the southern city limits is designated as follows:

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1. Aquatic-area waterward of the OHWM.
2. Conservancy-area 100 feet landward of the OHWM.
3. Urban Conservancy-area from 100 feet landward of the OHWM to the outer edge of the shoreline jurisdiction.

h. **Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**
Yes. According to the City of Woodinville's Critical Areas Ordinance (CAO), the Sammamish River and adjacent palustrine emergent/riverine wetland are considered critical areas. The Sammamish River is classified as a Type 1 stream with a 150-foot buffer, and the adjacent wetland is classified as a Class 1 wetland, also with a 150-foot buffer.

The project area is also located within the FEMA 100-year floodplain (within the floodway) of the Sammamish River and is located in a designated seismic hazard area.

i. **Approximately how many people would reside or work in the completed project?**
Commercial/industrial businesses exist along the project corridor. No people would reside within or adjacent to the completed project.

j. **Approximately how many people would the completed project displace?**
No residences would be displaced. The Mercury Coffee Company stand would need to be relocated.

k. **Proposed measures to avoid or reduce displacement impacts, if any:**
None.

l. **Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**
This is a City project that was reviewed relative to the City's land use, comprehensive, and transportation plans.

9. **HOUSING**

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a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**
This project does not include the construction of any housing units.

b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**
No housing units would be eliminated.

c. **Proposed measures to reduce or control housing impacts, if any:**
The proposed project would have no housing impacts, so no measures to reduce or control impacts are necessary.

10. AESTHETICS

a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**
The tallest structures under the proposed project would be light poles for new street lighting. These would be approximately 18 feet above the road elevation and placed 100 feet apart along both sides of the roadway.

The proposed new bridge structure will cross the Sammamish River at approximately the same elevation as the existing Sammamish River Bridge. The bridge abutments and barriers will be concrete. The bridge barriers will include two rung metal railings.

b. **What views in the immediate vicinity would be altered or obstructed?**
Views in the immediate vicinity of the project include the Sammamish River Valley, including the Sammamish River, the Wilmot Gateway Park, the Sammamish River Trail, the Sammamish River Bridge and adjacent railroad trestle, and surrounding roads, railroads, and industrial/commercial areas.

Views that would be altered by the project are limited to the project roadway and bridge crossing of the Sammamish River, which will be wider, and views from the Sammamish River and Sammamish River Trail beneath the bridge crossing, which would be slightly altered by the wider bridge crossing. The City of Woodinville is working with King County to modify the design of the Sammamish River Trail in

the project area to increase vertical clearance and improve sight distance.

c. **Proposed measures to reduce or control aesthetic impacts, if any:**
The proposed project includes landscaping with ornamental and native trees, shrubs, and ground cover to provide more visual interest in the area, to screen and soften edges of pavement surfaces and structures, and to enhance the river corridor.

11. **LIGHT AND GLARE**

a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**
The proposed project would produce light from new street lighting located on both sides of the roadway. Street lighting would typically turn on near dusk and off after dawn.

b. **Could light or glare from the finished project be a safety hazard or interfere with views?**
Street lighting for the project would be designed in accordance with City of Woodinville standards to prevent glare or safety hazards. Light poles would not interfere with views.

c. **What existing off-site sources of light or glare may affect your proposal?**
No off-site light sources or glare would affect the proposed project.

d. **Proposed measures to reduce or control light and glare impacts, if any:**
No additional measures are proposed.

12. **RECREATION**

a. **What designated and informal recreational opportunities are in the immediate vicinity?**
Recreational opportunities in the project vicinity include kayaking in the Sammamish River; horseback riding, walking, jogging,

bicycling, and other non-motorized activities on the Sammamish River Trail; and a children's play area, picnic areas, and other recreational uses at the Wilmot Gateway Park, including periodic outdoor music concerts.

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

The proposed project would temporarily displace recreational uses on the Sammamish River Trail beneath the existing and new bridge during construction for safety purposes and to allow equipment access. A trail detour will need to be installed during a portion of the construction window.

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

The City will notify potential recreational users of the Sammamish River Trail of the planned construction closure and identify temporary trail detour routes, if feasible.

A potential trail detour route would route trail users from the south through the Wilmot Gateway Park to the intersection of SR 202/131st Avenue where they would cross SR 202 at the crosswalk. They will then be directed back west along SR 202 on the north side of the road and then back to the trail on the north side of the existing bridge.

The City of Woodinville is working with King County to modify the design of the Sammamish River Trail in the project area to increase vertical clearance and improve sight distance.

The City prepared a Local Agency Environmental Classification Summary (ECS) as part of the proposed project, resulting in a Class II Categorical Exclusion (CE) from NEPA analysis. As part of the ECS, the City submitted a request for the use of the De minimus (4F) exemption to address the Sammamish River Trail, a 4(f) property (letter dated December 14, 2011). The City received concurrence on the request letter in early 2012 from WSDOT and the FHWA. Per WSDOT Local Programs, the City is not required to address the potential effects that the proposed project may have on a trail that does not currently exist and that lacks a detailed plan or schedule for construction in the future.

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13. HISTORIC AND CULTURAL PRESERVATION

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

A cultural resources study conducted for the proposed project found that no cultural resources are present in the project area.

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

No landmarks or evidence of historic, archaeological, scientific, or cultural importance are known to be on or near the site.

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

No measures are proposed.

14. TRANSPORTATION

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

The project site includes a section of SR 202 from MP 0.31 to MP 0.55. Public streets serving the project site include Woodinville-Redmond Road NE and NE 131st Avenue.

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

Yes. King County (KC) Metro serves the project site and connecting roadways (Woodinville-Redmond Road and 131st Avenue NE). Three KC Metro bus stops are present near the intersection of SR 202 and 131st Avenue NE (one on SR 202 and two on 131st Avenue

NE), within several hundred feet of the eastern end of the project corridor.

c. **How many parking spaces would the completed project have? How many would the project eliminate?**
The proposed project does not include any parking. The proposed project would not eliminate any existing parking. However, widening of the road would require reconfiguring the existing parking lot at McCorry's Restaurant to maintain the existing 39 parking spaces.

d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**
Yes. The proposed project involves the construction of a new bridge and widening and other improvements to SR 202 (see the project description under question A.11). Improvements along SR 202 and at the intersection are within the public right-of-way.

e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**
The Woodinville Subdivision (a.k.a. the Eastside Railroad) crosses SR 202 at-grade in two locations (described earlier). This rail line was formerly owned by the Burlington Northern-Santa Fe (BNSF) Railway, but the line's ownership was transferred to the Port of Seattle in 2008. The Woodinville Subdivision is currently used for low volume local freight traffic.

The existing railroad bridge is located south of the proposed roadway bridge and is oriented at an angle such that the proposed eastern concrete wing wall for the proposed roadway bridge would overlap with the existing eastern concrete block retaining wall of the existing railroad trestle (see Attachment F). This will require shortening the eastern railroad trestle retaining wall by one (1) foot. The new eastern concrete wing wall for the proposed roadway bridge will be designed to be flush with the shortened railroad trestle and replace its current function (see Attachment F). The proposed eastern concrete wing wall for the roadway bridge and alteration to the existing retaining wall for the railroad trestle would not affect the integrity of either structure.

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f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**
The completed project would reduce congestion and increase capacity. Current average daily traffic (ADT) levels are 17,000 vehicles. With the project, projected ADT in the year 2030 would increase to 29,000. Peak volumes would occur between 4:00 p.m. and 6:00 p.m.

g. **Proposed measures to reduce or control transportation impacts, if any:**
Over the short term, construction of the new bridge adjacent to the existing bridge would have no effect on road traffic along the project corridor during daytime hours. However, single lane and road closures may be necessary at night for certain elements of construction, such as unloading the new bridge girders from semi-trucks. Standard construction-related traffic control measures will be followed in accordance with City of Woodinville requirements.

Although rail traffic volumes are very low through the project site (one northbound and one southbound trip each on Tuesdays and Thursdays), construction activities will last approximately 9 months and could affect rail traffic both during construction of the new bridge and widening of the approach roadways. The City and/or construction contractor would coordinate with the Port of Seattle and rail operators to address rail transportation through the project site during construction.

Over the long term, the completed project is expected to reduce congestion and improve safety on SR 202 and adjacent roadways, and improve traffic flow to the downtown core.

The existing railroad bridge is located south of the proposed roadway bridge and is oriented at an angle such that the two structures would be closest near the east abutment of the new roadway bridge; fill for the new east approach would be within about 10 feet of the existing railroad bridge. On the west abutment, the two structures diverge. In relation to the existing railroad tracks, the proposed projects meets AREMA clearance requirements as documented in its 2012 Manual for Railway Engineering (Chapter 28, Clearances).

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Based on a geotechnical analysis (Shannon & Wilson 2012), settlement induced by the new east approach fill will be small and is unlikely to cause significant settlement effects on the existing railroad bridge. The proposed drilled shafts for the new east abutment will be at least 16 feet from the existing railroad bridge, farther than the industry-recognized minimum distance for interaction effects of adjacent drilled shaft foundations. However, to address any potential for damage to the existing railroad bridge due to vibrations and resulting settlement caused by drilled shaft installation or the placement of fill, monitoring of the railroad bridge will be performed during construction activities. If any movement is detected, the drilling will be stopped until corrective measures are implemented. Prior to construction, monitoring criteria will be developed for vibration and settlement; the criteria will consider the type and frequency of the vibrations, the structural design, and the condition of the existing bridge structure. Additional details are provided in Shannon & Wilson (2012) (see Attachment G).

15. PUBLIC SERVICES

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

No. The project would not increase the need for public services. The project will improve the flow of traffic, assisting EMS vehicles through the corridor.

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

No measures are warranted.

EVALUATION
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16. **UTILITIES**

a. **Circle utilities currently available at the site: Electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**
Utilities currently available at the project site include overhead and underground power, underground telephone, water, sanitary sewer, and fiber optic, stormwater.

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**
No additional utilities are required for the project. Existing utility poles will be relocated behind the new sidewalks, and utility boxes will be adjusted to grade. The new street lights will require new conduit to provide power to the lights. New stormwater facilities will be installed as part of this project.

C. SIGNATURE

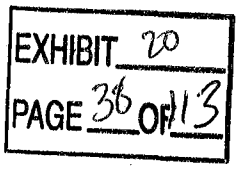
I certify (or declare) under penalty of perjury under the laws of the state of Washington that the above answers are true and complete to the best of my knowledge.
I understand the lead agency is relying on them to make its decision.

Signature: _____

Date Submitted: 7/10/12

FOR OFFICE USE ONLY:

EVALUATION
For City use only



Reviewed by (signature): _____

Date: _____

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SEPA Checklist Attachments

Sammamish River Bridge and Road (SR 202) Project

Attachment A	Site Map
Attachment B	Topographic Map
Attachment C	Construction Details Map
Attachment D	Conceptual Mitigation Plan
Attachment E	Right-of-Way Plans
Attachment F	Wing Wall Detail
Attachment G	Geotechnical Effects Memo (Shannon & Wilson)
Attachment H	Cultural Resources Report (Western Shore Heritage Services)
Attachment I	On-Site Mitigation Planting Plan

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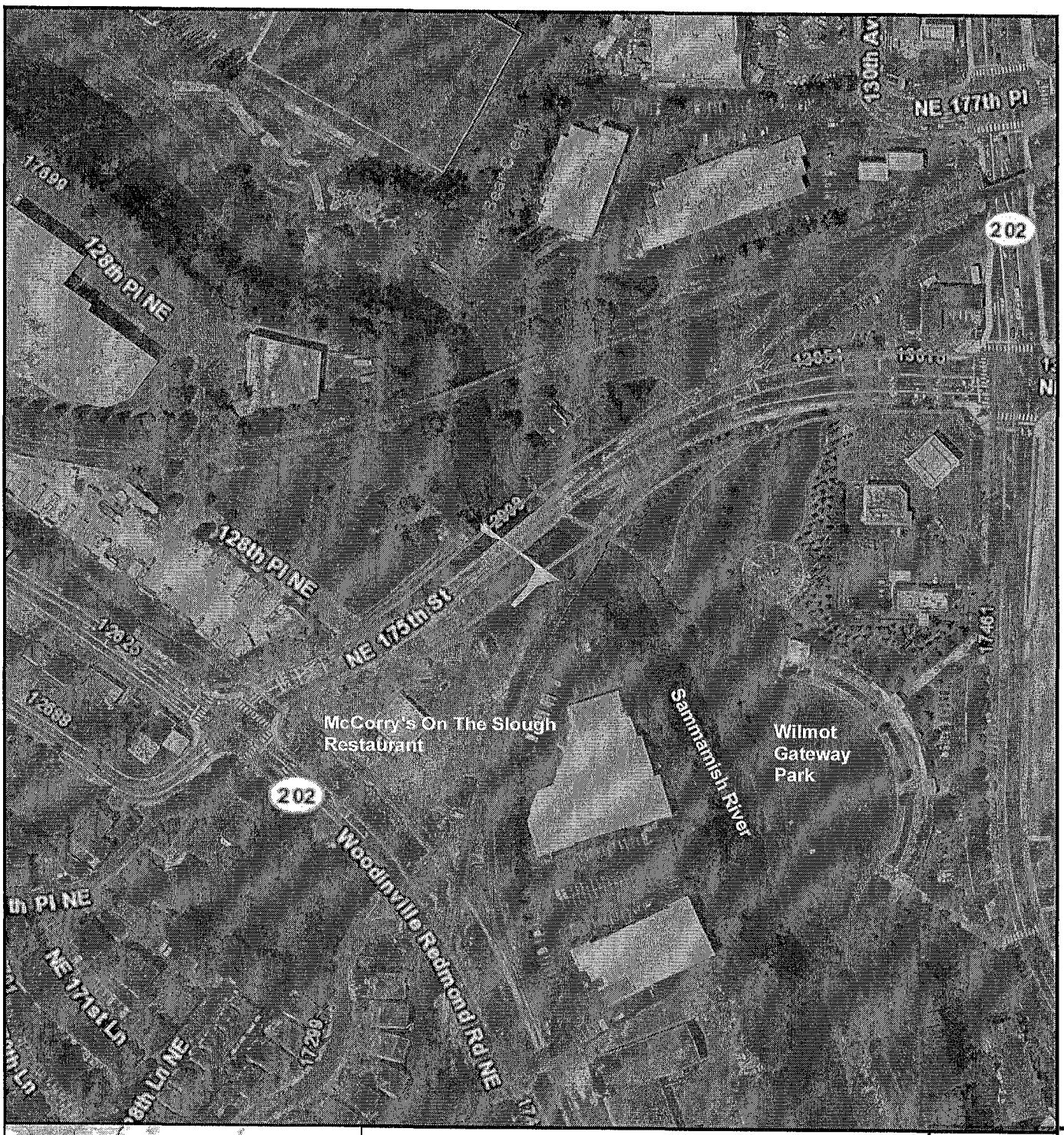
Attachment A
Site Map



KING COUNTY LONGITUDE = 122 08' 45" W
SECTION: 9 LATITUDE = 47 43' 57" N
RANGE: 5E
TOWNSHIP: 26N

Project Area
Wetland A

Feet
0 50 100 200
N

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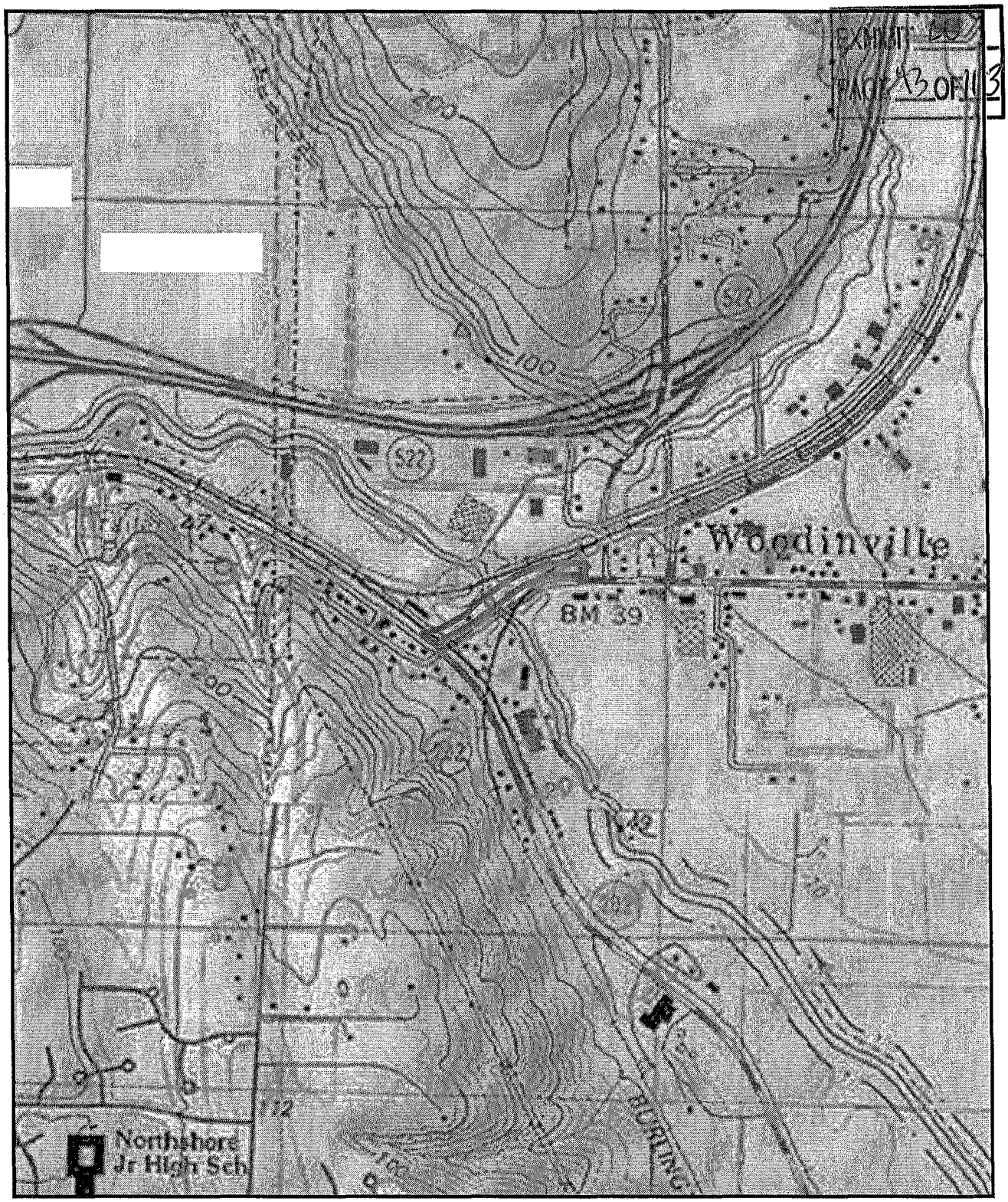
Attachment B
Topographic Map



ProjectCorridor

Topographic Map

Sammamish River Bridge Project
City of Woodinville
Section 9 Township 26N Range 5E

1 inch = 1,000 feet

0 500 1,000 Feet

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Attachment C
Construction Details Map

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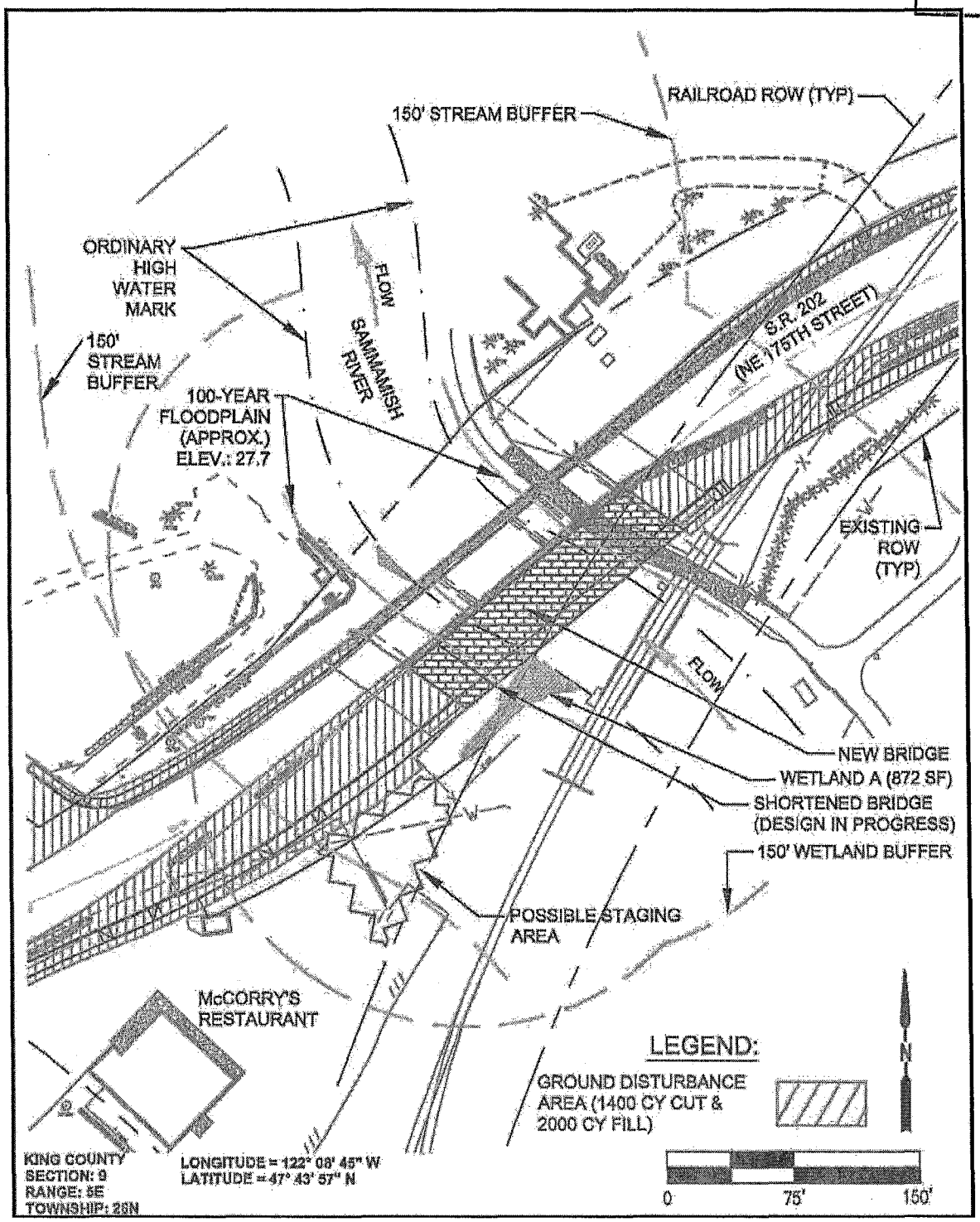

SEPA Checklist Attachment C: Construction Details

Attachment D
Conceptual Mitigation Plan

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CONCEPTUAL MITIGATION PLAN

Sammamish Bridge and Road (SR 202) Project

City of Woodinville, Washington

Prepared by:

AECOM
710 Second Avenue, Suite 1000
Seattle, Washington 98104

Prepared for:

City of Woodinville
17301 133rd Avenue NE
Woodinville, Washington 98072

December 2011

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FIGURES

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LIST OF ABBREVIATED TERMS

BMP	Best Management Practice
CAO	Critical Areas Ordinance
DNR	Washington Department of Natural Resources
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
GPS	Global Positioning System
HGM	Hydrogeomorphic
HPA	Hydraulic Project Approval
MP	Mile Post
OHWM	Ordinary High Water Mark
PEM	Palustrine Emergent
RCW	Revised Code of Washington
SR	State Route
TESC	Temporary Erosion and Sediment Control
WDFW	Washington Department of Fish and Wildlife
WMC	Woodinville Municipal Code
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

1.0 INTRODUCTION

This Conceptual Mitigation Plan is being submitted to support permit applications to the City of Woodinville (the "City") for construction of the proposed Sammamish River Bridge and Road (SR 202) Project (the "project"). This report describes wetlands, streams, and buffers on the project site; proposed effects on these resources; and proposed actions to compensate (mitigate) for project impacts in accordance with the City's Critical Areas Ordinance (CAO) (Woodinville Municipal Code [WMC] 21.24.010 to 440).

Appendix A contains a conceptual mitigation design that corresponds to the proposed mitigation approach and planting plan described in this report. This Conceptual Mitigation Plan will be finalized once it has been approved by the permitting authorities.

1.1 PROJECT LOCATION

The proposed project is located on NE 175th Street (a.k.a. SR 202) within the corporate limits of the City of Woodinville, in King County, Washington. The project corridor extends from 131st Avenue NE (mile post [MP] 0.31) to Woodinville-Redmond Road NE (MP 0.55), spanning the Sammamish River. The project corridor consists predominantly of developed areas, including the existing roadway and bridge over the Sammamish River, two at-grade railroad crossings, and portions of adjacent commercial properties. The proposed project is located in Water Resource Inventory Area (WRIA) 8 (Cedar-Sammamish) in the Sammamish River Basin, in the southeast quarter of Section 9 of Township 26 North, Range 5 East (T 26N R 5E S9). Refer to Figure 1-1 *(Vicinity Map)*.

1.2 RESPONSIBLE PARTIES

1.2.1 Applicant / Owner

The City of Woodinville is the applicant for the proposed project, the owner of the proposed mitigation site property, and the party responsible for long-term maintenance and monitoring of mitigation elements. The primary contact person for the proposed Sammamish River Bridge and Road (SR 202) Project and for the proposed Mitigation Plan for permitting purposes is:

Thomas Hansen, Public Works Director
Public Works Department
17301 - 133rd Avenue NE
Woodinville, WA 98072

Phone: (425) 489-2700 ext. 2291
Email: tomh@ci.woodinville.wa.us

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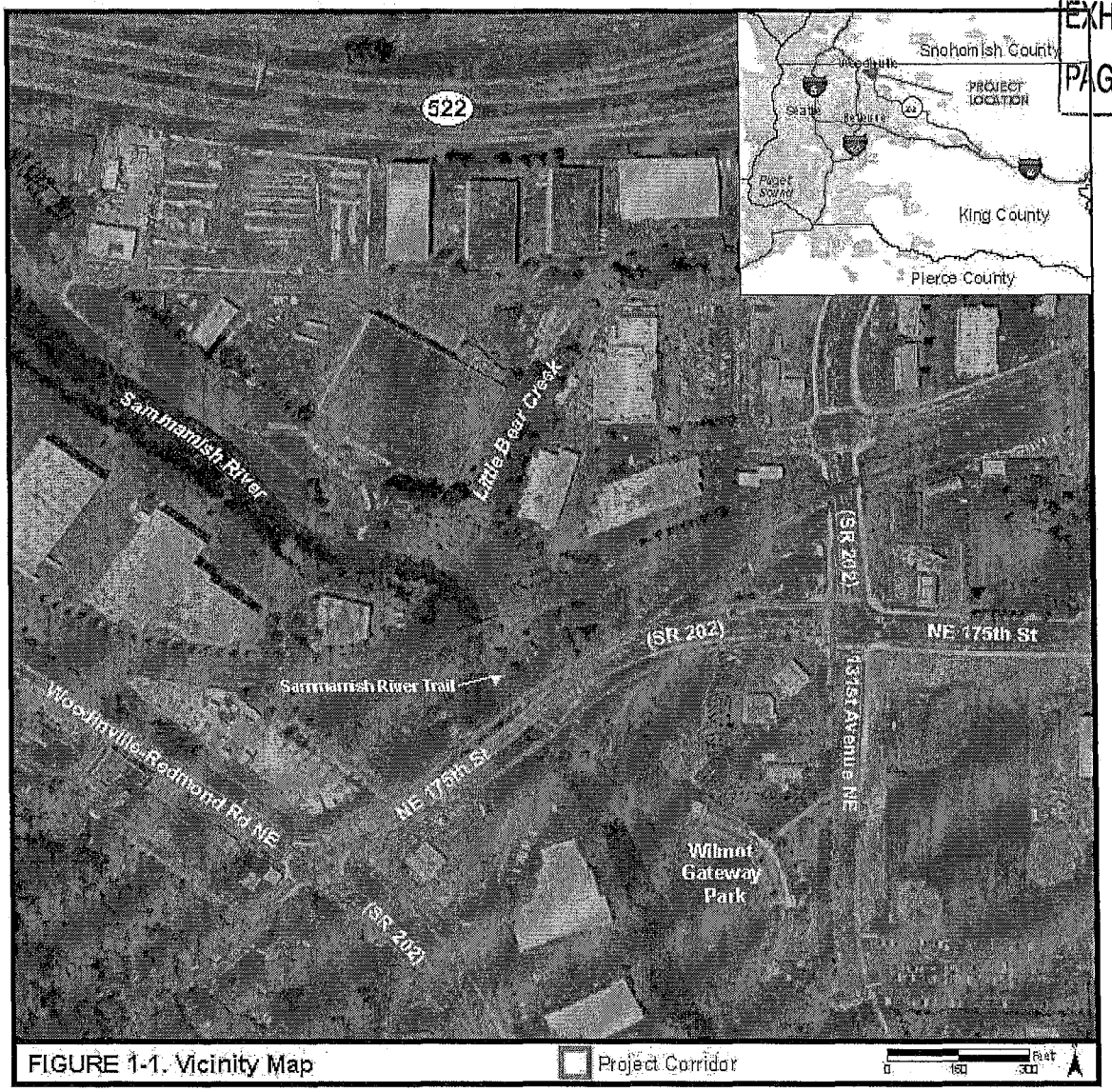

FIGURE 1-1. Vicinity Map

1.2.2 AUTHOR OF MITIGATION PLAN

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1.3 PROJECT DESCRIPTION

SR 202 serves as one of five entrances to the downtown core. The City's proposed Sammamish River Bridge and Road (SR 202) Project is part of a larger overall strategy to reduce congestion in the downtown core of the city. Intersection improvements at both ends of the project, at Woodinville-Redmond Road NE and 131st Avenue NE, have already been completed.

The proposed project involves widening NE 175th Street (SR 202) from the intersection of 131st Avenue NE to Woodinville-Redmond Road NE. There is currently one eastbound through/right-turn lane, two left-turn lanes, and one westbound lane at the intersection of 131st Avenue NE. At the intersection of Woodinville-Redmond Road NE there is currently one westbound through/right-turn lane, one left-turn lane, and one eastbound lane. The center of the project currently consists of a two-lane bridge (one lane in each direction) that crosses over the Sammamish River. The project corridor includes two railroad crossings, one just east of Woodinville-Redmond Road NE, and the other just east of the bridge. Concrete sidewalks, curbs, and gutters are present along the majority of both sides of the roadway (Figure 1-1).

The proposed project would widen NE 175th Street between 131st Avenue NE and Woodinville-Redmond Road NE to four continuous through lanes by constructing a new two-lane bridge adjacent to and south of the existing two-lane bridge, widening the approach roadways, and reconfiguring travel lanes. The existing bridge would accommodate the westbound lanes, and the new bridge would accommodate the eastbound lanes. At the 131st Avenue NE intersection, an additional westbound through lane would be added to the existing configuration. At the Woodinville-Redmond Road intersection, an additional eastbound through lane and a westbound right-turn pocket would be added to the existing configuration. The roadway lanes would vary in width from 11 to 13 feet. The vertical profile of the existing roadway would be maintained. Figure 1-2 illustrates the proposed project.

The proposed project includes bike lanes, curb and gutter, and sidewalks along both sides of the road. Bike lanes would extend the length of the project corridor on both sides of the road and vary in width from 4 to 5 feet. Sidewalks would also extend the length of the project corridor and vary in width from 5 to 8 feet. The intersections of SR 202 with Woodinville-Redmond Road NE and 131st Avenue NE are both signalized. The existing wire-span signal at the Woodinville-Redmond Road NE intersection would be upgraded with new signal poles. The existing railroad signals

would be relocated and modified for the new roadway width. Project construction is expected to begin in March 2013 and last approximately 9 months.

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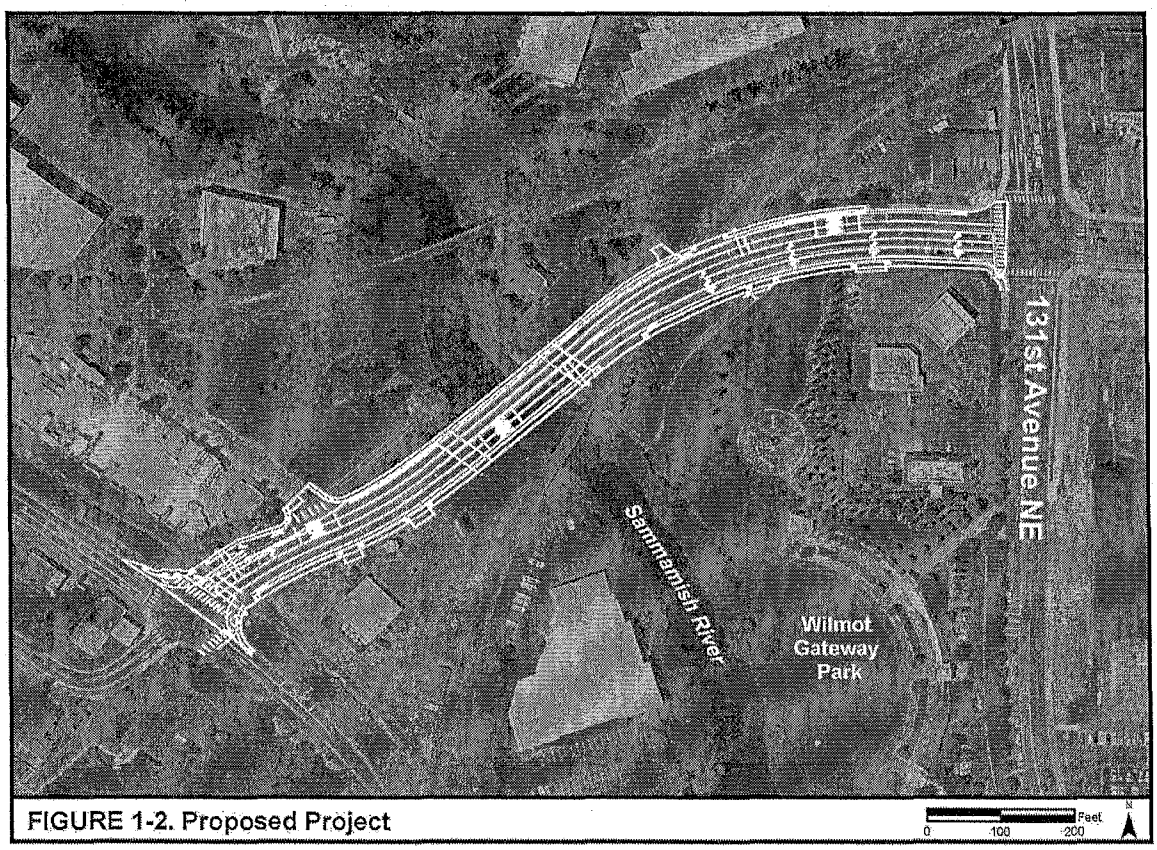

FIGURE 1-2. Proposed Project

The Sammamish River flows through the project site, and a small (872 square foot) wetland (Wetland A) occurs on the south bank of the river within the floodway. The WMC designates the Sammamish River as a Type 1 stream (WMC 21.24.370) and Wetland A as a Class 1 wetland due to its proximity and hydrological connection to the Sammamish River (WMC 21.24.320 [2][a]). Under the WMC, both Class 1 wetlands and Type 1 streams have a standard buffer width of 150 feet (WMC 21.24.330 [1] and 21.24.380 [1]). Impacts on Class 1 wetland buffers require a 1:1 enhancement ratio (WMC 21.24.350 (8)(c). The WMC does not specify specific mitigation ratios for stream buffer impacts, but requires enhancement to provide a net improvement in overall stream and buffer function and value (WMC 21.24.380 [1][a]). Full mitigation typically encompasses the entire bank from the Ordinary High Water Mark (OHWM) to the buffer boundary (City of Woodinville 2011b).

The project would permanently alter 0.28 acre (12,286 square feet) of combined stream and wetland buffer area, effectively reducing the standard regulatory buffer widths. Therefore, the project requires 0.28 acre of compensation (mitigation) in the form of stream/wetland buffer enhancement, and the enhancement measures implemented must provide a net improvement in overall stream and buffer function and value. Due to the lack of suitable acreage on site and constraints of the surrounding urban landscape, the City proposes to mitigate buffer impacts off

site. The overall mitigation goals are to enhance 0.28 acre of stream/wetland buffer habitat to provide a net improvement in overall stream and buffer functions in the same drainage basin (the Sammamish River drainage basin) at a site along Little Bear Creek, approximately 0.36 mile to the northwest of the road and bridge project site. The proposed mitigation site would be monitored and maintained for a minimum of 5 years to determine whether the mitigation goals are being met.

1.4 WETLAND DELINEATION OVERVIEW

Shannon and Wilson (2007) conducted a wetland delineation in December of 2006 to determine the extent and categories of wetlands on and adjacent to the road and bridge project site. Wetlands were identified and delineated in accordance with the U.S. Army Corps of Engineers (Corps) 1987 Wetland Delineation Manual (Environmental Laboratory 1987) and the Washington State Department of Ecology (Ecology) 1997 Wetland Identification and Delineation Manual (Ecology 1997). Identified wetlands were classified according to Ecology's Washington State Wetland Rating System for Western Washington (Hruby 2004) and the WMC. Data points and wetland boundaries were flagged in the field and surveyed. One wetland (Wetland A) was identified in the study area within the floodway of the Sammamish River. Figure 1-3 (*Wetland A*) shows the wetland boundary in relation to the proposed project.

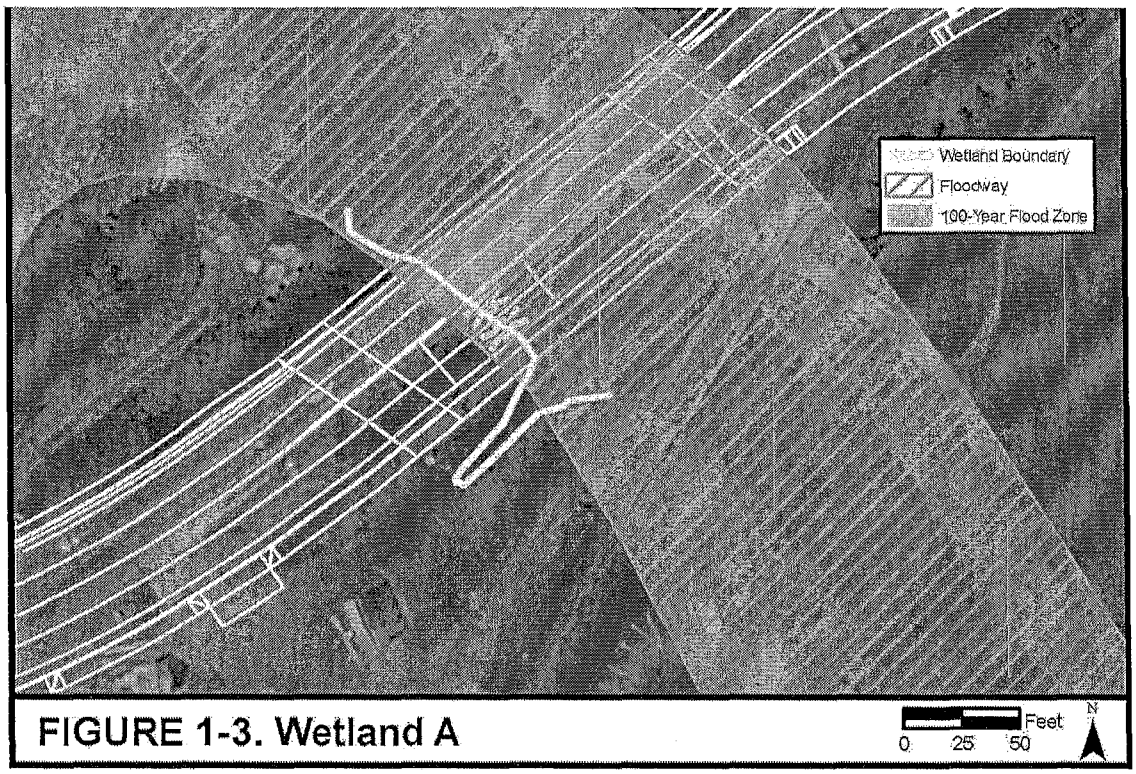

FIGURE 1-3. Wetland A

Wetland A is an 872-square feet wetland located in the center of the project study area, along the left (south) bank of the Sammamish River. Wetland A is a small, low-quality palustrine (freshwater) emergent (PEM) wetland as classified using the Cowardin classification system (Cowardin et al. 1979) and as a riverine wetland using the Hydrogeomorphic (HGM) classification system (Brinson 1993). Under Ecology's wetland rating system, it was rated as a

Category IV wetland due to its small size and low quality (described in further detail in Section 3.0, *Ecological Assessment of Existing Site*). However, due to its proximity and hydrological connection to the Sammamish River, a "Shoreline of the State" and Type 1 stream, Wetland A is considered a Class 1 wetland under the WMC.

During the last few years, the Corps updated and expanded their delineation manual with regional supplements. In 2008, the Corps required the use of its delineation manual and its interim regional supplements. The final regional supplements were released in 2010. During the interim period, Ecology accepted data forms from both the federal and state delineation manuals. Effective March 14, 2011, Ecology revised state law to repeal the use of the state delineation manual and require that state delineations be done according to the currently approved federal manual and supplements. While the wetland delineation in 2006 was conducted using the delineation manuals required at that time, AECOM ecologists visited the site in October 2011 to verify the current location, extent, and general character of Wetland A, as habitat conditions can change over time, and to gather information regarding the existing condition and potential functions of the surrounding stream and wetland 150-foot buffers. Based on the October 2011 field observations, Wetland A appears to be in the same location and cover the same area as it did in 2006. Visual observations of habitat conditions, including hydrology and vegetation, are consistent with the description provided in the 2007 wetland delineation report (Shannon and Wilson 2007). Wetland A is described in greater detail in Section 3.0 (*Ecological Assessment of the Existing Site*).

The remainder of this report is divided into the following chapters:

- Chapter 2.0, Project Impacts
- Chapter 3.0, Ecological Assessment of Existing Site
- Chapter 4.0, Mitigating Measures
- Chapter 5.0, Compensation Plan
- Chapter 6.0, Goal, Objectives, and Performance Standards
- Chapter 7.0, Maintenance Plan
- Chapter 8.0, Monitoring Plan
- Chapter 9.0, Performance Guarantees
- Chapter 10.0, References

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2.0 PROJECT IMPACTS

The proposed project would affect 0.28 acre (12,286 square feet) of combined City-regulated stream and wetland buffer within the project corridor. Figure 2-1 (*Project Impacts*) illustrates the location of regulated areas (streams, wetlands, and buffers) on the project site, and the location, extent, and acreages of impacts that would occur as result of the proposed project.

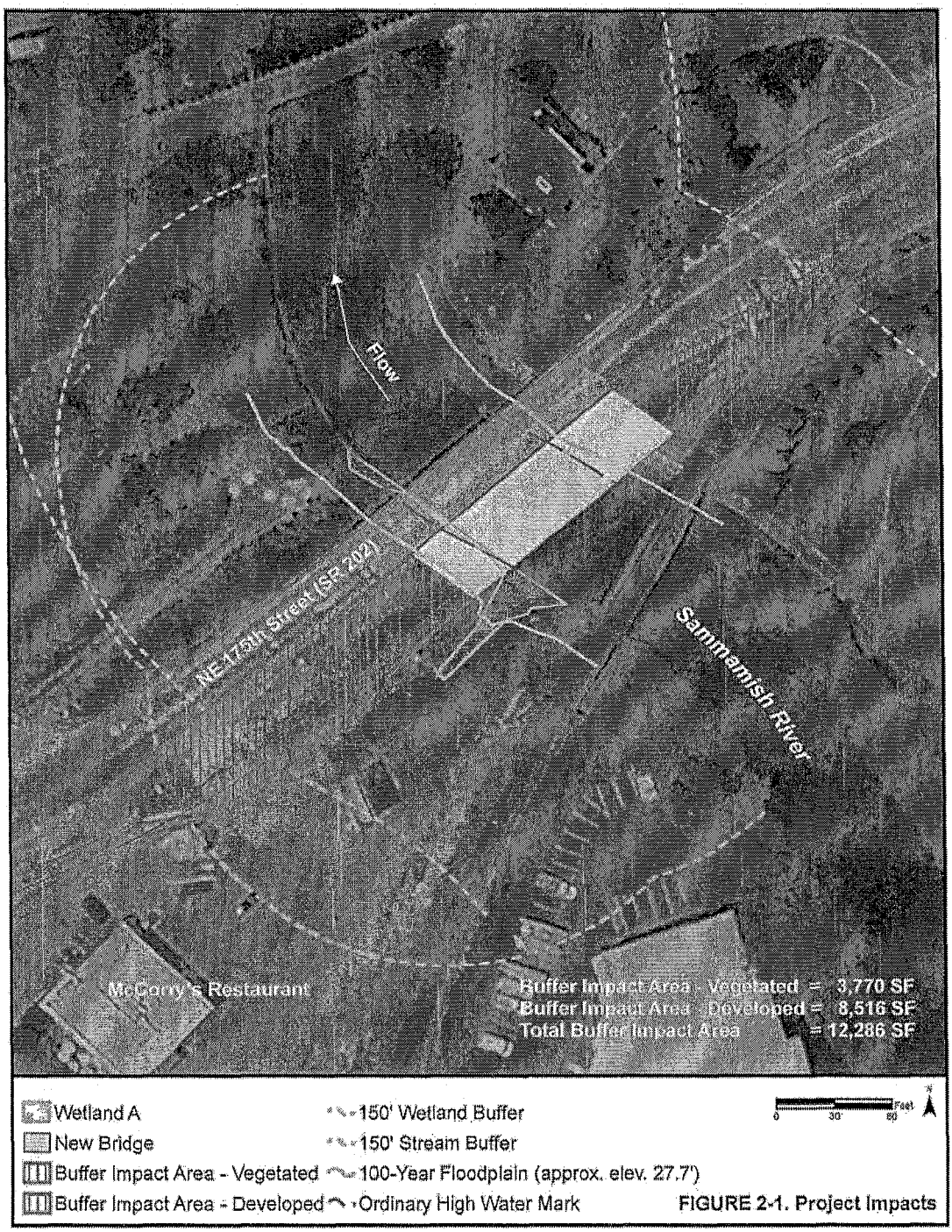

FIGURE 2-1. Project Impacts

The main stem Sammamish River, a perennial stream, flows through the project site to Lake Washington, which is hydrologically connected to Puget Sound. The City's CAO (WMC 21.24.380 to 400) specifies stream development standards, recommended buffer widths, and mitigation requirements. WMC 21.24.370 (Streams - Designation and Rating) designates the Sammamish River as a Type 1 stream. Type 1 streams are those that are identified as "Shorelines of the State" under Chapter 90.58 Revised Code of Washington (RCW) or that support significant anadromous salmonid use, including the Sammamish River and Little Bear Creek (WMC 21.24.370 [1]). WMC 21.24.380 (Streams - Development Standards) specifies a 150-foot standard buffer width for Type 1 streams. If the existing stream buffer is significantly degraded, the standard buffer width can be reduced to 115 feet with the implementation of enhancement measures to provide an overall stream and buffer function and value (WMC 21.24.380 [1]). Replacement or enhancement is required when a stream or buffer is altered pursuant to an approved development proposal (WMC 21.24.380 [5]). Replacement or enhancement for approved stream or buffer alterations must be accomplished on site unless it is demonstrated that enhancement or replacement on site is not possible; the proposed mitigation site is off site but in the same drainage sub-basin as the original stream, and greater biologic and hydrologic functions would be achieved (WMC 21.24.380 [7]).

An 872 square foot PEM, riverine wetland (Wetland A) is present on the south bank of the Sammamish River within the floodway (Shannon and Wilson 2007). The City's CAO (WCM 21.24.320 to 360) specifies wetland buffer widths and mitigation. WMC 21.24.320 (2)(a) species that "wetlands proximal to and influenced by the main stem of the Sammamish River or Little Bear Creek" are designated as Class 1 wetlands by the City and require a 150-foot standard buffer. The 150-foot standard buffer for Wetland A extends beyond (and therefore includes) several "non-conforming" uses, such as SR 202 and other impervious surfaces. WMC 21.24.330 (Wetlands - Development Standards) specifies that the 150-foot buffer for Class 1 wetlands can be reduced by 50 feet with enhancement of the buffer (WMC 21.24.330 (1)(a). The WMC defines enhancement in critical areas as "an action which increases the functions and values of a stream, wetland or other critical area or buffer" (WMC 21.06.208). If the existing buffer is significantly degraded, a reduced buffer may be used as long as enhancement measures provide a net improvement in overall wetland and buffer function and value (WMC 21.24.330 (1)(d). Reduction of the standard buffer for Class 1 wetlands requires a 1:1 mitigation ratio (WMC 21.24.350) (see Table 2-1).

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Table 2-1. Summary of Stream and Wetland Buffer Impacts and Mitigation Ratios.

Water Body	Total Size (square feet)	State Rating Category	City Rating Category[1]	Standard Buffer Width (ft)[2]	Buffer Mitigation Ratio[3]
Sammamish River	n/a	Type S[4] (formerly Type 1)	Type 1	150	n/a[5]
Wetland A (PEM)[6]	872 sf	Category IV[7]	Class 1	150	1:1

[1] Rating system based on Woodinville Municipal Code.
[2] Standard buffer widths based on Woodinville Municipal Code.
[3] Buffer Mitigation Ratios based on Woodinville Municipal Code.
[4] Stream typing based on Washington Department of Natural Resources (DNR) classification system.
[5] Buffer reduction may be used as long as enhancement measures are implemented to provide a net improvement in overall stream and buffer function and value as determined by a qualified biologist and conducted in accordance with an approved plan (WMC 21.24.380 (1)(a).
[6] Cowardin Classification System: PEM=Palustrine Emergent.
[7] Rating system based on *Washington State Wetland Rating System for Western Washington* (Hruby 2004).

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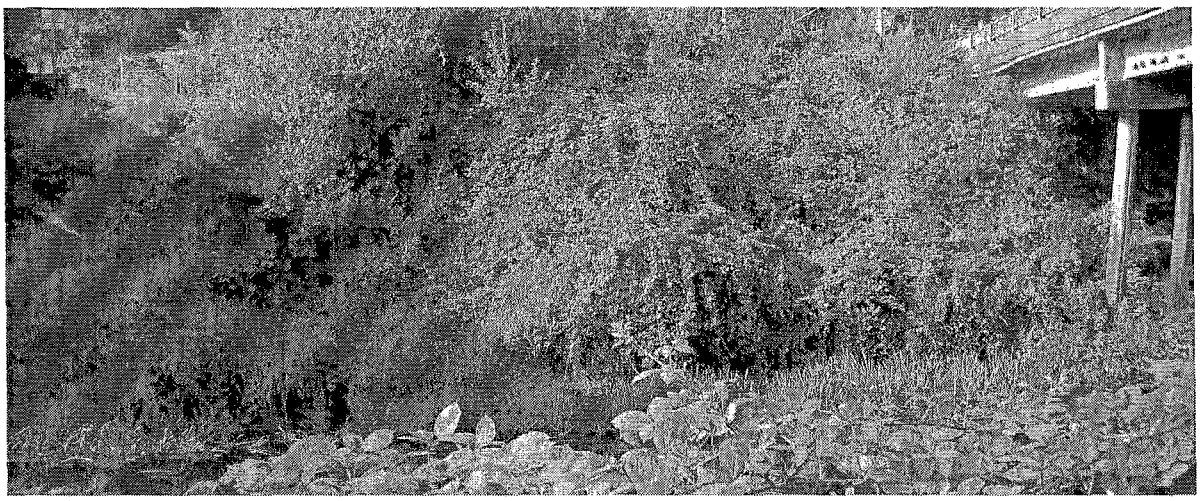
3.0 ECOLOGICAL ASSESSMENT OF EXISTING SITE

3.1 EXISTING HABITATS OVERVIEW

Existing wetland and upland habitats in the project vicinity are of low quality. Numerous non-conforming uses are present within stream and wetland buffers, and vegetated habitats have generally been reduced to narrow bands along the riverbanks.

3.2 WETLANDS

Wetland A is an 872 square foot PEM, riverine wetland (Shannon and Wilson 2007). Vegetation within Wetland A is dominated by native and non-native herbaceous species, such as climbing nightshade *(Solanum dulcamara),* small-fruited bullrush *(Scirpus microcarpus)*, reed canarygrass *(Phalaris arundinacea)*, marsh speedwell *(Veronica scutellata)*, and creeping buttercup *(Ranunculus repens)*. In general, soils observed in Wetland A consist of a black (10YR 2/1) organic loam layer over very dark grayish (10YR 3/2) silty sand and gravelly silty sand layers. The two major hydrologic sources to Wetland A are over-bank flooding from the Sammamish River and stormwater from a created outfall channel (Shannon and Wilson 2007). During the 2006 field visit, soils were saturated to the surface and free water was observed in soil pits at approximately 16 inches from the surface. Based on the proximity of the wetland to the Sammamish River, water marks observed on the SR 202 bridge abutments, and other indirect observations, the wetland investigation (Shannon and Wilson 2007) concluded that the area is saturated for a sufficient duration during the growing season to satisfy wetland hydrology criteria.



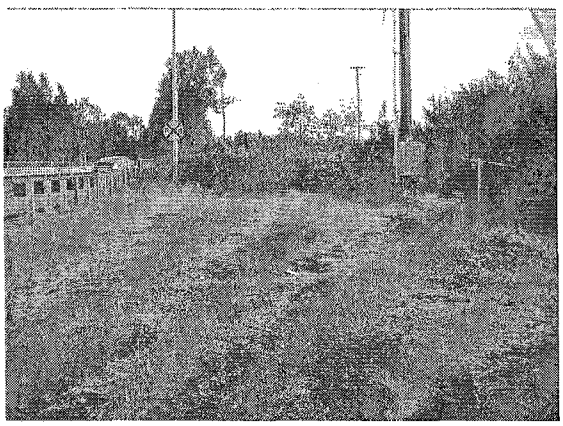
Wetland A

Using Ecology's Washington State Wetland Rating System for Western Washington (Hruby 2004), Shannon and Wilson (2007) evaluated the potential for Wetland A, a riverine wetland, to provide water quality, hydrologic, and habitat functions. Wetland A rated low for all of these functional categories. For water quality functions, Wetland A received a score of 10 out of a possible 32 points. Although Wetland A provides considerable opportunity to improve water quality due to pollutant sources present in the surrounding landscape (e.g., untreated stormwater, sediment, nutrients, etc.), the wetland has low potential to improve water quality due to a lack of surface depressions to trap sediments during flood events and low structural diversity of the

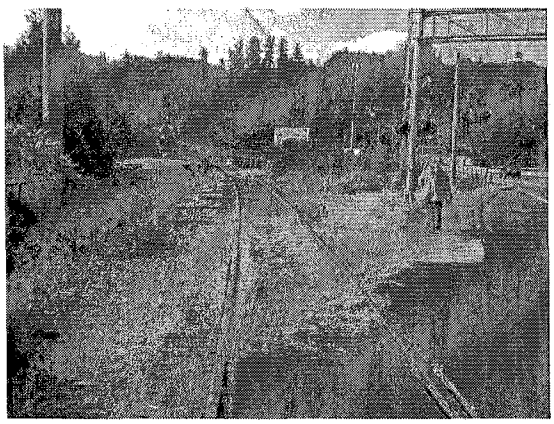
vegetation community. For hydrologic functions, Wetland A received a score of 10 out of a possible 32 points. Although Wetland A provides considerable opportunity to reduce flooding and erosion due to the presence of built and natural resources downstream that can be damaged by flooding (e.g., roads, buildings, farms, salmon redds), the wetland has low potential to reduce flooding and erosion due to its small size and low structural diversity of the vegetation community. For habitat functions, Wetland A received a score of 5 out of a possible 32 points. Wetland A has low potential to provide habitat for a variety of species due to its low plant species richness and structural diversity, limited hydroperiod (only occasionally flooded or inundated), low habitat interspersion, lack of habitat features (e.g., large downed wood, standing snags, stable steep banks, amphibian breeding habitat, etc.), disturbed buffer habitat, and limited habitat connectivity. Overall, Wetland A received only 25 points out of a possible 96 points. Under Ecology's wetland rating system, wetlands that received fewer than 30 points are considered Category IV wetlands and generally considered to be low quality. However, as described in Section 1.4 (*Wetland Delineation Overview*), Wetland A is nonetheless considered to be a Class 1 wetland under WMC 21.24.320 [2][a]) due to its proximity and hydrologic connectivity to the Sammamish River.

3.3 UPLANDS

Uplands on the project site (within the project footprint) include both the existing roadway and immediately adjacent areas. Much of this area consists of impervious surfaces (e.g., pavement, gravel) within the Washington State Department of Transportation (WSDOT) right-of-way and Port of Seattle railroad right-of-way to the south of SR 202 on both sides of the river.



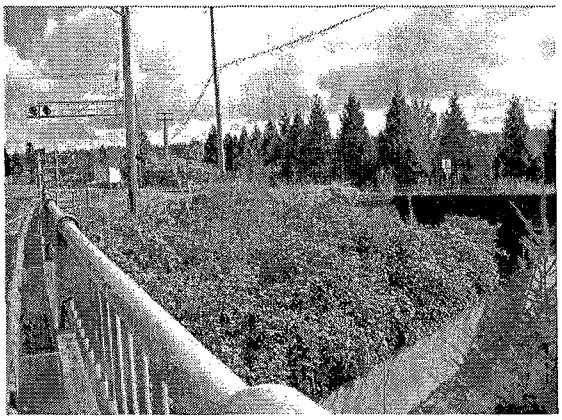
WSDOT right-of-way



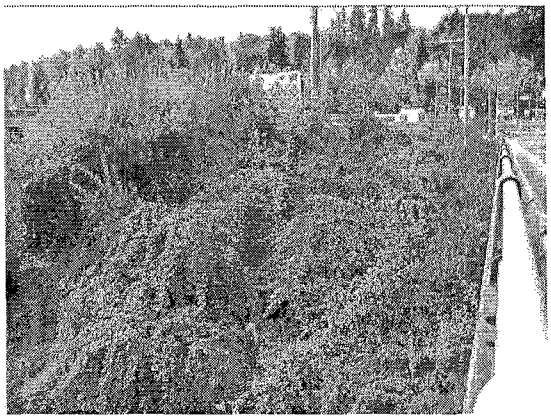
Port of Seattle railway right-of-way

On the north side of the river, vegetated buffer within the project footprint is predominantly covered with Himalayan blackberry (*Rubus armeniacus*). Vegetated buffer within the project footprint on the south side of the river includes a mix of native plants that were installed along the perimeter of much of Wetland A as part of a 2003 WSDOT mitigation project to compensate for riprap placed in the Sammamish River to address scour problems around the pilings of the existing Sammamish River Bridge. The native plantings included red-osier dogwood *(Cornus sericea)*, snowberry *(Symphoricarpos albus)*, nootka rose *(Rosa nutkana)*, oceanspray *(Holodiscus discolor)*, salmonberry *(Rubus spectabilis)*, red elderberry *(Sambucus racemosa)*, and Douglas-fir *(Pseudotsuga menziesii)*. A few bigleaf maple (*Acer macrophylum*) and red alder

(*Alnus rubra*) saplings are also present; these may have been part of the mitigation plantings or self-recruited from abundant nearby seed sources. Much of this vegetation is overgrown with Himalayan blackberry. Just north and outside of the project footprint, numerous willow (*Salix* sp.) cuttings had been planted within and adjacent to the incised stormwater outfall channel that cuts perpendicularly into the slope of the riverbank in this area and feeds Wetland A. Downstream of Wetland A, along the banks of the Sammamish River, vegetation is dominated by Himalayan blackberry, with patches of reed canarygrass and creeping buttercup.



Vegetated buffer on north side of river



Vegetated buffer on south side of river

These upland habitats, which are located within the 150-foot buffers for the Sammamish River and Wetland A, have the capacity to provide some function as songbird and small mammal habitat and, along the south bank of the river, may also intercept some stormwater runoff and provide some sediment and erosion control on the steep riverbanks.

4.0 MITIGATING MEASURES

This section describes measures to avoid and minimize potential effects of the project on regulated areas (stream, wetlands, and buffers).

4.1 IMPACT AVOIDANCE AND MINIMIZATION

The proposed project has been designed to avoid direct effects on the Sammamish River and Wetland A. The new bridge abutments and road embankments would be located outside of the OHWM and the 100-year floodplain of the river, and outside of Wetland A (refer to Figure 2-1, *Project Impacts*). Road and bridge construction activities will not require any fill or dredge materials to be placed in or removed from surface waters or wetlands.

To minimize potential effects on the Sammamish River, Wetland A, and their buffers during and after project construction, the contractor would comply with standard Best Management Practices (BMPs) contained in the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (WSDOT 2010). A project-specific Temporary Erosion and Sediment Control (TESC) plan would be developed and implemented. Erosion and sediment control specifications would focus on soil and slope protection and stabilization measures, followed by site restoration measures (including planting materials). Specific measures would include (but not be limited to) the following:

- Construction activities will be confined to the minimum area necessary to complete the project.
- The boundary of clearing limits associated with site access and construction limits will be flagged to prevent ground disturbance outside the limits.
- Erosion control measures (e.g., silt fences) will be installed to protect the Sammamish River and Wetland A.
- Removal of riparian vegetation, if needed, will be limited to the minimum necessary to install the drilled shafts and abutments for the bridge.
- Exposed soils will be stabilized during the first available period and will not be allowed to sit idle for more than 2 to 7 days without being treated as specified in the TESC plan. In the Puget Sound region, no soils can remain unstabilized for more than 2 days from October 1 to April 30, and no more than 7 days from May 1 to September 30.
- Standard roadside landscaping will be installed along the north and south sides of SR 202.

Working over the Sammamish River, and creating new permanent shade over the river from the new bridge, would require a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW). To compensate for these effects, WDFW has indicated that the HPA for this project will require non-native invasive species (primarily Himalayan blackberry) to be eradicated from beneath the new bridge structure and the area to be planted with native species such as those present in shade under the existing bridge — nootka rose, oceanspray, and

salmonberry. A detailed planting plan will be developed as part of the landscape design for the project.

4.2 UNAVOIDABLE IMPACTS

The proposed project would permanently alter 0.28 acre (12,286 square feet) of combined stream and wetland buffer (see Figure 2-1). A large proportion (8,516 square feet out of a total 12,286 square feet) of the stream and wetland buffer habitat that would be affected by the proposed project is currently in non-conforming uses, including the existing roadway and other impervious surfaces associated with surrounding urban development (see Figure 2-1). Only about 3,770 square feet of the affected buffer area is currently vegetated.

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5.0 COMPENSATION PLAN

This section describes the location and existing condition of the proposed mitigation site, and the proposed mitigation approach to compensate for unavoidable impacts on wetland and stream buffers from the Sammamish Bridge and Road (SR 202) Project.

5.1 OVERVIEW OF PROPOSED COMPENSATION

The proposal to compensate for the unavoidable effects on stream and wetland buffer habitat from the proposed project is to enhance approximately 0.28 acre (12,286 square feet) of combined stream and wetland buffer habitat along Little Bear Creek on City of Woodinville property located north of 134th Street and east of SR 522, northeast of the project site.

5.2 PROPOSED MITIGATION SITE

The proposed mitigation site is located on a 7-acre City owned property (parcel no. 9517100250) located at NE 134th Street (Figure 5-1, *Proposed Mitigation Site*).

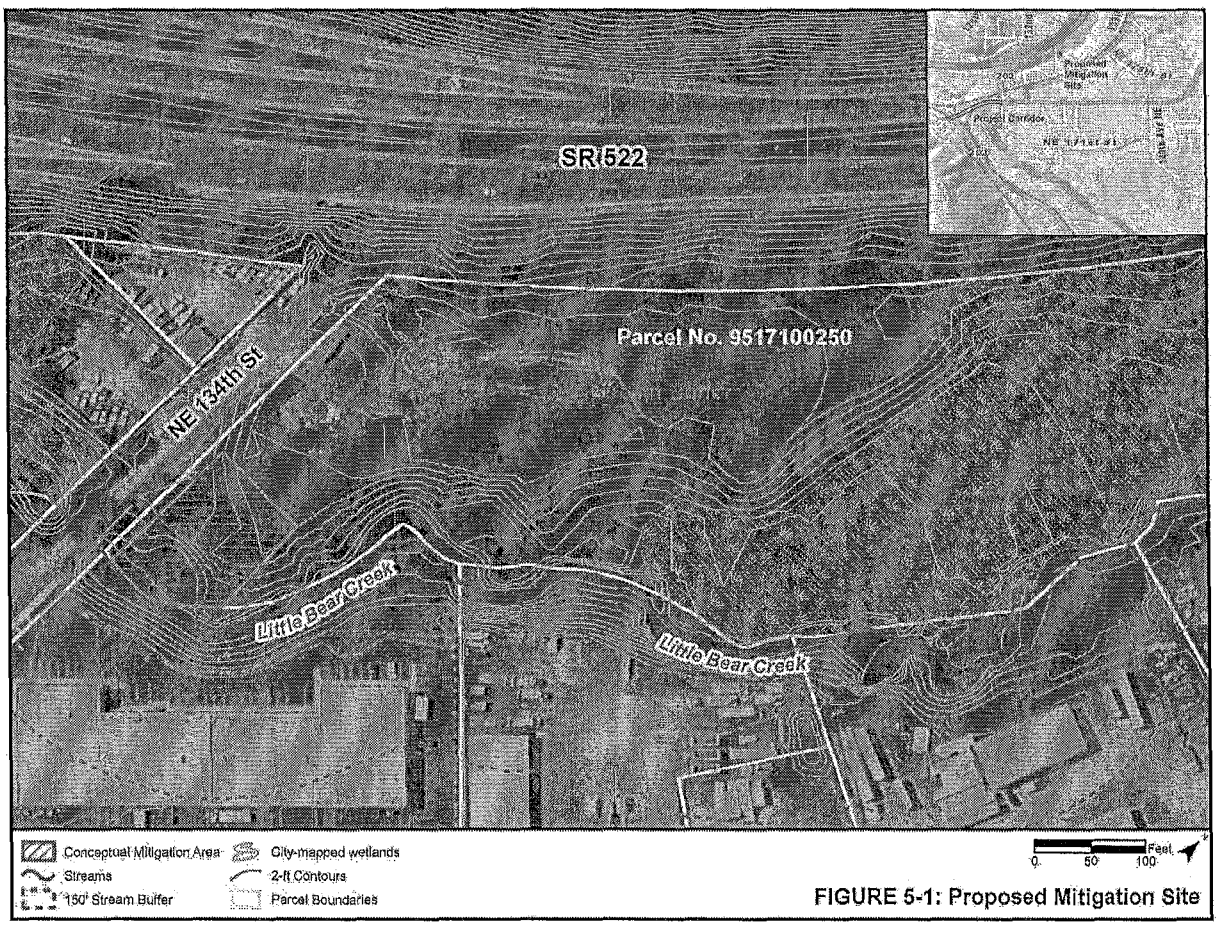


FIGURE 5-1: Proposed Mitigation Site

Little Bear Creek, which flows through the parcel, is the largest natural surface drainage for the City of Woodinville. The entire Little Bear Creek watershed drains about 15 square miles, of which about 1,920 acres is within the City of Woodinville. The main stem of the creek is

approximately 7.7 miles long, 2.2 miles of which are within the City of Woodinville. The creek's overall gradient is very gradual with an average slope of 0.8%. The drainage basin was originally dominated by forested wetlands and still contains many riparian wetlands despite considerable development pressure within urban areas. The proposed mitigation site is located in the lower main stem of the creek, which flows roughly parallel to SR 522. Within the mitigation site, the creek is bordered by a poor quality riparian corridor and nearby commercial development. South of the proposed mitigation site, Little Bear Creek flows through commercial portions of downtown Woodinville before flowing into the Sammamish River. Nine species of resident and anadromous fish use Little Bear Creek. Six salmonid species, including the endangered Chinook salmon (*Oncorhynchus tshawytscha*) use Little Bear Creek for spawning and migration (David Evans and Associates 2002; City of Woodinville 2004).

The City of Woodinville 2001–2005 Recreation Plan includes future plans for a linear park along Little Bear Creek (Little Bear Creek Linear Park) on the same property as the mitigation site, which is intended to be a focal point for downtown development, protect valuable salmon habitat, and provide passive trails and interpretive facilities in conjunction with stormwater improvements and private development along the corridor (City of Woodinville Undated). Little Bear Creek Linear Park, a future 6.48-acre community park, will include a linear trail along Little Bear Creek. Elements of the Little Bear Creek Linear Park master plan include restoring Little Bear Creek and adjacent wildlife habitat. Enhancement of wetland and stream buffer within the Little Bear Creek riparian corridor on the proposed mitigation site is consistent with these elements of the park master plan.

5.3 Mitigation Approach

The general mitigation approach is to **enhance** 0.28 acre of riparian habitat along Little Bear Creek by planting native vegetation and controlling invasive non-native species to move the composition of the vegetation community closer to its historical condition (described below), increase native species richness and habitat structural diversity, and improve overall riparian function. The mitigation approach would not involve alterations to the overall topography or hydrology of the site, but could potentially include minor localized grading in some locations and would include measures to stabilize soils disturbed during the removal of invasive species.

Within the context of wetland mitigation, **enhancement** is the manipulation of the physical, chemical, or biological characteristics of a wetland to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood retention, or wildlife habitat. Enhancement results in a change in wetland functions(s) and can lead to a decline in other wetlands functions, but does not result in a net gain in wetland acres. Examples are planting vegetation, controlling non-native or invasive species, and modifying site elevations to alter hydroperiods. (Ecology et al. 2006)

Historically, riparian habitat along the Little Bear Creek corridor was dominated by forested wetlands (David Evans and Associates 2002). A review of available literature and exploratory field investigations of existing soils, hydrology, and vegetation communities adjacent to Little Bear Creek indicate that the proposed mitigation site, located at the downstream edge of the property, is non-wetland. However,

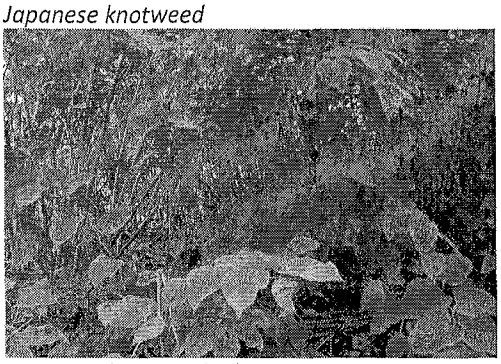
riparian habitat upstream of the proposed mitigation site on the same property is mapped as wetland by the City of Woodinville (City of Woodinville 2011a) (see Figure 5-1). If the location and/or configuration of the mitigation site on the property were altered during final design of the mitigation project, it may be necessary to delineate wetland boundaries to determine their location relative to the proposed mitigation site.

The proposed mitigation site includes two general zones differentiated by position in the landscape and existing vegetation community (see Figure 5-2, *Proposed Planting Zones*). Zone 1 includes the relatively small floodplain terraces of varying widths that occur lowest in the landscape immediately adjacent to Little Bear Creek. The area of Zone 1 is 2,835 square feet (23%) of the total 12,286 square foot mitigation site. Vegetation in Zone 1 includes an overstory of native deciduous riparian trees (predominantly black cottonwood [*Populus balsamifera* ssp. *trichocarpa*] and red alder) and is lacking in native conifers; an understory shrub layer that includes native willows, pacific ninebark (*Physocarpus capitatus*), and some indian plum (*Oemleria cerasiformus*), but is dominated Himalayan blackberry throughout and large patches of Japanese knotweed (*Polygonum cuspidatum*) in several areas; and an herbaceous layer that is dominated by the native common touch-me-not (a.k.a. western touch-me-not or jewelweed) (*Impatiens noli-tangere*), non-native creeping buttercup and morning glory (*Convulvulus* sp.), with some native horsetail (*Equisetum* sp.) and lady fern (*Athyrium felix-femina*). Willows and pacific ninebark are commonly rooted at the stream edge and overhang the stream channel. Relatively large cottonwood and red alder are rooted throughout the floodplain terrace and form a relatively closed canopy over the stream channel. Large downed (live) willow trees are present both over and adjacent to the stream channel.

Representative tree canopy above floodplain terrace

Representative stream valley bank covered in Himalayan blackberry, reed canarygrass, and Japanese knotweed

Representative understory on floodplain terrace



Japanese knotweed adjacent to stream

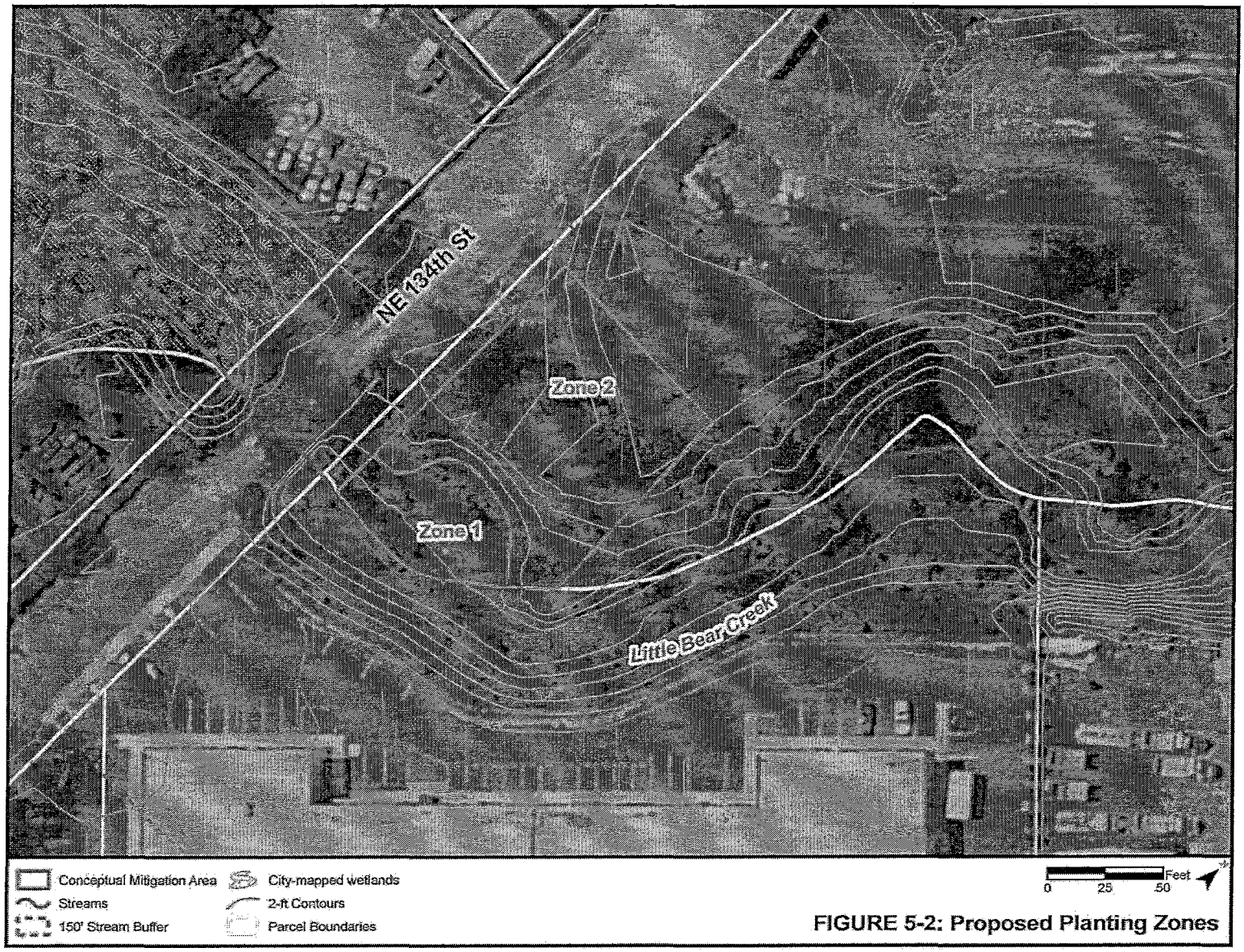


FIGURE 5-2: Proposed Planting Zones

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Previous studies of the Little Bear Creek riparian corridor have identified a lack of large conifers in this watershed (David Evans and Associates 2002). Observations made in the field of vegetation communities within and in the vicinity of the proposed mitigation site confirm this.

The proposed mitigation approach for Zone 1 includes eradicating and/or controlling non-native invasive species, planting native conifer trees within the existing riparian habitat to improve tree species richness, and planting native understory shrubs (including small trees) and ferns to improve species richness and structural diversity in the understory.

Discretely rooted non-native invasive species, such as Himalayan blackberry, would be removed from the mitigation area prior to implementation of the planting plan detailed in Section 5.4; regular maintenance would be conducted to discourage re-establishment. Because Himalayan blackberry is prevalent throughout the property, not just within the proposed mitigation area, intensive and long-term maintenance will be required to ensure that adjacent populations do not re-establish within the mitigation site itself, thereby jeopardizing the success of the mitigation. Initial strategies to eradicate Himalayan blackberry prior to implementation of the planting plan could include a combination of: (1) mowing the aboveground vegetation and applying herbicide in large monotypic stands; and (2) where mixed with native vegetation, hand-cutting and targeted spot spraying.

Japanese knotweed is present in several dense monoculture patches adjacent to Little Bear Creek on floodplain terraces, and numerous populations also occur upstream. Given its extensive root system and sprouting ability, along with its ability to spread easily downstream, successful eradication even on a patch-by-patch basis could take several years and multiple treatments. Populations upstream of the mitigation site contribute to a high risk of re-infestation, even if it is successfully eradicated from the site initially. Strategies to eradicate Japanese knotweed from the mitigation site would be developed following more detailed evaluation of the extent of site infestation, using King County BMPs for the control of this species (King County 2008). Manual methods to remove Japanese knotweed may be appropriate if access is easy, and populations are isolated and reasonably small (50 stems or less). However, manual methods will require an intensive control regimen. Use of herbicide as a control measure would need to comply with applicable restrictions in critical areas. Due to the intensive measures and long-timeframe typically necessary to control Japanese knotweed, understory shrubs and ferns would not be planted in areas currently infested by this species on the site as part of this mitigation approach. However, native shrubs, ferns, and herbaceous species and management activities could be added in the future. Zone 1 would be planted with native conifer trees, shrubs, and ferns according to the planting plan in Section 5.4.

Zone 2 includes the moderately steep floodplain terrace slopes and adjacent flat open areas. The area of Zone 2 is 9,466 square feet (77%) of the total 12,286 square foot mitigation site. The steep floodplain terrace slopes in Zone 2 are dominated by dense Himalayan blackberry and reed canarygrass, except at the downstream end of the property where Japanese knotweed also extends up a portion of the slope. The flat, open areas in Zone 2 are dominated by reed canarygrass with Himalayan blackberry along most of the border.

Representative flat, open, reed canarygrass-dominated meadow

The proposed mitigation approach for Zone 2 includes eradicating and/or controlling non-native invasive species, and planting native trees and shrubs according to the planting plan detailed in Section 5.4. Measures would be taken to control reed canarygrass in the mitigation area prior to implementation of the planting plan, and regular maintenance would be needed to allow the installed native woody plants to establish. Because reed canarygrass is present in a dense monoculture throughout the property adjacent to the proposed mitigation site, and this species spreads both by seed and rhizomatous growth, it will not be possible to completely eliminate it from the site. Strategies for controlling reed canarygrass could include a combination of: (1) preconstruction mowing and herbicide applications; (2) leaving herbicide-treated reed canarygrass thatch in place to act as a mulch in the short term and installing woody mulch in other areas where soils are disturbed (or otherwise exposed); and (3) installing dense plantings of woody species per the planting plan. Himalayan blackberry and Japanese knotweed in Zone 2 would be addressed in the same manner as described above for Zone 1.

Plantings in Zone 2 would focus on establishing native deciduous and coniferous canopy trees to move these areas toward a mixed deciduous-conifer riparian forest habitat. Understory plantings in Zone 2 would focus on native shrubs (and small trees) that are tolerant of open to partially open conditions to expedite the establishment of a native understory shrub layer, which is currently almost completely lacking. Due to the need for frequent and long-term management activities to reduce reed canarygrass cover on the site, herbaceous species would not be planted in Zone 2 as part of this mitigation approach.

5.4 PLANTING PLAN

The proposed mitigation approach involves planting locally dominant (western Washington lowland riparian) plant species with the goals of: (1) increasing native plant species richness and structure in existing riparian forest habitat that lacks large conifers and native understory, and is also infested with Himalayan blackberry and Japanese knotweed (Zone 1); and (2) establishing mixed deciduous-coniferous riparian forest and shrub canopy in an existing reed canarygrass and Himalayan blackberry infested meadow (Zone 2).

The proposed mitigation site would be planted with native species as detailed in Tables 5-1 and 5-2 below and as illustrated in Figure 5-2. All native trees growing within the proposed mitigation site would remain. All native understory vegetation (e.g., shrubs and herbs) growing within the proposed mitigation site would be retained to the extent possible. Since it is not known exactly where there are openings in the existing riparian forest for new plantings in Zone 1, or precisely where intensive long-term management of Japanese knotweed might be necessary, specific planting locations in Zone 1 would be determined in the field. Final selection of plant

locations would be coordinated between the biologist/wetland specialist implementing the Mitigation Plan and the City.

Plant material would be obtained, when possible, from local native plant nurseries growing stock from the local region. Native plant species have been selected based on their suitability for the site conditions. If the indicated species is not available, then a qualified biologist/wetland specialist would need to approve substitutions. The preferred period for installing container native plant stock is in the fall. Following installation, all planting holes would be backfilled with topsoil and bark mulch applied 3 inches deep over the entire mitigation site. New vegetation would be irrigated from June 1 to September 30 for the first 2 years of the 5-year monitoring period.

Installation of native plants within the mitigation area would be conducted under the supervision of a qualified biologist experienced in native habitat restoration and native plant installation. The supervising biologist would be present during various stages in the implementation of the Mitigation Plan. The on-site biologist should be present during planting to inspect plant materials, ensure that specific plant species are located in appropriate habitats, and ensure that plants are protected from animal browse. Field visits by the on-site biologist would be conducted: (1) for approval of all plant materials and their locations; (2) following installation of trees and protection measures; and (3) at final inspection.

Implementation of the proposed Mitigation Plan would begin prior to the start of construction of the proposed Sammamish River Bridge and Road (SR 202) Project, and would be completed no later than 1 year after the completion of the proposed bridge and road project.

Table 5-1. Sammamish River Bridge and Road Project, Mitigation Site, Zone 1 Plant List.

Common Name	Scientific Name	Indicator Status[1]	Light Needs[2]	Site Placement[3]	Planting Pattern[4]	Plant Spacing[5]	Proportion in Strata	Plant Density (2,835 sq ft)[6]	Type of Plant Material
TREES									
Sitka spruce	*Picea sitchensis*	FAC	SI	SS, WE, WB	Clustered	6' OC	20	9	1 gallon
Western red cedar	*Thuja plicata*	FAC	SD	SS, WE, WB	Clustered	6' OC	20	9	1 gallon
SHRUBS									
Red osier dogwood	*Cornus sericea (stolonifera)*	FACW	ST	WE, SS, WB	Clustered	4' OC	20	41	1 gallon
Black twinberry	*Lonicera involucrata*	FAC	SI-ST	WE, SS, WB	Clustered	4' OC	20	41	1 gallon
Indian plum	*Oemleria cerasiformus*	FACU	SD	WB, DB	Clustered	4' OC	20	41	1 gallon
Nootka/Wild-clustered rose	*Rosa nutkana/R. pisocarpa*	FAC	ST	WE, SS, WB	Clustered	4' OC	20	41	1 gallon
Salmonberry	*Rubus spectabilis*	FAC	HA	WE, WB, DB	Clustered	4' OC	20	41	1 gallon
FERNS									
Lady fern	*Athryium felix-femina*	FAC	ST	SW, WB	Clustered	4' OC	20	41	1 gallon

[1] OBL=Obligate Wetland (Occurs almost always in wetlands under natural conditions; estimated probability 99%). FACW=Facultative Wetland (Usually occurs in wetlands; estimated probability 67% - 99%, but occasionally found in non-wetlands). FAC=Facultative (Equally likely to occur in wetlands or non-wetlands; estimated probability 34% - 66%). FACU=Facultative Upland (Usually occurs in non-wetlands; estimated probability 67% - 99%, but occasionally found on wetlands; estimated probability 1% - 33%). UPL=Obligate Upland (Occurs almost always in non-wetlands under natural conditions; estimated probability 99%, but may occur in wetlands in other regions).

[2] SI=Shade Intolerant. ST=Shade Tolerant. SD=Shade Dependent. HA=Highly Adaptable.

[3] DB=Drier Buffer. WB=Wetter Buffer. WE=Water's Edge. SS=Saturated Soils. SW=Shallow Water.

[4] Plants to be placed in random, naturalized clusters.

[5] OC=On Center. Plant spacing is based on planting specifications contained in City of Woodinville Wetland and Stream Mitigation Guidelines (City of Woodinville 2007).

[6] Plant Density = Total number of plants per area.

Table 5-2. Sammamish River Bridge and Road Project, Mitigation Site, Zone 2 Plant List.

Common Name	Scientific Name	Indicator Status[1]	Light Needs[2]	Site Placement[3]	Planting Pattern[4]	Plant Spacing[5]	Proportion in Strata (%)	Plant Density (9,466 sq ft)[6]	Type of Plant Material
TREES									
Grand fir	*Abies grandis*	FACU	SI-ST	DB	Clustered	6' OC	15	45	1 gallon
Bigleaf maple	*Acer macrophyllum*	FACU (FAC)	SI-ST	WB, DB	Clustered	6' OC	20	61	1 gallon
Red alder	*Alnus rubra*	FAC	SI-ST	WB, DB	Clustered	6' OC	20	61	1 gallon
Douglas-fir	*Pseudotsuga menziesii*	FACU	SI	WB, DB	Clustered	6' OC	15	45	1 gallon
Western red cedar	*Thuja plicata*	FAC	SD	SS, WE, WB	Clustered	6' OC	15	45	1 gallon
Western hemlock	*Tsuga heterophylla*	FACU	SD	DB	Clustered	6' OC	15	45	1 gallon
SHRUBS									
Vine maple	*Acer circinatum*	FAC	SD	WB, DB	Clustered	4' OC	20	137	1 gallon
Serviceberry	*Amelanchier alnifolia*	FACU	SI	DB	Clustered	4' OC	10	69	1 gallon
Beaked hazelnut	*Corylus cornuta*	FACU	ST	DB	Clustered	4' OC	10	69	1 gallon
Ocean spray	*Holodiscus discolor*	NI	SI-ST	DB	Clustered	4' OC	10	69	1 gallon
Nootka/wild-clustered rose	*Rosa nutkana/R. pisocarpa*	FAC (OBL)	ST	WE, SS, WB	Clustered	4' OC	20	137	1 gallon
Red elderberry	*Sambucus racemosa*	FACU	HA	WB, DB	Clustered	4' OC	10	69	1 gallon
Western snowberry	*Symphoricarpos albus*	FACU	SI	WB, DB	Clustered	4' OC	20	137	1 gallon

[1] OBL=Obligate Wetland (Occurs almost always in wetlands under natural conditions; estimated probability 99%). FACW=Facultative Wetland (Usually occurs in wetlands; estimated probability 67% - 99%, but occasionally found in non-wetlands). FAC=Facultative (Equally likely to occur in wetlands or non-wetlands; estimated probability 34% - 66%). FACU=Facultative Upland (Usually occurs in non-wetlands; estimated probability 67% - 99%, but occasionally found on wetlands; estimated probability 1% - 33%). UPL=Obligate Upland (Occurs almost always in non-wetlands under natural conditions; estimated probability 99%, but may occur in wetlands in other regions).

[2] SI=Shade Intolerant. ST=Shade Tolerant. SD=Shade Dependent. HA=Highly Adaptable.

[3] DB=Drier Buffer. WB=Wetter Buffer. WE=Water's Edge. SS=Saturated Soils. SW=Shallow Water.

[4] Plants to be placed in random, naturalized clusters.

[5] OC=On Center. Plant spacing is based on planting specifications contained in City of Woodinville Wetland and Stream Mitigation Guidelines (City of Woodinville 2007).

[6] Plant Density = Total number of plants per area.

6.0 GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

This section describes the overall goals of the proposed mitigation project, specific actions (objectives) proposed to achieve the mitigation goals, and quantifiable performance standards to determine if the goals are being met. Performance standards are based on the City of Woodinville Wetland and Stream Mitigation Guidelines (City of Woodinville 2007), interagency guidance on wetland mitigation in Washington State (Ecology et al. 2006), and best professional judgment; and are designed specifically to measure whether the mitigation objectives are achieved.

6.1 GOALS AND OBJECTIVES

The overall goal of this mitigation plan is to **enhance 0.28 acre of riparian stream buffer habitat.**

The specific objectives of the proposed Mitigation Plan are to:

Objective #1: For Zone 1, establish native conifers in existing deciduous riparian forest where they are lacking.

Objective #2: For Zone 1, establish a native understory in existing deciduous riparian forest where the understory is currently dominated by Himalayan blackberry and Japanese knotweed.

Objective #3: For Zone 2, establish native tree and shrub canopy in disturbed open areas currently dominated by reed canarygrass and Himalayan blackberry.

Objective #4: For Zones 1 and 2, reduce the percent cover of non-native invasive species, predominantly reed canarygrass, Himalayan blackberry, and Japanese knotweed, from within the Little Bear Creek riparian buffer.

Achievement of these objectives is expected to improve water quality and habitat functions of the riparian buffer.

6.2 PERFORMANCE STANDARDS

The success of the proposed mitigation would be based on meeting the following performance standards. Successfully meeting the performance standards for installed native vegetation survival and plant establishment would ensure that species richness, species diversity, and structural diversity on the mitigation site are substantially increased.

Performance Standards for Objective #1

For Zone 1, establish native conifers in existing deciduous riparian forest where they are lacking.

Survival of Installed Native Vegetation:

- Survival of 100% of installed native plantings in Years 1 and 2.
- Survival of 90% of installed native plantings in Years 3 and 4.
- Survival of 80% of installed native plantings in Year 5.

Performance Standards for Objective #2

For Zone 1, establish a native understory in existing deciduous riparian forest where the understory is currently dominated by Himalayan blackberry and Japanese knotweed.

Survival of Installed Native Vegetation:

- Survival of 100% of installed native plantings in Years 1 and 2.

Plant Establishment (Density and Percent Area Cover):

- Native woody species (planted and volunteer) will achieve an average density of at least 4 plants per 100 square feet in Year 3.
- Aerial cover of native woody species (planted and volunteer) will be a minimum of 20% in Year 5.

Native plants that recruit naturally into the site may be counted toward the Plant Establishment performance standard.

Performance Standards for Objective #3

For Zone 2, establish native tree and shrub canopy in disturbed open areas currently dominated by reed canarygrass and Himalayan blackberry.

Survival of Installed Native Vegetation:

- Survival of 100% of installed native plantings in Years 1 and 2.

Plant Establishment (Density and Percent Area Cover):

- Native woody species (planted and volunteer) will achieve an average density of at least 4 plants per 100 square feet in Year 3.
- Aerial cover of native woody species (planted and volunteer) will be a minimum of 20% in Year 5.

Performance Standards for Objective #4

For Zones 1 and 2, reduce the percent cover of non-native invasive species, predominantly reed canarygrass, Himalayan blackberry, and Japanese knotweed, from within the Little Bear Creek riparian buffer.

Non-Native and Invasive Species:

- Yearly maintenance activities shall include 100% removal of discretely rooted plants (e.g., Himalayan blackberry) within the mitigation site.

- A reduction in the overall vigor and density of rhizomatous colonizing invasive species (e.g., reed canarygrass, Japanese knotweed) within the mitigation site by the end of the 5-year monitoring period.
- 10% aerial cover or less of non-native and invasive species in each stratum within the mitigation site in Years 3–5 of the 5-year monitoring period, except for reed canarygrass.
- 25–30% aerial cover or less of reed canarygrass within the mitigation site in years 3–5 of the 5-year monitoring period.

The City's Wetland and Stream Mitigation Guidelines (City of Woodinville 2007) state that "Non-native and other invasives - Himalayan blackberry, Japanese knotweed, evergreen blackberry, reed canarygrass, Scots broom, English ivy, morning glory, etc. - may only comprise up to 10% cover in any given stratum (e.g., tree, shrub, herbaceous)." However, given the dense reed canarygrass monoculture that currently dominates Zone 2 of the mitigation site and the widespread failure of mitigation sites in achieving this performance standard for reed canarygrass, this performance standard is not considered appropriate for this Mitigation Plan. Joint guidance issued by the Washington State Department of Ecology (Ecology), the Environmental Protection Agency (EPA) Region 10, and the Corps Seattle District (Ecology et al. 2006) suggests that a 10% threshold for reed canarygrass is not appropriate unless the site contains little or no reed canarygrass. Regulators have recently been allowing more realistic, higher reed canarygrass thresholds (25–30%) on mitigation sites where it is widespread (WSDOT 2008). Therefore, a 25–30% cover threshold for reed canarygrass is recommended in the performance standards for this Mitigation Plan.

6.3 Adaptive Management Actions / Contingency Plan

If monitoring (described in Section 8) indicates that a performance standard is not met within the time specified in the performance standards, the causes of the failure will be analyzed and corrective actions and a time for implementing these actions will be proposed. Corrective actions include (but are not limited to) the following:

- Install fencing, if there is evidence of extensive vandalism or repeated theft of mitigation plantings.
- Replace all dead or diseased installed native plants observed within the planting area during monitoring Years 1 and 2.
- Replace all plants that die during Years 3–5 to meet the performance standards outlined in Section 6.2. If greater than 50% of the individuals of any species die, changes to species composition, locations, and/or proportions will be considered.
- If the percent cover of reed canarygrass exceeds 30% within the mitigation site after Year 3 of the monitoring period, develop a custom-designed reed canary-grass maintenance plan to include appropriate control measures.
- If the percent cover of any other non-native invasive or designated noxious weed (e.g., Himalayan blackberry, Japanese knotweed) exceeds 10% within the mitigation site in any monitoring period, develop a custom-designed maintenance plan to include appropriate control measures.

- If the mitigation project fails to meet any of the performance standards, a qualified biologist will prepare a contingency mitigation plan to be submitted to the appropriate regulatory authorities for approval.

7.0 MAINTENANCE PLAN

Maintenance of the installed plant material would be the responsibility of the City or its contractor during the 5-year monitoring period. Ongoing maintenance activities would include removal or control of unwanted plant species, weeding trees and shrubs to the drip line, installing and maintaining temporary irrigation, replacing dead plants, mulching, removing litter, and addressing any herbivory or vandalism issues.

7.1 NON-NATIVE AND INVASIVE PLANT CONTROL

Maintenance activities to control reed canarygrass on the mitigation site could include frequent mowing, weed-wacking, and hand weeding. If manual control measures prove insufficient to meet the performance standards for the control of reed canarygrass, spot-spraying of any new growth should be considered as a contingency measure.

Maintenance activities to control Himalayan blackberry could include manual removal or targeted cut-and-treat methods. Other invasive non-native vegetation occurring on the proposed mitigation site would be managed according to Washington State Noxious Weed Law (Chapter 17.10 RCW), administered by the King County Noxious Weed Control Board in King County, and the King County Noxious Weed List (King County 2011), using methods appropriate to the species found.

Unwanted grasses or weeds should be removed around installed trees and shrubs to the drip line on a regular basis by mowing, cutting, raking, or hand-pulling to reduce competition for the first 2 years or until plantings are well established.

7.2 TEMPORARY IRRIGATION

Installed vegetation would be irrigated from June 1 to September 30 for the first 2 years of the 5-year monitoring period. Use of a mobile watering truck and hand watering are recommended for this site.

7.3 REPLACEMENT OF PLANT MATERIAL

All dead or diseased installed native plants observed during the monitoring period in Years 1 and 2 would be replaced. All plants that die during Years 3–5 would be replaced to meet the performance standards outlined in Section 6.2.

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8.0 MONITORING PLAN

In accordance with WMC 21.24.400 (Streams - Mitigation Requirements), the proposed mitigation project would be monitored each year for a period of 5 years following plant installation. An approved monitoring protocol would be implemented to assess the performance of the Mitigation Plan following construction. Monitoring results would be compared to performance standards to evaluate the success of the mitigation effort, and annual monitoring reports would be submitted to the appropriate City agency by September 1st of each monitoring year.

An as-built plan will be completed for use as a reference for subsequent performance monitoring within the mitigation site. Baseline monitoring would be conducted immediately following planting. Year 1 monitoring would occur the first year after completion of installation. Subsequent monitoring would be conducted during the growing season (generally during the spring) of Years 2, 3, 4, and 5. Invasive species monitoring would occur two times per year (in the spring and fall) during Years 1, 2, and 3, and reduced to one time per year (in the spring) in subsequent years if performance standards are being met.

The following data would be collected to monitor the success of the mitigation:

- Photos from nine established permanent photo points.
- Counts of surviving installed plants by species in nine established permanent sampling plots.
- Density and percent aerial cover of all species in nine established permanent sampling plots.
- General observations of all plantings, including size, new growth, presence of disease, harmful insects and yellowed leaves, browsing effects, etc. to determine the general condition of all plantings.
- General observations regarding wildlife presence and habitat use.

Photos will be taken of the mitigation site from nine established permanent photo points. To aid identification of photo points in future years, they will be marked with steel stakes and their location recorded using global positioning system (GPS) during baseline monitoring (immediately following planting).

Monitoring will take place at three established permanent sampling plots in Zone 1 and at six established permanent sampling plots in Zone 2. In Zone 1, one permanent sampling plot will be established to monitor existing patches of Japanese knotweed, one plot will be established to monitor shrubs, and one plot will be established to monitor ferns. Trees planted in Zone 1 will be evaluated individually. In Zone 2, two shrub monitoring plots, two tree monitoring plots, one reed canarygrass monitoring plot, and one Himalayan blackberry monitoring plot will be established. Except for the sample plots for Japanese knotweed and Himalayan blackberry, sample plots will

be randomly located. Each permanent sampling plot and photo point will be marked with a steel stake and its location recorded using GPS during baseline monitoring. Emergent species will be monitored in 1-meter plots, shrubs will be monitored in 5-meter plots, and trees will be monitored in 10-meter plots. Within each sampling plot, surviving installed plants will be counted by species to determine percent survival for Years 1 and 2, density and percent aerial cover of each species in each stratum will be recorded, and other observations regarding the general condition of all plantings will be noted. General observations regarding wildlife presence and habitat use will be noted for the entire site.

9.0 PERFORMANCE GUARANTEES

A performance and maintenance security will be established to ensure compliance with the terms of this Mitigation Plan. In accordance with City of Woodinville requirements, the amount of the performance security will be equivalent to 150% of the cost of all elements of the mitigation project for the duration of the monitoring period (City of Woodinville 2007). A worksheet detailing the calculation of the performance and maintenance security will be provided to the City's Permit Center for review and approval prior to issuance of the development permit.

10.0 REFERENCES

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APPENDIX A

Conceptual Mitigation Design

No.	DWG. No.	REFERENCE DRAWING	REV	DATE	DESCRIPTION	DRAWN	DESIGN	CHK'D	APPR.

AECOM
710 Second Avenue,
Suite 1000
Seattle, Washington 98104
(206) 622-1176

SEAL:

CITY OF WOODINVILLE		
		DATE
APPROVED BY:		10/20/11
SCALE:	1" = 40'	
CLASS:		
FILENAME:		
DWG No.		
DWR. No.		

SAMMAMISH SR 202

Sammamish SR 202 Bridge Expansion
MITIGATION AND PLANTING PLAN

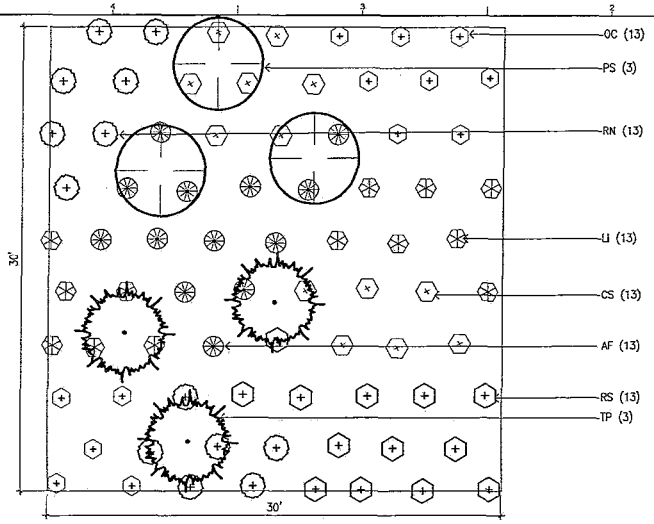
DRAWING No.	SHEET	REV No.
Plan	1	

PLANT SCHEDULE FOR ZONE 1 - 2,835 SF TOTAL

TREES	QUANTITY per 900 SF	TOTAL QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	3	9	PS	PICEA SITCHENSIS	SITKA SPRUCE	1 GAL	5' OC
	3	9	TP	THUJA PLICATA	WESTERN RED CEDAR	1 GAL	5' OC
SHRUBS & FERNS							
	13	41	AF	ATHYRIUM FELIX-FEMINA	LADY FERN	1 GAL	4' OC
	13	41	CS	CORNUS STOLONIFERA	RED-OSIER DOGWOOD	1 GAL	4' OC
	13	41	OC	OEMLERIA CERASIFORMIS	INDIAN PLUM	1 GAL	4' OC
	13	41	LI	LONICERA INVOLUCRATA	BLACK TWINBERRY	1 GAL	4' OC
	13	41	RN	ROSA NUTKANA	NOOTKA ROSE/ R. PISOCARPA	1 GAL	4' OC
	13	41	RS	RUBUS SPECTABILIS	SALMONBERRY	1 GAL	4' OC

PLANT SCHEDULE FOR ZONE 2 - 9,466 SF TOTAL

TREES	QUANTITY per 900 SF	TOTAL QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	6	61	AM	ACER MACROPHYLLUM	BIGLEAF MAPLE	1 GAL	6' OC
	6	61	AR	ALNUS RUBRA	RED ALDER	1 GAL	6' OC
	4	45	AG	ABIES GRANDIS	GRAND FIR	1 GAL	6' OC
	4	45	PO	TSUGA HETEROPHYLLA	WESTERN HEMLOCK	1 GAL	6' OC
	4	45	PM	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	1 GAL	6' OC
	4	45	TP	THUJA PLICATA	WESTERN RED CEDAR	1 GAL	6' OC
SHRUBS							
	13	137	AC	ACER CIRCINATUM	VINE MAPLE	1 GAL	4' OC
	7	69	AA	AMERLANCHIER ALNIFOLIA	SERVICEBERRY	1 GAL	4' OC
	7	69	CC	CORYLUS CORNUTA	BEAKED HAZELNUT	1 GAL	4' OC
	7	69	HD	HOLODISCUS DISCOLOR	OCEAN SPRAY	1 GAL	4' OC
	13	137	RN	ROSA NUTKANA	NOOTKA ROSE/R. PISOCARPA	1 GAL	4' OC
	7	69	SR	SAMBUCUS RACEMOSE	RED ELDERBERRY	1 GAL	4' OC
	13	137	SA	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL	4' OC

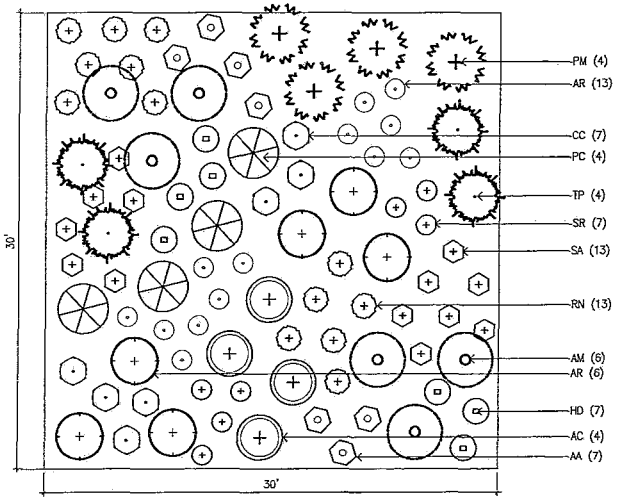


1 PLANTING ZONE 1 TEMPLATE- 900 SF

SCALE: 1/8"=1'-0" DT-PLNT-TEMPLATE-FRST-ENHANCED.dwg

SCALE IN FEET 0 1 3 5 10

NOTES:
1. LAYOUT TO BE VERIFIED ON SITE DUE TO VARYING FIELD CONDITIONS AND PLANT DENSITIES.
2. REFER TO RESTORATION PLANT SCHEDULE FO. PLANT QUANTITIES
3. PLANTING WITHIN CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES TO BE LIMITED TO 1 GAL. POTS OR SMALLER. PLANT LAYOUT TO BE VERIFIED BY OWNER'S REPRESENTATIVE.



2 PLANTING ZONE 2 TEMPLATE- 900 SF

SCALE: 1/8"=1'-0" DT-PLNT-TEMPL-FRST-REST.dwg

SCALE IN FEET 0 1 3 5 10

NOTES:
1. LAYOUT TO BE VERIFIED ON SITE DUE TO VARYING FIELD CONDITIONS AND PLANT DENSITIES.
2. REFER TO RESTORATION PLANT SCHEDULE FOR PLANT QUANTITIES
3. PLANTING WITHIN CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES TO BE LIMITED TO 1 GAL. POTS OR SMALLER. PLANT LAYOUT TO BE VERIFIED BY OWNER'S REPRESENTATIVE.

EXHIBIT 20
PAGE 6 OF 13

No.	DWG. No.	REFERENCE DRAWING	REV	DATE	DESCRIPTION	DRAWN	DESIGN	CHK'D	APPR.

AECOM
710 Second Avenue, Suite 1100
Seattle, Washington 98104
(206) 623-4116

SEAL:

CITY OF WOODINVILLE

	DATE
APPROVED BY:	10/26/11
SCALE:	
CLASS:	
FILENAME:	
DWG No.	
OWR. No.	

SAMMAMISH SR 202

Sammamish SR 202 Bridge Expansion
MITIGATION DETAILS

DRAWING No.	SHEET	REV No.
PLANTING DETAILS	2	

EXHIBIT 20
PAGE 87 OF 113

Attachment E
Right-of-Way Plans

CONTROL

PT#	NORTHING	EASTING	STATION, OFFSET	ELEV.	DESCRIPTION
M1	277545.89	1311619.79	10+01.50, 0.03 R	N/A	NAIL IN IRON PIPE IN MONUMENT IN CASE
M2	277611.68	1311763.77	11+59.80, 0.15 R	N/A	NAIL IN IRON PIPE IN MONUMENT IN CASE
M3	277699.35	1311903.58	13+25.26, 0.02 R	N/A	NAIL IN IRON PIPE IN MONUMENT IN CASE
M4	278050.79	1312775.92	23+01.58, 0.21 R	N/A	PUNCH IN BRASS DISK IN MONUMENT IN CASE
M5	278050.78	1312781.41	23+07.16, 0.08 R	N/A	CTR WOOD IN IRON PIPE IN MONUMENT IN CASE
M6	278050.34	1312801.77	23+27.53, 0.01 R	N/A	NAIL IN IRON PIPE IN MONUMENT IN CASE
M7	278037.98	1313292.75	28+18.65, 0.00 R	41.5	NAIL IN CONC MON IN CASE WSDOT IS-17178
M8	277486.66	1311700.56	105+83.45, 0.08 R	N/A	PUNCH IN BRASS DISK IN MONUMENT IN CASE
M9	279272.01	1313142.55	N/A	98.40	BRASS DISK IN BRIDGE WSDOT GP17522-135
M10	278108.32	1310500.68	N/A	N/A	1.5" IRON PIPE SEE SURVEYS NOTED HEREON
CS1	277909.69	1312136.14	16+37.61, 15.83 L	45.92	PK NAIL 20' NE OF BRIDGE CORNER IN C/L S/W
CS2	278059.86	1312368.24	19+21.95, 39.66 L	47.26	SURVEY SPIKE W/ DHA WASHER C/L S/W
CS3	278118.02	1312740.70	22+64.77, 66.11 L	36.29	MAG & WASHER AT NE CORNER UTILITY BOX

SEC. 9, T.26N., R.5E., W.M.
CITY OF WOODINVILLE

N

SE 1/4 NE 1/4

QUARTER SECTION LINE

END PLAN
SR202 STA 23+56.59

7269100085

7269100081

M9

M7

BASIS OF BEARING
N88°33'25"W (R5) HELD BASIS OF BEARING
2792.95'(F) 2792.98'(R5)
2792.97'(R4)

M10

9

0926059043

0926059143

0926059096

0926059115

MORRIS BASELINE (M)

131ST AVENUE NE

092605HYDR

0926059104

SR202 BASELINE
MORRIS BASELINE (M)

PORT OF SEATTLE

092605HYDR

0926059035

0926059069

0926059043

WOODINVILLE REDMOND ROAD (WR)

SR202 (NE 175th ST)

0926059031

0926059043

NE 1/4 SE 1/4

0926059038

BEGIN PLAN
M STA 0+00.00 =
SR202 STA 10+01.42
= WR STA 104+83.21

NOTES

THIS MAP HAS BEEN COMPILED FROM THE MOST CURRENT INFORMATION OBTAINED FROM WSDOT AND AND OTHER PUBLIC RECORD SOURCES AS OF NOVEMBER 2010. WHILE EVERY EFFORT WAS MADE IN RESEARCHING RECORD SOURCES FOR RIGHT OF WAY ACQUISITION RECORDS, WE DO NOT PURPORT THIS EFFORT TO BE A COMPLETE CHAIN OF TITLE SEARCH. SEE LISTING OF DOCUMENTS RECOVERED HEREON UNDER "REFERENCES". THIS MAP DOES NOT PURPORT TO SHOW ALL EASEMENTS THAT MAY EXIST.

REFERENCES

(R1) RECORDING NUMBER: 20030911900002
(R2) RECORDING NUMBER: 9102059003
(R3) RECORDING NUMBER: 9504129002
(R4) RECORDING NUMBER: 20050408900001
(R5) RECORDING NUMBER: 20070516900019
(R6) RECORDING NUMBER: 9501119001
(R7) RECORDING NUMBER: 8508159006
(R8) RECORDING NUMBER: 9409139002
(R9) RECORDING NUMBER: 9212239001
(R10) RECORDING NUMBER: 9902039006
(R11) RECORDING NUMBER: 7911099003
(R12) RECORDING NUMBER: 8911269012
(R13) RECORDING NUMBER: 9404119006
(R14) RECORDING NUMBER: 9304299007
(R15) RECORDING NUMBER: 9501189001

ALSO REFERENCE THE FOLLOWING DOCUMENTS:

AUDITOR'S FILE NUMBER: 3348214
AUDITOR'S FILE NUMBER: 3348215
AUDITOR'S FILE NUMBER: 3348213
AUDITOR'S FILE NUMBER: 3358380
AUDITOR'S FILE NUMBER: 5393294
AUDITOR'S FILE NUMBER: 5413975
AUDITOR'S FILE NUMBER: 5413970
AUDITOR'S FILE NUMBER: 5457993
AUDITOR'S FILE NUMBER: 5464945
AUDITOR'S FILE NUMBER: 5482327
AUDITOR'S FILE NUMBER: 5860205
AUDITOR'S FILE NUMBER: 5578685
RECORDING NUMBER: 7111190552
RECORDING NUMBER: 7801060678
RECORDING NUMBER: 9503031156
RECORDING NUMBER: 200311260008662
RECORDING NUMBER: 8503220431

PLAT OF RICHBOTTOM VOLUME 25 OF PLATS, PAGE 3

ALL RECORDS OF KING COUNTY, WA

TOGETHER WITH THE FOLLOWING UNRECORDED DOCUMENTS:

RIGHT OF ENTRY FROM B.N.R.R. TO STATE OF WA SR-202,WOODINVILLE VICINITY, NO. 1-12211 DATED MARCH 30,1984
"EXHIBIT A" EASEMENT FOR ROADWAY PURPOSES EXHIBIT AT CROSSING OF SR-202 AND B.N.R.R.SNOQUAMIE BRANCH
WSDOT HIGHWAY-RAILROAD CROSSING AGREEMENT RR2043 DATED MARCH 25TH 1988
SR202 WOODINVILLE VICINITY DATED SEPTEMBER 21, 1943 LAST REVISED AUGUST 18, 2007 (WSDOT REAL ESTATE SERVICES COPY)
SR202 BOTHELL TO REDMOND DATED JULY, 1952 LAST REVISED APRIL 12,1996
KING COUNTY ENGINEER'S SURVEY NO. 1052C C.L. MORRIS ROAD CHANGE DATED SEPTEMBER 1917
RIGHT OF WAY AND TRACK MAP, NORTHERN PACIFIC RAILWAY, PUGET SOUND DIV. MAIN LINE
OTHER REFERENCES AVAILABLE AS NECESSARY

BASIS OF BEARINGS

N 88°33'25" W BETWEEN CENTER OF SECTION AND EAST QUARTER CORNER OF SECTION 9, TOWNSHIP 26N, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON, AS SHOWN HEREON

INDEX OF DRAWINGS

LEGEND

- QUARTER SECTION LINE
- PARCEL LINE
- EXISTING EASEMENT
- EXISTING R/W
- PROPOSED R/W
- RAILROAD R/W
- PROPOSED EASEMENT
- DRIVEWAY RECONSTRUCTION PERMIT
- XXXXXXXXXX PARCEL NUMBER

GENERAL NOTES:
1.) SEE RW2-RW4 FOR MONUMENT LOCA

EXHIBIT 20
PAGE 68 OF 77

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
PHONE: (206) 674-4200
FAX: (206) 674-4242

ROTHHILL
Roth Hill, LLC Tel 425.869.9448 www.rothhill.com
11130 NE 33rd Place, Suite 200 Bellevue, WA 98004

NO.	REVISION	DATE	BY	CK

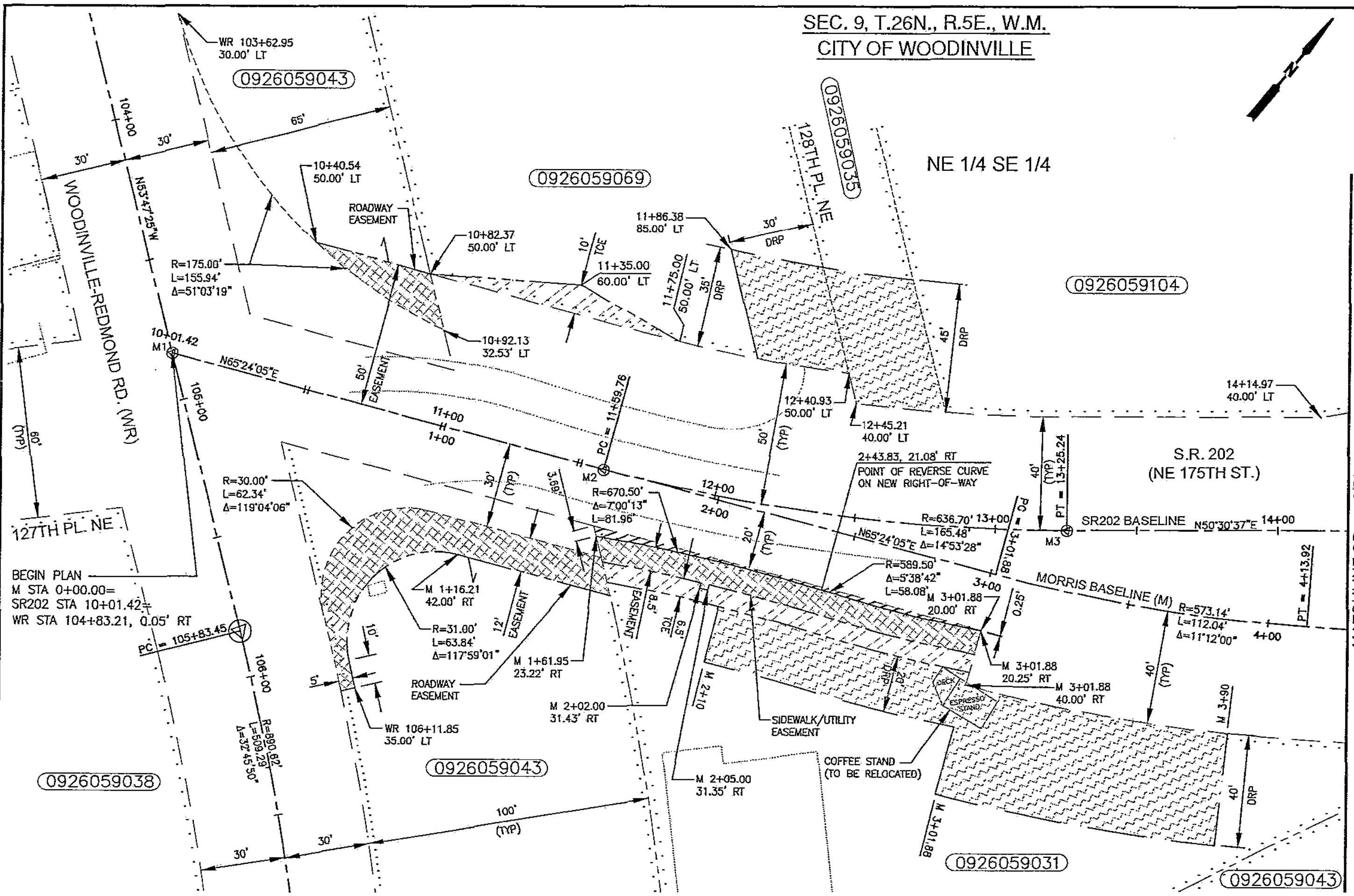
CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION:
SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE:
VICINITY MAP & INDEX OF DRAWINGS

DATE: 12-15-2011	CHECKED BY: EC
DESIGNED BY: BJH	PROJECT NO.: XX
DRAWN BY: NS	SCALE: NTS
SHEET 1 OF 4	
DRAWING NO.: RW1	

SEC. 9, T.26N., R.5E., W.M.
CITY OF WOODINVILLE



LEGEND

- RIGHT OF WAY TAKE
- PERMANENT EASEMENT (TYPE SHOWN ON PLAN)
- TEMPORARY CONSTRUCTION EASEMENT (TCE)
- DRIVEWAY RECONSTRUCTION PERMIT (DRP)
- PARCEL LINE
- EXISTING EASEMENT
- EXISTING R/W
- PROPOSED R/W
- RAILROAD R/W
- PROPOSED EASEMENT
- DRIVEWAY RECONSTRUCTION PERMIT
- (XXXXXXXXXX) PARCEL NUMBER

GENERAL NOTES:

1.) SEE SHEET RW1 FOR MONUMENT COORDINATES.

2.) TOTAL AREA WAS TAKEN FROM KING COUNTY ASSESSOR'S OFFICE. ACTUAL BOUNDARY SURVEYS HAVE NOT BEEN DO. THIS AREA IS BASED ON EXISTING RIGHT-OF-WAY.

OWNERSHIPS

PARCEL	NAME	TOTAL AREA (SF)	R/W TAKE (SF)	REMAINDER (SF)	TEMPORARY CONSTRUCTION EASEMENT (SF)	SIDEWALK/UTILITY EASEMENT (SF)	ROADWAY EASEMENT (SF)
0926059069	TJOSSEM PROPERTIES	64,330	–	64,330	460	–	–
0926059035	WALTON CWWA WOODINVILLE 6L	129,749	–	129,749	–	–	–
0926059031	MCCORRYS ON THE SLOUGH	31,700	177	31,523	864	1,177	–
0926059043	PORT OF SEATTLE	783,257	–	783,257	–	–	2,164*
0926059104	WOODINVILLE WATER DISTRICT	52,678	–	52,678	–	–	

*NOTE: AREA FOR THIS SHEET ONLY. TOTAL AREA FROM SHEETS RW2 & RW3 = 7,447 SF.

EXHIBIT 20
PAGE 89 OF 113

20 0 20 40
SCALE IN FEET

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
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FAX: (206) 674-4242

ROTH HILL
Roth Hill, LLC Tel 425.869.9448 www.rothhill.com
11130 NE 33rd Place, Suite 200 Bellevue, WA 98004

NO.	REVISION	DATE	BY	CK

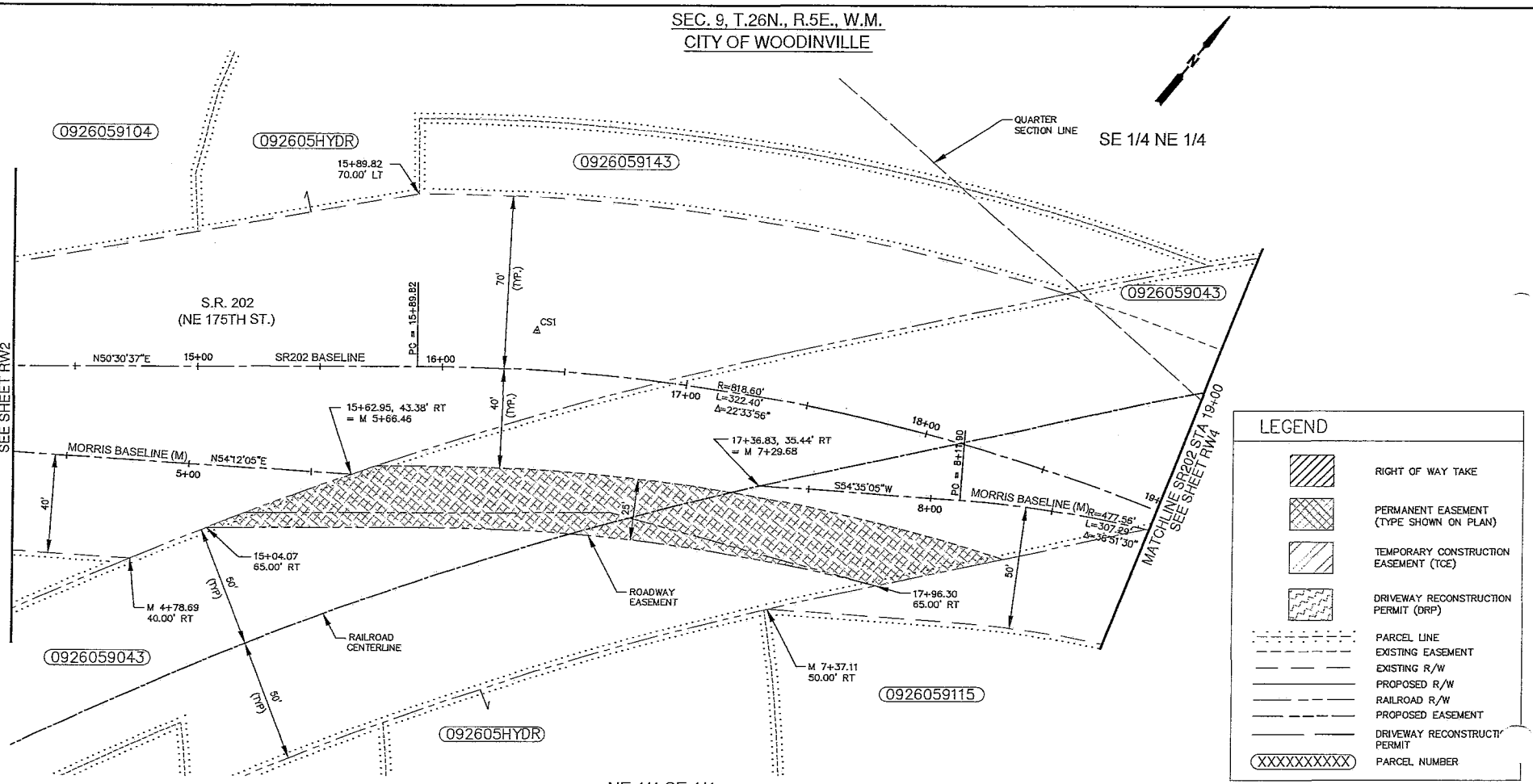
CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION
SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE:
RIGHT-OF-WAY PLAN

DATE: 12-7-2011	CHECKED BY: EC
DESIGNED BY: BJH	PROJECT NO.: XX
DRAWN BY: NS	SCALE: 1"=20'
SHEET 2 OF 4	
DRAWING NO.: RW2	

SEC. 9, T.26N., R.5E., W.M.
CITY OF WOODINVILLE



LEGEND

- RIGHT OF WAY TAKE
- PERMANENT EASEMENT (TYPE SHOWN ON PLAN)
- TEMPORARY CONSTRUCTION EASEMENT (TCE)
- DRIVEWAY RECONSTRUCTION PERMIT (DRP)
- PARCEL LINE
- EXISTING EASEMENT
- EXISTING R/W
- PROPOSED R/W
- RAILROAD R/W
- PROPOSED EASEMENT
- DRIVEWAY RECONSTRUCTION PERMIT
- XXXXXXXXXX PARCEL NUMBER

OWNERSHIPS

PARCEL	NAME	TOTAL AREA (SF)	R/W TAKE (SF)	REMAINDER (SF)	TEMPORARY CONSTRUCTION EASEMENT (SF)	SIDEWALK/UTILITY EASEMENT (SF)	ROADWAY EASEMENT (SF)
0926059143	KING COUNTY	9,450	–	9,450	–	–	–
092605HYDR	KING COUNTY	N/A	–	N/A	–	–	–
0926059043	PORT OF SEATTLE	783,257	–	783,257	1,459	–	5,283*
0926059104	WOODINVILLE WATER DISTRICT	52,678	–	52,678	–	–	–

*NOTE: AREA FOR THIS SHEET ONLY.
TOTAL AREA FROM SHEETS RW2 & RW3 = 7,447 SF.

GENERAL NOTES:

1.) SEE SHEET RW1 FOR MONUMENT COORDINATES.

2.) TOTAL AREA WAS TAKEN FROM KING COUNTY ASSESSOR'S OFFICE. ACTUAL BOUNDARY SURVEYS HAVE NOT BEEN DONE. THIS AREA IS BASED ON EXISTING RIGHT-OF-WAY.

20 0 20 40
SCALE IN FEET

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
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FAX: (206) 674-4242

ROTH HILL
Roth Hill, LLC Tel 425.869.9448 www.rothhill.com
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NO.	REVISION	DATE	BY	CK

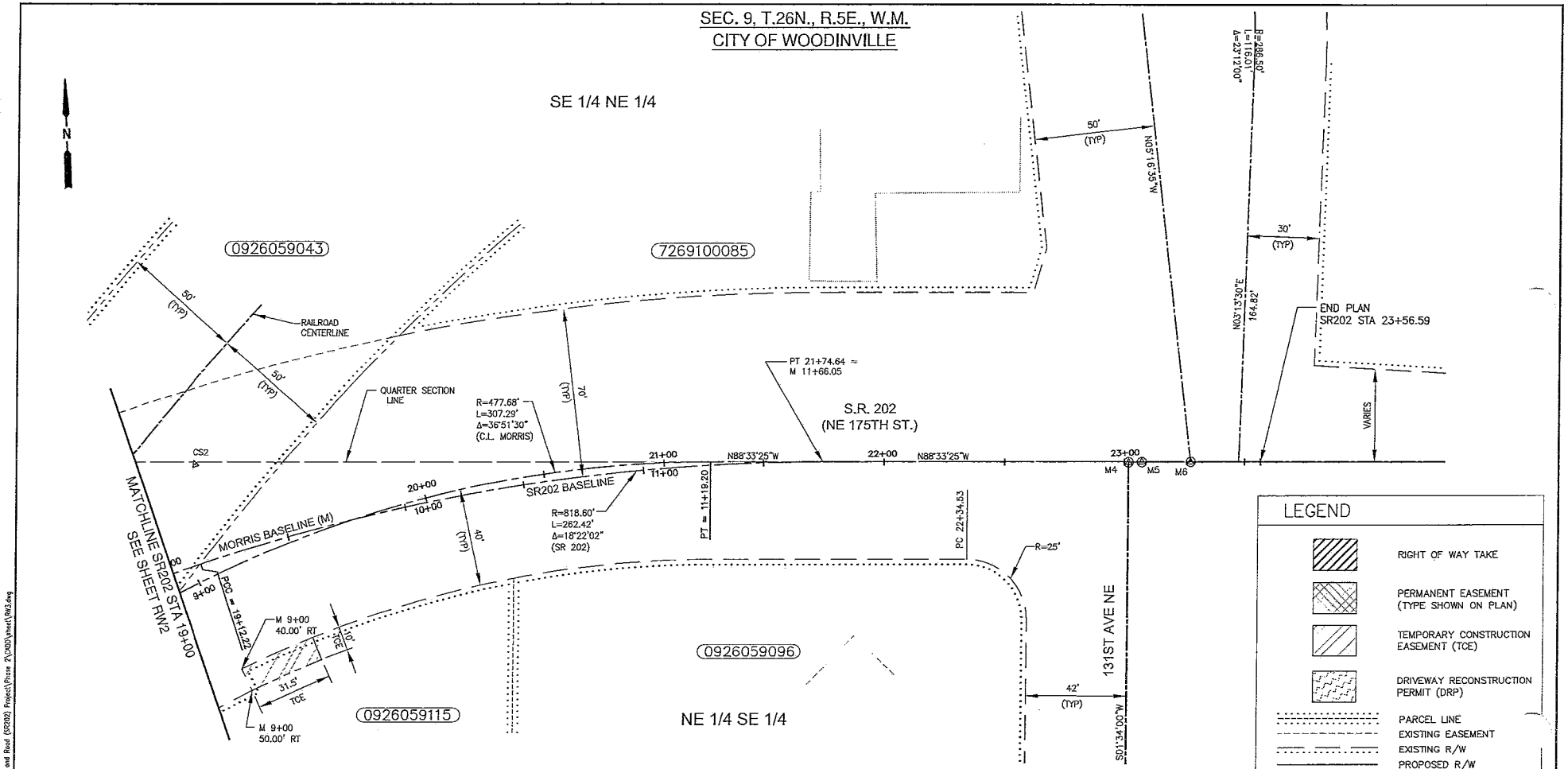
CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION
SAMMAMISH
BRIDGE (NO. 202/35)
REPLACEMENT
PROJECT

SHEET TITLE:
RIGHT-OF-WAY PLAN

DATE: 12-7-2011	CHECKED BY: EC
DESIGNED BY: BJH	PROJECT NO.: XX
DRAWN BY: NS	SCALE: 1"=20'
SHEET 3 OF 4	
DRAWING NO.: RW3	

EXHIBIT 20
PAGE 90 OF 113



LEGEND

- RIGHT OF WAY TAKE
- PERMANENT EASEMENT (TYPE SHOWN ON PLAN)
- TEMPORARY CONSTRUCTION EASEMENT (TCE)
- DRIVEWAY RECONSTRUCTION PERMIT (DRP)
- PARCEL LINE
- EXISTING EASEMENT
- EXISTING R/W
- PROPOSED R/W
- RAILROAD R/W
- PROPOSED EASEMENT
- DRIVEWAY RECONSTRUCTION PERMIT
- XXXXXXXXXX PARCEL NUMBER

20 0 20 40
SCALE IN FEET

OWNERSHIPS

PARCEL	NAME	TOTAL AREA (SF)	R/W TAKE (SF)	REMAINDER (SF)	TEMPORARY CONSTRUCTION EASEMENT (SF)	SIDEWALK/UTILITY EASEMENT (SF)	ROADWAY EASEMENT (SF)
7269100085	ELLIOTT TIRE	19,433	--	19,433	--	--	--
0926059096	ASHER GROUP	42,126	--	42,126	--	--	--
0926059115	CITY OF WOODINVILLE	161,973	--	161,973	319	--	--
0926059043	PORT OF SEATTLE	783,257	--	783,257	--	--	--

GENERAL NOTES:

1.) TOTAL AREA WAS TAKEN FROM KING COUNTY ASSESSOR'S OFFICE. ACTUAL BOUNDARY SURVEYS HAVE NOT BEEN DONE. THIS AREA IS BASED ON EXISTING RIGHT-OF-WAY.

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
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FAX: (206) 674-4242

ROTH HILL
Roth Hill, LLC Tel 425.869.9448 www.rothhill.com
11130 NE 33rd Place, Suite 200 Bellevue, WA 98004

NO.	REVISION	DATE	BY	CK
1	REVISION 1	00/00/10	XXX	XXX
2				
3				
4				
5				

CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION
SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE:
RIGHT-OF-WAY PLAN

DATE: 12-15-2011	CHECKED BY: EC
DESIGNED BY: BJH	PROJECT NO.: XX
DRAWN BY: NS	SCALE: 1"=20'
SHEET 4 OF 4	
DRAWING NO.: RW4	

Dec. 16, 11 - 1:30 PM huschkob R:\60020199 - Sammamish Bridge and Road (SR202) Project\Phase 2\CADD\sheet\RW3.dwg

EXHIBIT 20
PAGE 91 OF 92

EXHIBIT 20
PAGE 92 OF 113

Attachment F
Wing Wall Detail

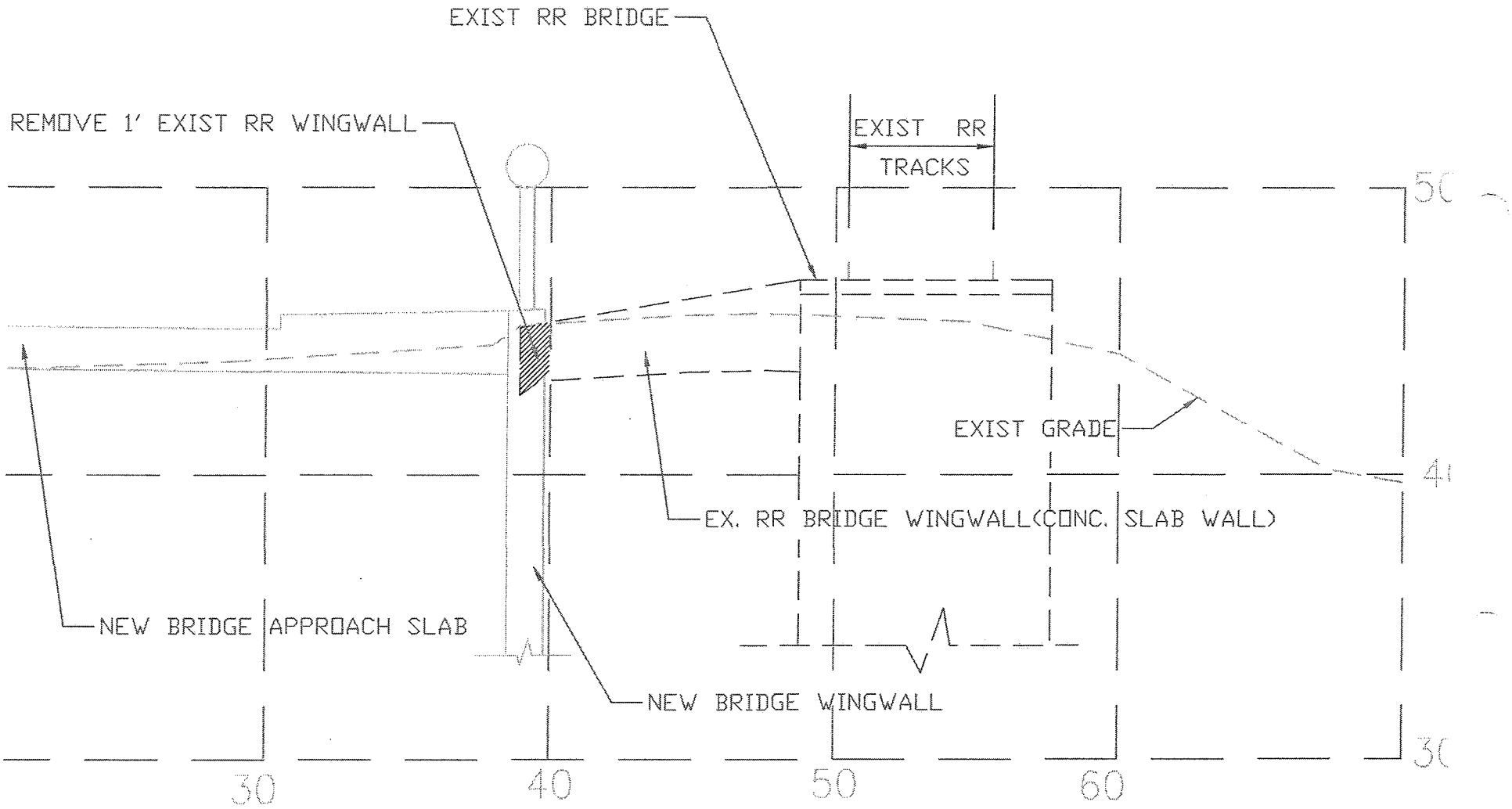

EXHIBIT 20
PAGE 12 OF 13

Existing Railroad Trestle Retaining Wall

EXHIBIT 20
PAGE 44 OF 112

Attachment G
Geotechnical Effects Memo (Shannon & Wilson)

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

ALASKA
CALIFORNIA
COLORADO
FLORIDA
MISSOURI
OREGON
WASHINGTON

EXHIBIT 20
PAGE 960F 113

June 27, 2012

AECOM
701 Fifth Avenue, Suite 1100
Seattle, WA 98104

Attn: Mr. Aaron Silver

RE: STATE ROUTE (SR) 202 SAMMAMISH RIVER BRIDGE PROJECT, POTENTIAL GEOTECHNICAL EFFECTS OF PROPOSED ROADWAY BRIDGE CONSTRUCTION ON EXISTING RAILROAD BRIDGE AND FILL

This letter is in response to AECOM's request of June 20, 2012, that Shannon & Wilson, Inc. address questions raised by the Port of Seattle regarding the potential effects of the proposed roadway bridge on the existing railroad bridge and fill.

The City of Woodinville proposes to construct a new roadway bridge immediately south of the existing (1963) SR 202 bridge over the Sammamish River. The proposed bridge, shown in AECOM's 60 Percent Design submittal, will include new wedge approach fills at its east and west abutments, and will be supported by two piers founded on approximately 4-foot-diameter drilled shafts. An existing railroad bridge is located south of the proposed roadway bridge and is oriented on a skew such that the two structures would be closest near the new roadway bridge east abutment (Pier 2). The two structures diverge rapidly to the west. Therefore, the area of interest regarding effects on the existing railroad bridge is at and around the east abutment.

EAST APPROACH FILL SETTLEMENT EFFECTS

Based on information received from AECOM, the new east approach fill would be within about 10 feet of the existing railroad bridge. The existing topography slopes downward to the river at this location such that the new approach fill would be approximately wedge shaped, with a maximum thickness of about 5 feet immediately behind the abutment wall. Based on the plans for the 1963 Sammamish River Bridge, the new roadway bridge will be located at approximately the location of an older timber bridge that was removed during construction of the 1963 bridge. The approach fills for this older timber bridge will largely form the approaches of the new roadway bridge. Because relatively little new fill is being placed for the new approach, and

400 NORTH 34th STREET – SUITE 100
PO BOX 300303
SEATTLE, WA 98103
206-632-8020 FAX 206-695-6777
TDD: 1-800-833-6388
www.shannonwilson.com

because a large fill has been in place at this location for at least 50 years, we anticipate that the settlement induced by the new east approach fill will be small. Because the new fill would be at least 10 feet away from the existing railroad bridge, it is unlikely to cause significant settlement of the railroad bridge.

DRILLED SHAFT CONSTRUCTION EFFECTS

The nearest proposed drilled shaft supporting Pier 2 would be at least 16 feet from the existing railroad bridge. This is further than the industry-recognized minimum distance (4 diameters) for interaction effects of adjacent drilled shaft foundations. To further reduce the potential for disturbance of the existing railroad bridge, the drilled shaft construction technique could be tailored to reduce potential ground losses, caving, and vibration.

In general, there are three typical methods of constructing drilled shafts: the dry, casing, and wet methods. These methods are generally described in our August 2007 Draft Geotechnical Report for the project. We anticipate that a combination of the casing and wet methods will be used for the following reasons:

- Without a casing, soft/loose soil overlying the dense to very dense/hard glacially consolidated soil could cave or squeeze into the shaft excavation.
- A casing is needed to prevent seepage from shallow groundwater levels.
- When the proposed foundations are located near exiting SR 202 bridge or railroad bridge foundations, the casing would provide lateral support to reduce the risk of ground loss during drilled shaft construction.

This could be accomplished, for example, by using an oscillator- or rotator-type installation method.

Since the distance from the nearest shaft to the existing railroad bridge exceeds 4 diameters, we anticipate settlements due to drilled shaft installation to be insignificant.

VIBRATION AND SETTLEMENT MONITORING DURING CONSTRUCTION

There is a potential for damage to the existing SR 202 and railroad bridges and nearby utilities due to vibrations and resulting settlements caused by drilled shaft installation, and due to settlement caused by the proposed east approach fill. Although settlements are not anticipated, monitoring of the railroad bridge will be performed. If any movements are detected the drilling will be stopped until corrective measures are implemented to prevent further movement.

We recommend developing and implementing vibration and settlement monitoring criteria for the existing railroad bridge.

Vibration Monitoring

The vibration criteria should consider the type and frequency of the vibrations, the structural design, and the existing condition of the bridge structure. The criterion for possible damage resulting from vibrations is expressed in terms of a maximum peak particle velocity (ppv).

Based on our review of various standards for vibration monitoring, the maximum tolerable ppv could vary from 0.5 inch per second (ips) to 2.0 ips. The 0.5 ips criterion is applicable to sensitive structures and utilities such as brick masonry buildings and old water pipelines with lead joints. The 2.0 ips criterion may be appropriate for reinforced concrete structures that do not have significant amounts of cracking or spalling. Particle velocities can be measured during construction using a vibration monitor (seismograph) located as close as possible to the structure or utility being monitored.

We recommend that the first drilled shafts be installed farthest from the existing railroad bridge so that the vibrations can be measured. The monitoring program could consist of measuring the vibrations at a location as close as possible to the existing structure. If possible, vibration monitors should be installed directly on the existing railroad bridge and its pile foundations for the duration of construction activities. If measured vibrations are at or above a level that could potentially cause damage, mitigation measures, such as jacking or oscillating, or use of a larger, variable-moment, vibratory hammer(s) for casing installation should be implemented.

We recommend that an existing condition survey be performed for the existing railroad bridge and other nearby facilities that may be affected by the new bridge construction activities. Documentation should include photographs, videos, sketches, and/or written comments. This information will be invaluable in assessing the need for mitigation measures, as well as resolving potential disputes.

Settlement Monitoring

We recommend that optical survey points (monuments) be provided on the exposed corners of pile caps or abutments of the existing railroad bridge, and that measurements in three orthogonal directions be taken weekly beginning prior to placement of any new fill at the east approach site or excavation of any drilled shaft. Construction activities at and in the vicinity of the bridge along with the state of construction of the bridge (e.g., fill heights, shafts installed, etc.) should

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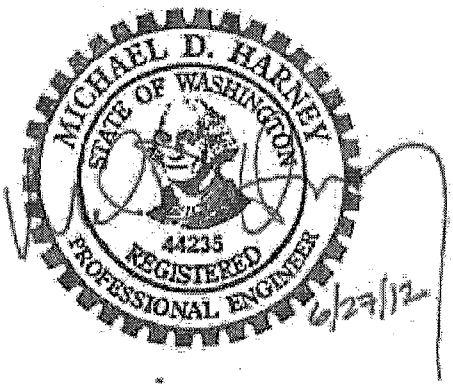
be recorded with each measurement. The location and elevation of each survey point should be surveyed when installed to establish an initial condition or baseline. Optical survey point measurements should be performed using survey techniques accurate to within 0.1 inch or better. When optical survey points are damaged, the Contractor should stop embankment or shaft construction at that section until the survey point has been repaired and new baseline measurements made. Survey point baseline measurements and all subsequent readings should be provided to the geotechnical engineer who will review the data weekly.

We appreciate the opportunity to be of service. If you have any questions about this information, please call me at (206) 695-6850.

Sincerely,

SHANNON & WILSON, INC.



Michael D. Harney, P.E.
Senior Principal Engineer

MDH:TMG/mdh

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Attachment H
Cultural Resources Report
(Western Shore Heritage Services)

WESTERN SHORE HERITAGE SERVICES, INC.

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PAGE 1 OF 13

TECHNICAL MEMO 0704E-2

DATE: June 20, 2007

TO: Jan Mulder
EDAW Inc.

FROM: Jim Schumacher

RE: Cultural Resources Assessment for Sammamish River Bridge, Woodinville, WA

The attached revised short report form constitutes our final report for the above referenced project. No cultural resources were identified within the project APE and no further cultural resources investigations are recommended. Please contact me should you have any questions about our findings and/or recommendations.

8001 DAY ROAD WEST, SUITE B, BAINBRIDGE ISLAND, WA 98110
PHONE 206.855.9020 FAX 206.855.9081
info@wshsinc.com

Management Summary
Archaeological survey was conducted for proposed road widening and bridge reconstruction of the Sammamish River Bridge in Woodinville, King County. Survey did not result in the identification of any potentially significant cultural materials in the vicinity of the project area. No further archaeological assessment work is recommended necessary at this location.

1. Administrative Data

Report Title: Archaeological Survey for Sammamish River Bridge, Woodinville, WA

Author (s): James Schumacher

Report Date: May 31, 2007; revised June 20, 2007

Location: The project is located along SR202 between 131st Avenue NE and Woodinville-Redmond Road, in the heavily traveled urban landscape of Woodinville.

Legal Description: The project is located in the southeast quarter of Section 9, Township 26 North, Range 5 East, Willamette Meridian.

USGS 7.5' Topographic Map (s): Bothell, WA

Total Area Involved (acres): Less than one acre.

Objective (Research Design): Archaeological survey was conducted to identify any previously unrecorded pre-contact or historic-period archaeological deposits that could potentially be present in the area of potential effect (APE) for this project. The project consisted of review of the design plan, related reports, and other information, as well as field investigation.

Previously Unrecorded Cultural Resources Identified and Recorded: Yes [ ] No [x]
There are no archaeological sites or historic properties on or adjacent to the subject parcel.

Project Background: The project is located along SR202 between 131st Avenue NE and Woodinville -Redmond Road. SR202 is classified by WSDOT as Urban-Minor Arterial, with a posted speed of 35 mph from 128th Place NE to SR522 (urban minor arterials interconnect with and augment urban principal arterials and provide service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials) (WSDOT 2002). The roadway width at the Sammamish River Bridge (Bridge #202/035) currently consists of two 13-foot lanes, curb and gutter, 3-foot sidewalk, and no shoulders. The interim traffic signal will be installed at the SR202/127th Place NE/Woodinville Drive intersection. The City of Woodinville intends to widen the Sammamish River Bridge along SR202 from a two-lane bridge to a four lane one, with the primary objective of increasing throughput, relieving congestion at the intersections at each end of the project, and to ensure that the bridge meets current structural, seismic and scour design requirements. The design concepts of the Sammamish River Bridge will be in accordance with the WSDOT Bridge Design Manual. The east and west approaches to the bridge will be widened to provide four through lanes with possible additional turn lanes at each intersection

terminus. Other improvements include drainage, water quality, non-motorized travel ways, street lighting, and possible streetscape. For purposes of archaeological survey, the area of potential effect (APE) for this project is understood to be that described above.

2. Background Research

Background research conducted in May and June 2007.

Archival Sources Checked:	
DAHP GIS Database	There are no recorded archaeological sites in the project APE.
USGS Topographic Map	Bothell, WA 7.5' quadrangle
Soil Survey	The project setting is urban land; nearby native sediments are classified as silt loam and muck (Natural Resources Conservation Service Web Soil Survey).
Archival Data:	
DAHP	[x] DAHP files check was conducted May 2007
Library	[ ]
Museum	[ ]
Other	[x] King County Historic Preservation Program database, June 2007

Context Overview: The project area is located in present-day Woodinville, within the Puget Sound lowland physiographic area, and west of the foothills of the northern Cascades. Archaeologists have identified broad similarities in site and lithic assemblages dated to between 9000-5000 years Before Present (B.P.), and termed "Olcott complex" of the Cascade Phase. Olcott complex sites have been defined partly by the shared distribution of laurel-leaf-shaped bifaces and upland or upper river terrace site locations (e.g., Blukis Onat et al. 2001; Morgan and Hartmann 1999; Nelson 1990). Archaeological evidence dated to between 3000-200 B.P. illustrates the beginning of the elaboration of seasonal logistical mobility and patterns of seasonal residence that characterized the ethnographic pattern in Puget Sound. Sites dating to this period represent seasonal specialized spring and summer fishing and root gathering campsites, and village locations. Beginning approximately two hundred years ago, relatively rapid social changes occurred under the pressures of acculturation. Contact between peoples of the Puget Sound region and those of Europe and the United States stimulated the local introduction and adoption of new technologies and political organization (Marino 1990; Suttles and Lane 1990).

The general project region is within the traditional territory of the Sammamish band and Duwamish tribe of Southern Lushootseed speakers (Ruby and Brown 1992; Suttles and Lane 1990; Waterman 2001). Place names have been recorded for features in the general area of Woodinville, and include *Ts^{3}Eqwsû'bûdûp*, or "bubbles coming up all the time" for a place on the east bank of the Sammamish River at Woodinville, and *Ila'huletc*, the name for Bear Creek and its confluence with the Sammamish River (Waterman 2001). Local Indian people shared many broadly defined traditions with their inland Puget Sound neighbors, including lacustrine or riverine settlement patterns, subsistence emphasis on salmon and other fish, land game, and a wide variety of abundant vegetable foods, and household and village communities linked by family and exchange relations (Suttles and Lane 1990).

Euroamerican settlement in the area began by the 1870s. Within about two decades sawmills and shingle mills had been established to take advantage of local timber stands, and, with the arrival in 1887 of the Seattle, Lake Shore, and Eastern Railroad, Woodinville became a busy railroad junction point (Kirk and Alexander 1990). Over the next several decades, agriculture enabled people's economic livelihood. Development of improved transportation networks enabled urban workers in Seattle and Everett to move to outlying areas such as Woodinville, transforming them from tracts of farmland to increasingly dense suburban neighborhoods.

Several pre-contact archaeological sites have been recorded with DAHP within about three miles of the project corridor; these are all well outside of the project vicinity and will not be affected by the project. The pre-contact archaeological site nearest the project area is 45KI72. This small site included a fire-cracked rock concentration, several hearths, and siltstone lithic material, and was interpreted to represent a single occupation potentially dating to the Olcott cultural phase (Chatters 1982). This site is about one mile northwest of the project area and will not be affected. Based on existing archaeological data for this area, the types of archaeological materials that might be present in the general vicinity could potentially include the remains of habitation sites, lithic scatters, trails, or similar features, which could represent a range of domestic, subsistence, and ceremonial activities. Historic-period archaeological deposits would likely be related to agricultural/timber harvest or railroad activities.

3. Fieldwork

Total Area Examined: Field observations were conducted by the author; notes are on file at WSHS, Inc. Given the extremely small size of the project area, one hundred percent of its APE surface area was examined. The native ground surface here had been modified by historic and modern land clearing and urban road corridor development. The landscape surrounding the bridge on both sides had been heavily reworked by installation of pump stations, as well as roadway and railroad grades. Small, scattered ground disturbances similar to animal burrows were observed and the backdirt examined; sediments consisted of gravelly dark brown silty loam. No evidence of archaeological features was identified within the general vicinity of the proposed project. No structures in the immediate vicinity appeared potentially eligible for historic registers.

Areas not examined: None.

Date(s) of Survey: May 23, 2007

Weather and Surface Visibility: Generally clear and warm weather conditions; surface visibility was excellent throughout the project area.

4. Results

Cultural Resources Identified None

Project Conclusions, Findings and Recommendations: Archaeological survey did not result in the identification of archaeological materials in the vicinity of the project APE. No further archaeological evaluation is recommended necessary.

In the unlikely event that ground disturbing or other activities do result in the inadvertent discovery of archaeological deposits, work should be halted in the immediate area and contact made with the State Department of Archaeology and Historic Preservation (DAHP) in Olympia. Work should be halted until such time as further investigation and appropriate consultation is concluded. In the unlikely event of the inadvertent discovery of human remains, work should be immediately halted in the area, the discovery covered and secured against further disturbance, and contact effected with law enforcement personnel, DAHP and authorized representatives of the concerned Indian Tribes.

No historic properties affected [x]
Historic properties affected [ ]
No adverse effect to historic properties [ ]
Adverse effect to historic properties [ ]

Attachments:
Figures [x]
Photographs [x]
Other [ ]

5. References:

Blukis Onat, A. R., M. E. Morgenstein, P. D. LeTourneau, R. P. Stone, J. Kosta, and P. Johnson
2001 *Archaeological Investigations at stuwe'yuq^{w} – Site 45KI464, Tolt River, King County, Washington.* BOAS, Inc., Seattle. Submitted to Seattle Public Utilities, Seattle, Contract No. DC 98097.

Chatters, James C.
1982 *State of Washington Archaeological Site Inventory Form 45KI72.* On file at DAHP, Olympia.

Kirk, Ruth and Carmela Alexander
1990 *Exploring Washington's Past.* University of Washington Press, Seattle.

Marino, Cesare
1990 History of Western Washington Since 1846. *In Handbook of North American Indians, Vol. 7: Northwest Coast,* edited by Wayne Suttles, pp. 169-179. Smithsonian Institution Press, Washington D.C.

Morgan, Vera and Glenn D. Hartmann
1999 Archaeological Context. In *The SR-101 Sequim Bypass Archaeological Project: Mid- to Late-Holocene Occupations on the Northern Olympic Peninsula, Clallam County, Washington.* Eastern Washington University Reports in Archaeology and History 100-108,

pp. 3.1-3.12. Archaeological and Historical Services, Eastern Washington University, Cheney.

Nelson, C. M.
1990 Prehistory of the Puget Sound Region. In *Handbook of North American Indians, Volume 7: Northwest Coast*, pp. 481-484. Smithsonian Institution Press, Washington, DC.

Ruby, Robert H. and John A. Brown
1992 *A Guide to the Indian Tribes of the Pacific Northwest* (revised). University of Oklahoma Press, Norman.

Suttles, W. and B. Lane
1990 Southern Coast Salish. In *Handbook of North American Indians, Volume 7: Northwest Coast*, pp. 485-502. Smithsonian Institution Press, Washington, DC.

Waterman, Thomas T.
2001 *sda?da? g^{w}eł dibeł lešucid ?acaciłtalbix^{w} Puget Sound Geography*. Vi Hilbert, Jay Miller, and Zalmai Zahir, contributing editors. Lushootseed Press: Federal Way.

WSDOT
2002 Guidelines for Amending Urban Boundaries and Functional Classification. Washington State Department of Transportation Planning and Capital Program Management, Olympia.

6. Limitations of this Assessment

No cultural resources study can wholly eliminate uncertainty regarding the potential for prehistoric sites, historic properties or traditional cultural properties to be associated with a project. The information presented in this report is based on professional opinions derived from our analysis and interpretation of available documents, records, literature, and information identified in this report, and on our field investigation and observations as described herein. Conclusions and recommendations presented apply to project conditions existing at the time of our study and those reasonably foreseeable. The data, conclusions, and interpretations in this report should not be construed as a warranty of subsurface conditions described in this report. They cannot necessarily apply to site changes of which WSHS is not aware and has not had the opportunity to evaluate.

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7. Figures

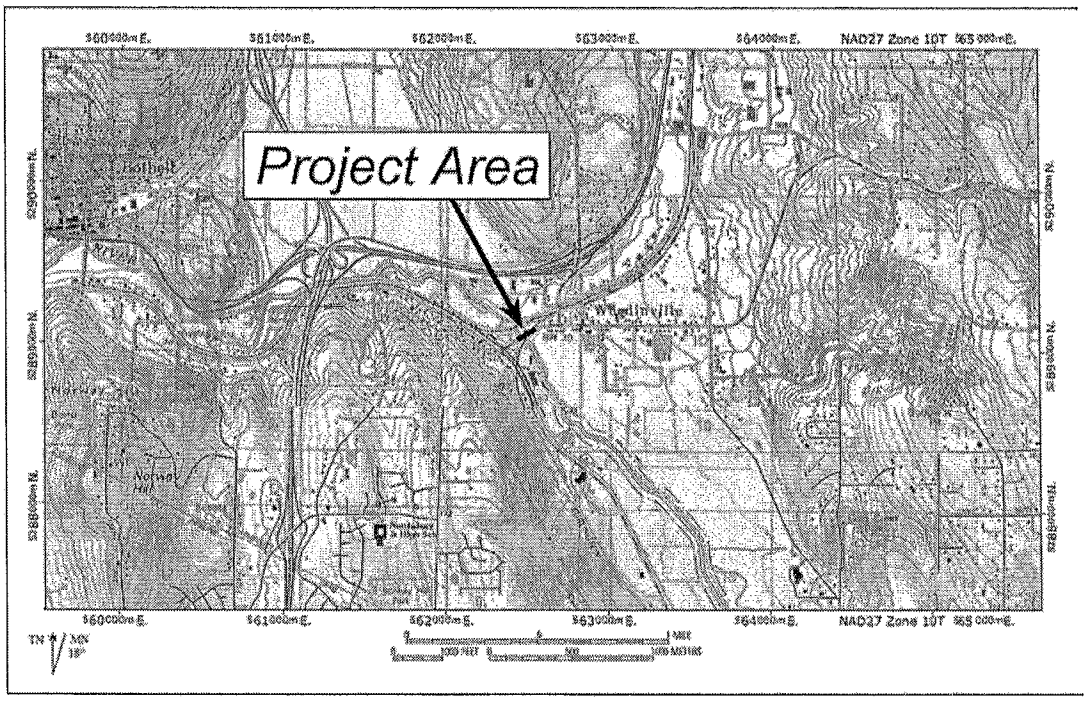

Figure 1. Project location shown on portion of the USGS Bothell 7.5' USGS quadrangle; project APE and survey area annotated in black (not to scale).

Figure 2. Aerial photo annotated with black lines depicting the project area.

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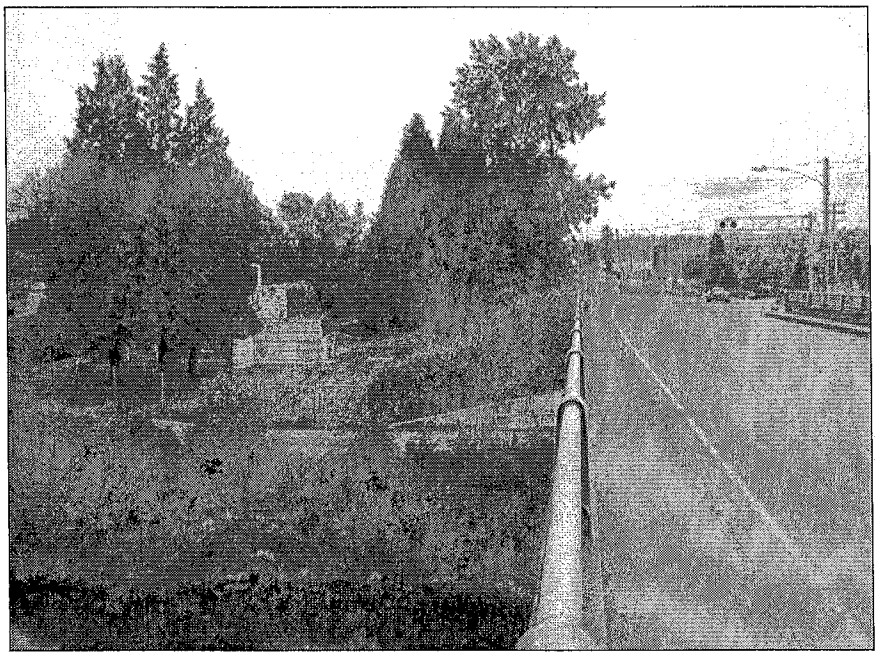

Figure 3. View of the project area, May 2007; view is to the northeast. View depicts the portion of the project area north of the road on the east side of the bridge. View is toward road prism and pump station.

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

August 27, 2007

Mr. Yoshihiro Monzaki, P.E.
City of Woodinville Public Works Department
17301 133rd Ave. NE
Woodinville, WA 98072

In future correspondence please refer to:
Log: 082707-02-KI
Property: City of Woodinville, SR 202 Sammamish River Bridge (No. 202/035) and Road Project
Re: Executive Order 05-05 Review - No Effect

Dear Mr. Monzaki, P.E.:

Thank you for contacting our office and providing a copy of the cultural resources survey completed by Western Shore Heritage Services, Inc. We concur with their professional recommendations and believe that your project will have no effect on cultural resources that may exist in the area. Thank you for participating in the review process and good luck with your project.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of Executive Order 05-05.

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Executive Order 05-05 as signed by the Governor in 2005.

Should additional information become available, our assessment may be revised. In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and this office and the concerned tribes notified.

Sincerely,

Matthew Sterner, M.A., RPA
Transportation Archaeologist
(360) 586-3082
matthew.sterner@dahp.wa.gov

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STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

June 23, 2011

Hwys & Local Programs
JUN 24 2011
Olympia, WA

Mr. Trent de Boer
WSDOT, Highways & Local Programs
PO Box 47390
Olympia, WA 98504-7390

In future correspondence please refer to:
Log: 082707-02-KI
Property: City of Woodinville, SR 202 Sammamish River Bridge (No. 202/035) and Road Project
Re: Archaeology - No Historic Properties

Dear Mr. de Boer:

Thank you for contacting our office and providing documentation on the proposed project. We did review the project under Executive Order 05-05 in 2007 and continue to concur with the finding of no historic properties affected.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800.

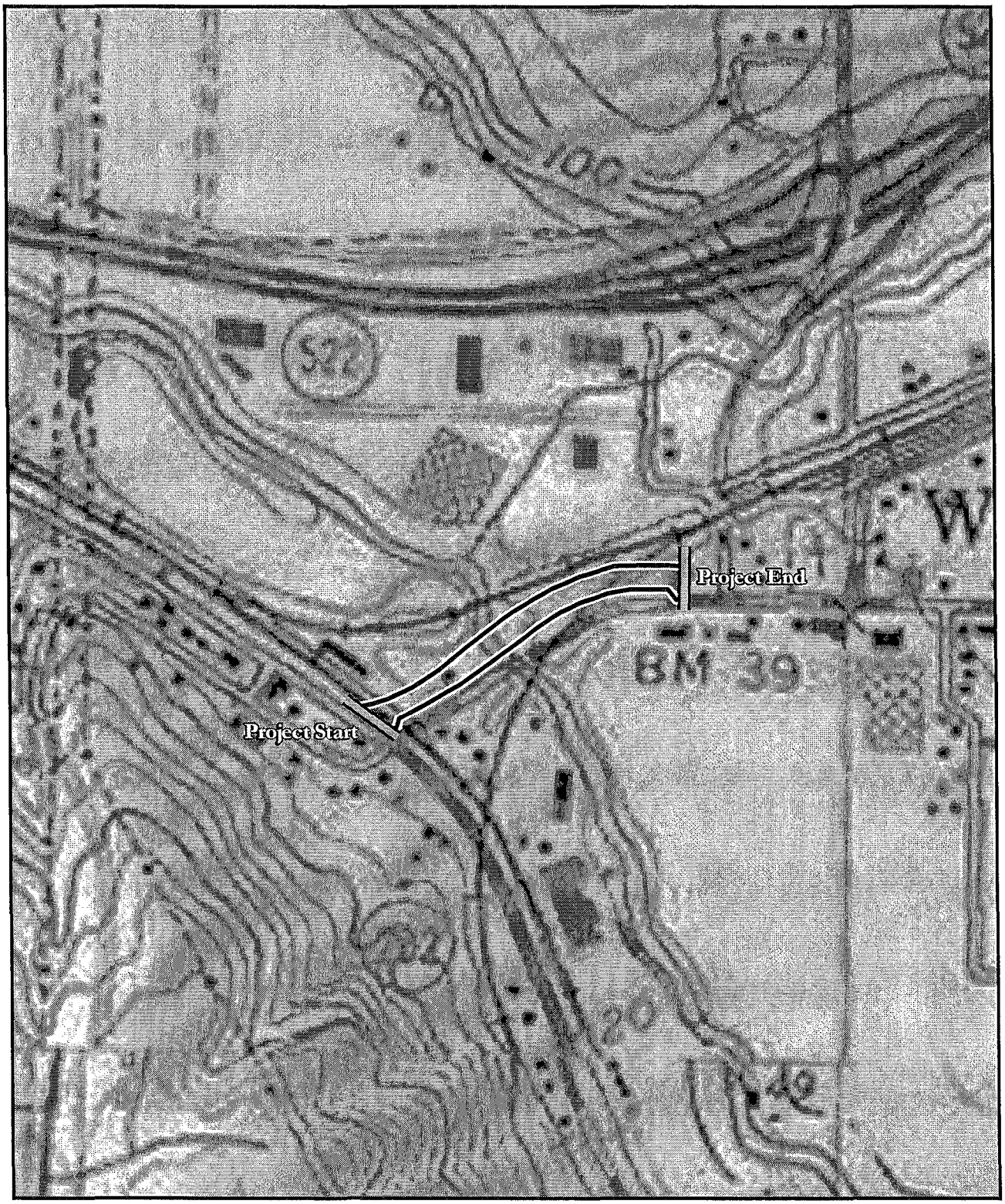
Should additional information become available, our assessment may be revised. In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and this office and the concerned tribes notified.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

Matthew Sterner, M.A.
Transportation Archaeologist
(360) 586-3082
matthew.sterner@dahp.wa.gov

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future



Area of Potential Effect

1 inch = 500 feet

Feet
0 500 1,000

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Area of Potential Effect (APE)

Sammamish River Bridge Project
City of Woodinville
Section 9 Township 26N Range 5E

Updated April 12, 2011 (HowardL)

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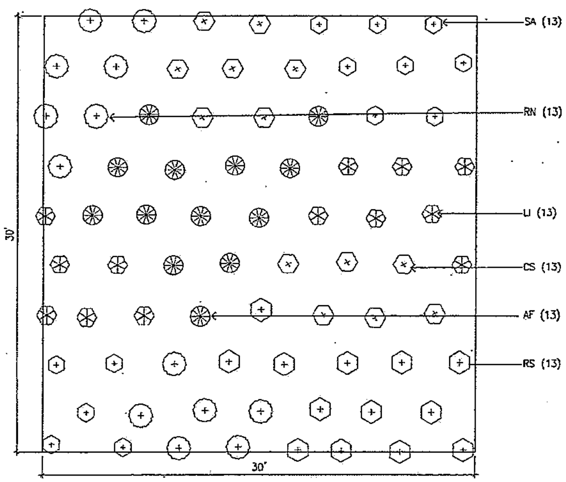
Attachment I
On-Site Mitigation Planting Plan

60% SUBMITTAL

SHRUBS & FERNS	QUANTITY per 900 SF	TOTAL QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NOTES	
⊛	13	19	AF	ATHYRIUM FELIX-FEMINA	LADY FERN	1 GAL	4' OC	CLUSTER CLOSESR TO RIVER	.2
⊙	13	19	CS	CORNUS STOLONIFERA	RED-OSIER DOGWOOD	1 GAL	4' OC	CLUSTER	.2
⊙	13	19	SA	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL	4' OC		.2
⊛	13	19	LI	LONICERA INVOLUCRATA	BLACK TWINBERRY	1 GAL	4' OC		.2
⊙	13	19	RN	ROSA NUTKANA	NOOTKA ROSE/ R. PISOCARPA	1 GAL	4' OC	CLUSTER	.2
⊙	13	19	RS	RUBUS SPECTABILIS	SALMONBERRY	1 GAL	4' OC		.2

1 RESTORATION ZONE PLANTING SCHEDULE

SCALE: 1/8"=1'-0" DT-PLNT-TEMPLATE-FRST-ENHANCED.dwg



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NOTES:
1. LAYOUT TO BE VERIFIED ON SITE DUE TO VARYING FIELD CONDITIONS AND PLANT DENSITIES.
2. REFER TO RESTORATION PLANT SCHEDULE FOR PLANT QUANTITIES
3. PLANTING WITHIN CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES TO BE LIMITED TO 1 GAL. POTS OR SMALLER. PLANT LAYOUT TO BE VERIFIED BY OWNER'S REPRESENTATIVE.

SCALE IN FEET 0 1 3 5 10

2 RESTORATION PLANTING TEMPLATE- 900 SF

SCALE: 1/8"=1'-0" DT-PLNT-TEMPLATE-FRST-ENHANCED.dwg

N

20 0 20 40
SCALE IN FEET

AECOM
701 5TH AVENUE, SUITE 1100
SEATTLE, WASHINGTON 98104
PHONE: (206) 674-4200
FAX: (206) 674-4242

NO.	REVISION	DATE	BY	CK

CITY OF WOODINVILLE
17301 133rd AVE NE
WOODINVILLE, WA 98072
PHONE: (425) 489-2700
FAX: (425)489-2705

PROJECT INFORMATION
SAMMAMISH BRIDGE (NO. 202/35) REPLACEMENT PROJECT

SHEET TITLE:
LANDSCAPE PLAN

DATE: 03-15-2012
CHECKED BY: AL
DESIGNED BY: BJH
PROJECT NO.:
DRAWN BY: YD
SCALE: 1"=10'
SHEET OF
DRAWING NO.: LS2