

Seattle

Department of Planning and Development

Diane M. Sugimura, Director

CITY OF SEATTLE ANALYSIS AND DECISION OF THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT

INTRODUCTION

This document pertains to the Director’s analysis and decision for five (5) separate but related Master Use Permits (MUPs).

The application reviewed in this analysis is for the Project 3012587 SR 520 West Approach. There are four off-site mitigation areas proposed as mitigation for aquatic and wetland impacts that cannot be eliminated or mitigated within the West Approach project area.

The related applications include:

- Project 3012587 2400 B E Lake Washington Boulevard – SR 520 West Approach
- Project 3012592 3681 NE 41st Street – SR 520 Union Bay Mitigation Site
- Project 3012593 Unaddressable – SR 520 WSDOT Peninsula Mitigation Site
- Project 3012594 5898 Lake Washington Boulevard South – Seward Park Mitigation Site
- Project 3012595 10034 Rainier Avenue South – Taylor Creek Mitigation Site.

TABLE OF CONTENTS

1 APPLICATION 3012587 – SR 520 WEST APPROACH	4
1.1 SUMMARY OF PROPOSED ACTION	4
1.1.1 <i>Background Information</i>	5
1.1.1.1 SR520 Bridge Replacement and HOV Program.....	5
1.1.1.2 Site and Vicinity Description	7
1.1.2 <i>Proposal Description</i>	8
1.1.3 <i>WSDOT Proposed Aquatic and Wetland Mitigation Measures</i>	10
1.1.3.1 Best Management Practices	10
1.1.3.2 Wetlands and Wetland Buffers.....	11
1.1.3.2.1 Temporary Wetland Impact Mitigation	13
1.1.3.2.2 Permanent Wetland Impact Mitigation	14
1.1.3.3 Fish and Wildlife Habitat Conservation Areas	14
1.1.3.3.1 Temporary Shoreline Habitat Mitigation	15
1.1.3.3.2 Temporary Shoreline Buffer Mitigation	15
1.1.3.3.3 Permanent Shoreline Habitat Mitigation	16
1.1.3.3.4 Permanent Shoreline Buffer Mitigation	16
1.1.3.4 Off-Site Mitigation Areas	16

1.1.4	<i>Additional Mitigation Measures</i>	17
1.1.5	<i>Project Construction Duration</i>	17
1.1.6	<i>Public Comments</i>	17
1.2	ESSENTIAL PUBLIC FACILITY	18
1.2.1	<i>Background</i>	18
1.2.2	<i>The City’s EPF Criteria</i>	18
1.3	ENVIRONMENTALLY CRITICAL AREAS (SMC 25.09).....	22
1.3.1	<i>SMC 25.09.160 Development Standards for Wetlands</i>	22
1.3.2	<i>SMC 25.09.200 Development Standards for Fish and Wildlife Habitat Conservation Areas</i>	23
1.3.2.1	Temporary Impacts	23
1.3.2.2	Permanent Impacts.....	24
1.4	ANALYSIS - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT	25
1.4.1	<i>The Policies and Procedures of Chapter 90.58 RCW</i>	25
1.4.2	<i>The Regulations of Chapter 23.60</i>	26
1.4.2.1	SMP 23.60.004 - Shoreline Policies.....	26
1.4.2.1.1	Environmentally Critical Areas (LUG 36)	26
1.4.2.1.2	Shoreline Goals LUG 43, LUG 48, and LUG 49 – Protection of Shoreline and Aquatic Environment	27
1.4.2.1.3	Shoreline Goals LUG 44 – Public Access, LUG 45 – View Preservation, LUG 46 – Transportation Network, and LUG 47	28
1.4.2.1.4	Shoreline Policy LU 270 – Heights in Shoreline Environment	28
1.4.2.2	Effective Date of Shoreline Permit.....	29
1.4.2.3	Shoreline Uses.....	30
1.4.2.3.1	Analysis – Shoreline Special Use	31
1.4.2.3.2	Decision – Shoreline Special Use.....	35
1.4.2.4	Shoreline Development Standards	35
1.4.2.4.1	SMC 23.60.150 -23.60.162 - Development Standards	36
	SMC 23.60.179 - 210 – Additional Development Standards Applicable to Specific Uses	47
1.4.2.4.2	Development Standards Applicable to CP Environment.....	48
1.4.2.4.3	Development Standards Applicable to CM Environment	49
1.4.2.4.4	Development Standards Applicable to CN Environment	50
1.4.2.4.5	Development Standards Applicable to CR Environment.....	51
1.4.3	<i>Shoreline Conditional Use</i>	52
1.4.3.1	Analysis of Shoreline Conditional Use Criteria.....	52
1.4.3.2	Decision – Shoreline Conditional Use Approval.....	55
1.4.4	<i>The Provisions of Chapter 173-27 WAC</i>	55
1.4.5	<i>Decision – Shoreline Substantial Development Permit</i>	55
1.5	ANALYSIS – STATE ENVIRONMENTAL POLICY ACT (SEPA).....	55
1.5.1	<i>Short-Term and Temporary Impacts</i>	56
1.5.1.1	General Construction Impacts	57
1.5.1.1.1	Short Term or Temporary Impacts	57
1.5.1.1.2	General Proposed Mitigation	58
1.5.1.2	Air Quality	60
1.5.1.2.1	Short Term or Temporary Impacts	60
1.5.1.2.2	Proposed Mitigation: Air Quality.....	60
1.5.1.3	Surface Water Quality.....	60
1.5.1.3.1	Short Term or Temporary Impacts.....	60
1.5.1.3.2	Proposed Mitigation: Water Quality	60

1.5.1.4	Drainage and Earth	62
1.5.1.4.1	Short Term or Temporary Impacts	62
1.5.1.4.2	Proposed Mitigation: Drainage and Earth.....	62
1.5.1.5	Traffic and Parking	63
1.5.1.5.1	Short Term or Temporary Impacts.....	63
1.5.1.5.2	Proposed Mitigation: Traffic and Parking.....	64
1.5.1.6	Noise	68
1.5.1.6.1	Short Term or Temporary Impacts	68
1.5.1.6.2	Proposed Mitigation: Noise.....	68
1.5.1.7	Plants and Animals.....	70
1.5.1.7.1	Short Term or Temporary Impacts	70
1.5.1.7.2	Proposed Mitigation: Plants and Animals	71
1.5.2	<i>Long-Term Impacts</i>	73
1.5.2.1	Public Views	74
1.5.2.1.1	Long Term Impacts	74
1.5.2.1.2	Proposed Mitigation: Public Views.....	75
1.5.2.2	Air Quality	78
1.5.2.2.1	Long Term Impacts	78
1.5.2.2.2	Proposed Mitigation: Air Quality.....	78
1.5.2.3	Surface Water Quality.....	78
1.5.2.3.1	Long Term Impacts	78
1.5.2.3.2	Proposed Mitigation: Surface Water Quality	78
1.5.2.4	Noise	79
1.5.2.4.1	Long Term Impacts	79
1.5.2.4.2	Proposed Mitigation: Noise.....	79
1.5.2.5	Plants and Animals.....	79
1.5.2.5.1	Long Term Impacts	79
1.5.2.5.2	Proposed Mitigation: Plants and Animals	81
1.5.2.6	Other Impacts	83
1.5.3	<i>Conclusion - SEPA</i>	83
1.5.4	<i>Decision - SEPA</i>	84

THE PROPOSAL IS CONDITIONALLY GRANTED **84**

1.6	SHORELINE AND SEPA CONDITIONS	84
	Signature: (signature on file) Date:.....	90

ANALYSIS AND DECISION

1 Application 3012587 – SR 520 West Approach

Application Number: 3012587

Applicant Name: Kerry Pihlstrom for Washington State Department of Transportation

Addresses of Proposal: 2400 B E Lake Washington BLVD

1.1 SUMMARY OF PROPOSED ACTION

SR 520 Replacement Project - West Approach Portion (Montlake to floating bridge). Shoreline Substantial Development Permit to allow replacement of existing roadway and west approach to the floating bridge with 2 new structures, with a total of 6 lanes (3 in each direction) and a dedicated bicycle/pedestrian pathway on the north side. Project activities will include the excavation of approximately 73,650 cubic yards of material and fill of approximately 81,275 cubic yards.

Project includes a landscaped lid over a portion of the new roadway and development of a wetland for storm water treatment in an environmentally critical area. The overall height of the new bridge ranges from 21' to 60' from the water line to the top of the railing. Construction includes temporary work bridges and grading of 154,916 cubic yards of material and off-site mitigation. Mitigation site review under Projects 3012592, 3012593, 3012594 and 3012595.

Environmental documents have been prepared by Washington State Department of Transportation (WSDOT) and the Federal Highway Administration (FHWA). The Draft Environmental Impact Statement for the SR 520 Bridge Replacement and HOV Program was released in August 2006. A Supplemental Draft Environmental Impact Statement prepared by FHWA and WSDOT was released in January 2010. The Final EIS was issued on June 17, 2011.

The 2006 Draft Environmental Impact Statement (EIS) analyzed proposed corridor construction from the I-5 interchange in Seattle to just west of I-405 in Bellevue. The Supplemental Draft EIS in 2010 evaluated the effects of a No Build Alternative and three 6-lane design options for the SR 520 corridor from I-5 to Medina. A Preferred Alternative, similar to Option A, was identified in April 2011 following consideration of comments on the SDEIS.

The Final Environmental Impact Statement and Final Section 4(f) and 6(f) Evaluations analyzed a No Build Alternative along with a Preferred Alternative and the three SDEIS design options for the I-5 to Medina corridor. The Preferred Alternative and the design options would replace existing bridge structures, add continuous HOV lanes, and include landscaped lids over SR 520 to reconnect neighborhoods that are now separated by the highway.

The aging floating bridge is vulnerable to failure in a severe windstorm, and the fixed bridges along the corridor do not meet current seismic standards and could collapse in an earthquake. In addition, due to growth in jobs and housing, the corridor currently carries nearly twice as many

vehicles as it was originally designed for, resulting in extended congestion and impaired mobility. The uninterrupted movement of people and goods across SR 520 and the floating bridge is essential to the region's economic vitality and quality of life.

The following approvals are required:

Shoreline Substantial Development Permit to allow development in the Conservancy Preservation, Conservancy Management, Conservancy Navigation and Conservancy Recreation (CP, CM, CN, and CR) Shoreline Environments.

Shoreline Conditional Use to allow construction of a street and bridge in the Conservancy Preservation (CP) environment.

SEPA – To approve, condition or deny pursuant to Seattle's SEPA policies. Chapter 25.05.660, Seattle Municipal Code.

1.1.1 Background Information

1.1.1.1 SR520 Bridge Replacement and HOV Program

The SR 520, I-5 to Medina Project would widen the SR 520 corridor to six lanes from I-5 in Seattle to Evergreen Point Road in Medina and would restripe and reconfigure the lane channelization in the corridor from Evergreen Point Road to 92nd Avenue Northeast in Yarrow Point. It would replace the vulnerable Evergreen Point Bridge, including the floating bridge and west and east approaches, and the Portage Bay Bridge with new structures.

Because of the difference in types of new structures, and the difference in shoreline environments in which those structures would be located, the Washington Department of Transportation (WSDOT) has applied to the City of Seattle for four separate Shoreline Substantial Development Permits (SSDP). This decision pertains only to the West Approach portion of the project, located between the east end of the Montlake Cut and the floating portion of the bridge. See Figure 1 Geographic Areas Along SR 520 and Figure 2 West Approach Location.

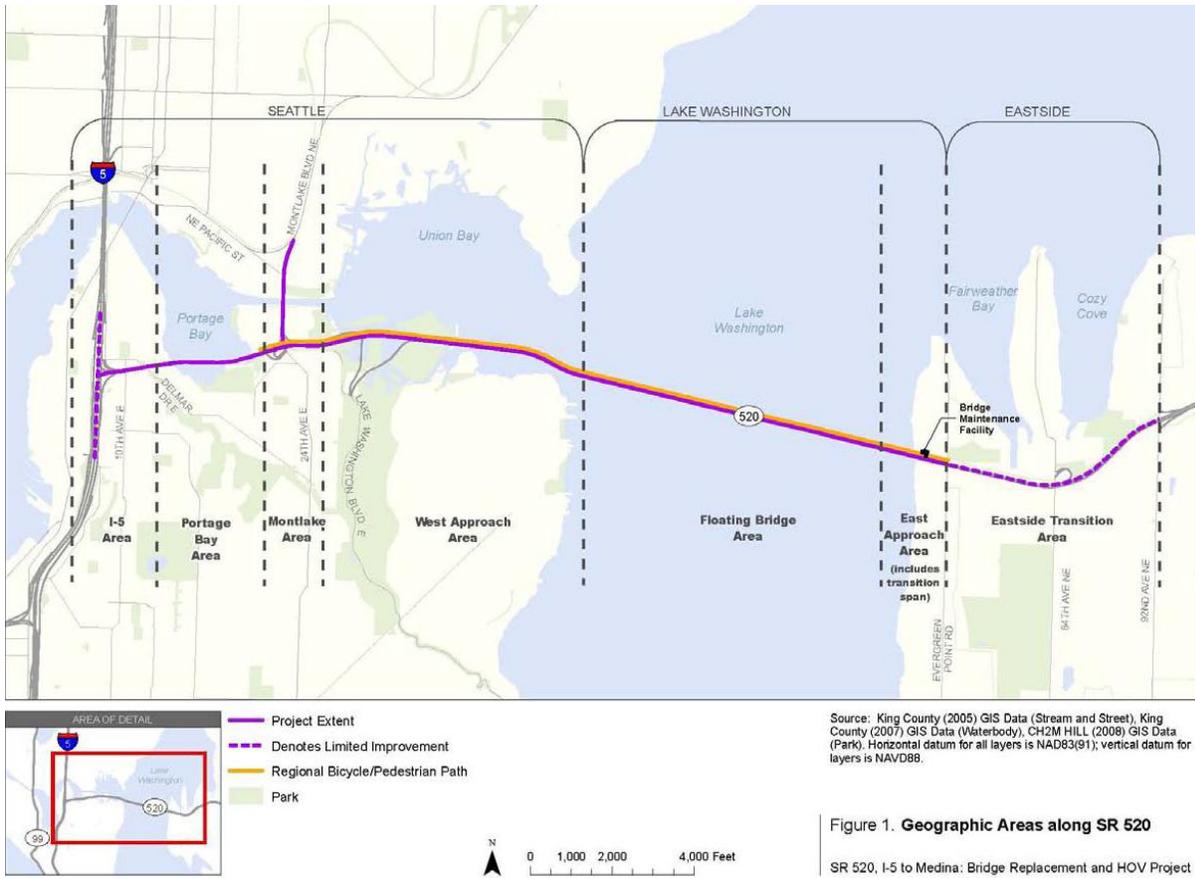


Figure 1 Geographic Areas Along SR 520

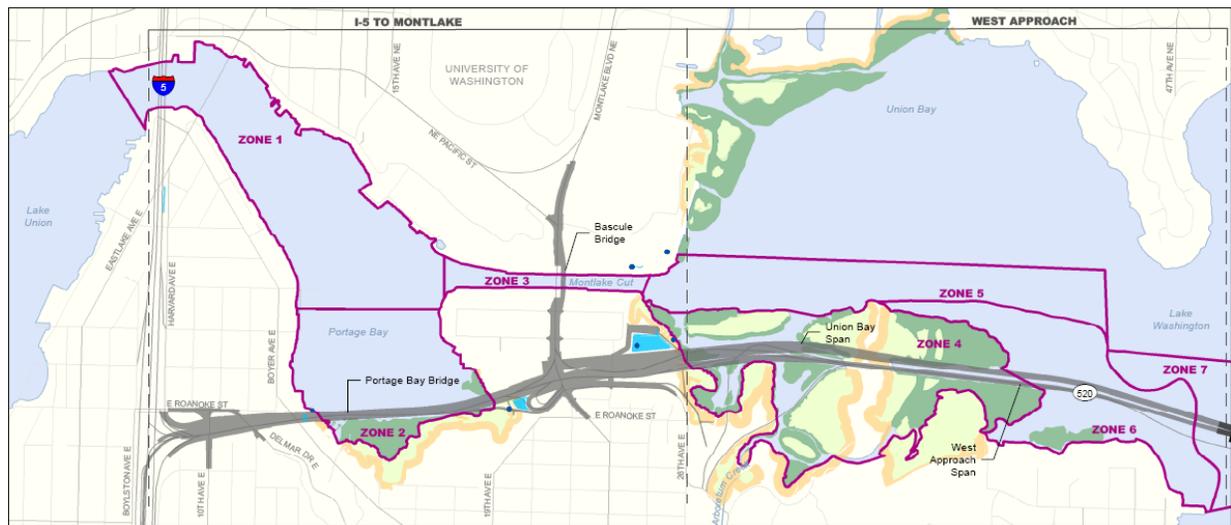


Figure 2 West Approach Location

1.1.1.2 Site and Vicinity Description

The West Approach portion of the bridge will occur within the Conservancy Preservation (CP), Conservancy Management (CM), Conservancy Navigation (CN), and Conservancy Recreation (CR) shoreline environments. New wider and higher structures will replace the existing Union Bay Bridge and the existing west approach. See Figure 3 Shoreline Environments.

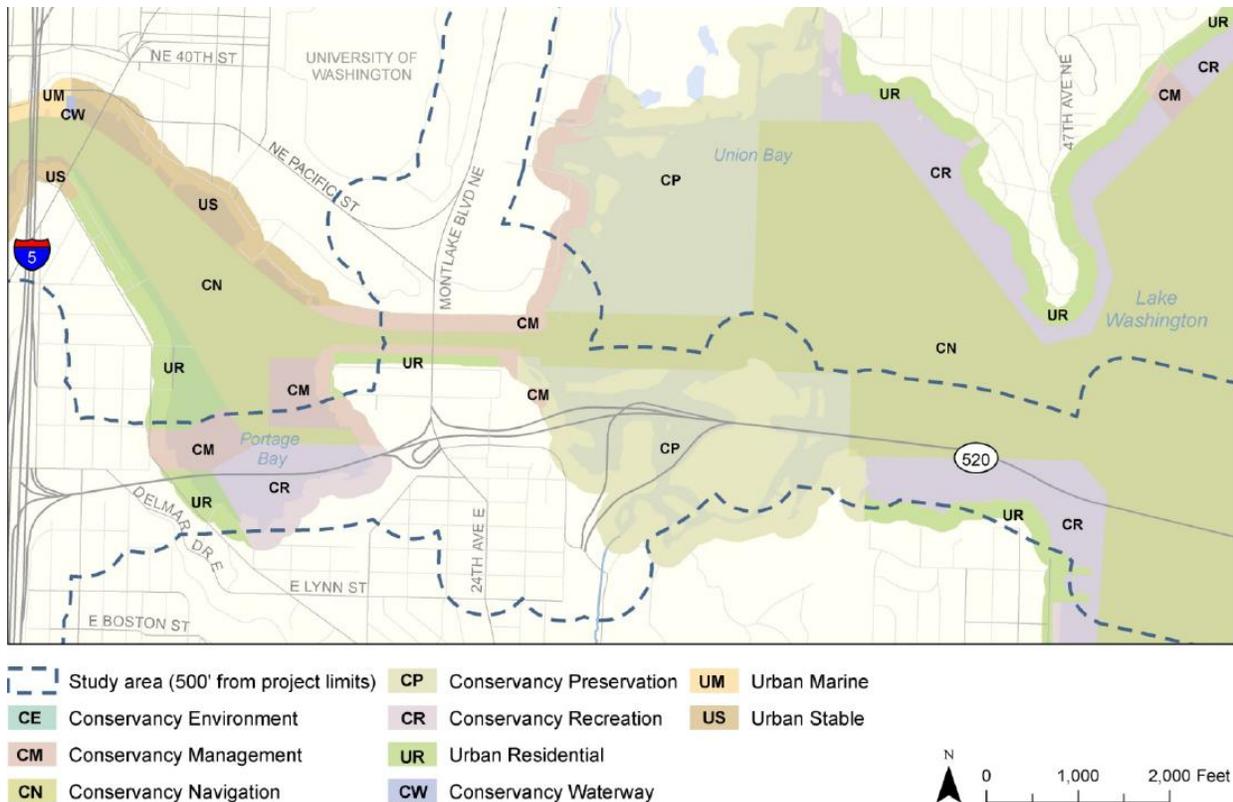


Figure 3 Shoreline Environments

The West Approach area includes the bay and its diverse and complex shorelines, islands, marshes, and wetlands. The Evergreen Point Bridge and Lake Washington Boulevard ramps currently rise through the Arboretum wetlands and the tree canopy at Foster Island, and pass over open water north of Broadmoor Golf Course and north Madison Park. The broad oval shape of the bay connecting to the expanse of Lake Washington creates a scenic and open character.

Between Montlake and across Foster Island, the existing bridge structure varies in width from 60 to 150 feet. It sits on an estimated 237 columns of approximately 4.5 feet in diameter. It is estimated that 176 of those columns are in the water. From the east shore of Foster Island to the floating bridge section, the bridge is 60 feet wide and sits on an estimated 228 columns, all of which are in the water. The columns vary in diameter from 4.5 to 9 feet in diameter.

In addition to replacing the existing bridge, the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp, and the unused R.H. Thompson Expressway ramps would be removed.

West of the bridge limits, the mainline SR 520 lanes will travel beneath the new Montlake lid. The 1,400-foot-long lid would extend from west of Montlake Boulevard to east of 24th Avenue NE and terminate near the Union Bay shoreline. The lid would function as a vehicle and pedestrian crossing, a landscaped area, and open space. Conceptual design and treatment for the lid were developed through the Engrossed Substitute Senate Bill 6392 workgroup process and through coordination with the City of Seattle and surrounding neighborhoods. The new lid would be landscaped in a manner consistent with the surrounding historic district and configured for transit and bicycle/pedestrian connectivity. The new Montlake lid and SR 520 mainline extend approximately 150 feet into the shoreline environment before transitioning into the west approach bridge structure.

1.1.2 Proposal Description

The proposal is to replace the existing SR 520 between I-5 on the west and Medina on the east. This application is for the portion of the project called the west approach, beginning at the east end of the Montlake Cut, extending through Union Bay, across Foster Island, and out into Lake Washington, terminating at the west transition span and the beginning of the floating portion of the bridge. All of the west approach is located within the Shoreline District.

Construction activities for this portion of the project that would occur within the Shoreline District include:

- The existing Union Bay bridge and the west approach would be replaced by two new structures: a westbound and an eastbound bridge structure with a gap between them. Combined, the two new structures would generally follow the existing alignment through Union Bay. On Foster Island, the new eastbound structure follows the existing alignment out to the curve. Beginning at Foster Island, the new westbound structure extends roughly 100 to 70 feet north of the existing, moving west to east. Where the new west approach ties into the floating bridge, it is roughly 160 feet north of the existing alignment.
- The bridge will include bridge approaches, embankments, retaining walls, lighting, roadway on the bridge, utilities on the bridge (including stormwater collection and conveyance systems), bike/pedestrian paths on the bridge, and stormwater facilities that receive stormwater from the bridge structure (constructed stormwater wetland facility adjacent to Union Bay just north of SR 520).
- The new structures would be continuous fixed span bridges throughout their length.
- The westbound structure would include the 14-foot-wide bicycle/pedestrian path, a two-lane off-ramp, a direct-access HOV/transit off-ramp, and three mainline lanes.
- The existing layout of the west approach ranges between 60 and 150 feet in width (typically 60 feet), and the proposed structures would range between 112 and 225 feet in width.
- The profile of the west approach would be raised from its existing height and would provide a constant grade, increasing from a minimum of 11 feet above the water surface

to approximately 23 feet near the Montlake shoreline, and from 52 to almost 60 feet at the west transition span of the floating bridge. The new structures would be up to 32 feet higher than the existing bridge in places, with the greatest increase occurring in the area east of Foster Island.

- The bottom of the bridge would be about 12 to 24 feet above the water through the Arboretum. The bridge would remain elevated over Foster Island rather than touching land as the SR 520 roadway does today.
- Clearance under the west approach would be approximately 17 feet at the point where it crosses the Arboretum Waterfront Trail.
- The eastbound structure would include two eastbound on-ramps and three mainline lanes.
- The new structures would touch down at the shoreline near McCurdy Park.
- The bridge structure in Union Bay and across Foster Island would be supported by 6-foot by 6-foot square columns. The piers would be spaced approximately 130 to 150 feet apart.
- The bridge structures east of Foster Island would be supported by 6-foot by 6-foot square and 7.5-foot by 7.5-foot square columns and would have 150-foot span lengths.
- The westbound and eastbound bridges would have a gap between the structures to be compatible with potential future light rail infrastructure, should Sound Transit determine that a light rail crossing of SR 520 is desirable at some point in the future. (No light rail crossing is currently planned or proposed as part of the SR 520, I-5 to Medina project.) The gap would narrow across Foster Island to reduce impacts on the Arboretum and the Foster Island traditional cultural property.
- Vessels passing under the new West Approach will be able to use two navigation channels: one opening located under the west transition span and the other opening located one span west of the transition span. The minimum span length under consideration for the west navigation channel openings is 150 feet, providing a minimum horizontal opening (channel width) of approximately 130 feet between piers. The minimum overhead vertical clearance for the west navigation channel will be 44 feet (the same as under existing conditions), with a minimum water depth at the west edge of the channel of approximately 23 feet.
- A constructed wetland for enhanced stormwater treatment would be built on the site currently occupied by the Museum of History and Industry (MOHIA).
- Also included is all construction associated with the bridges, such as temporary work trestles and bridge sections, demolition (including demolition of the existing bridge, the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp, and the existing R. H. Thomson Expressway ramps) and construction staging and storage.
- Potential staging areas include the unused R.H. Thomson Expressway ramps, the closed Lake Washington Boulevard ramps, and unused WSDOT right-of-way adjacent to SR 520.
- Construction would include two temporary work bridges that span from Montlake out across and east of Foster Island that will be removed after the permanent structure is completed.
- Barges may also be used for construction staging.
- Once construction is completed, 2.4 acres of construction easements on Foster and Marsh Islands would be returned to park use.
- No construction staging would occur outside of the construction easements.

1.1.3 WSDOT Proposed Aquatic and Wetland Mitigation Measures

1.1.3.1 Best Management Practices

WSDOT has proposed to use the following Best Management Practices (BMPs)¹ during all construction activities to eliminate or minimize potential environmental effects:

Temporary Stormwater Management Strategy - The temporary stormwater management strategy is to aid in reducing the risk of potential pollutants being discharged to a watercourse that may cause or contribute to the exceedances of water quality standards during construction activities. The plans that will be implemented include:

- Stormwater Pollution Prevention Plan
- Temporary Erosion and Sediment Control Plan
- Spill Prevention, Control, and Countermeasures Plan
- Concrete Containment and Disposal Plan
- Water Quality Sampling, Recording and Reporting Procedures

Land Based Construction BMPs— Land based BMPs are intended to minimize or eliminate the discharge of potential pollutants to a watercourse or waters of the state. These procedures would be implemented for construction materials and wastes (solids and liquids), soil or dredging materials, or any other materials that may cause or contribute to exceedance of water quality standards. The BMPs include:

- Clear definition of construction limits
- Minimize vegetation and soil disturbance to the extent possible
- Avoid or reduce adverse impacts on critical areas including shoreline buffers
- Protect designated sensitive areas, including the shoreline, with silt fencing
- Control of stormwater discharges from construction sites
- Ensure that NPDES permit requirements are met

Construction BMPs to Control Dust and Limit Impacts on Air Quality— These BMPs are intended to reduce the risk of exceeding local air quality standards during construction. The methods include:

- Wet down fill material and dust on site
- Ensure adequate freeboard to prevent soil particles from blowing away during transport
- Remove dirt, dust and debris from the roadway on a regular basis
- Minimize potential erosion from areas of disturbed soil by stabilizing and/or revegetating cleared areas in accordance with the TESC plan
- Wet down concrete structures during construction activities

¹ The information included in this decision is a summary of the BMPs listed in greater detail in Attachment 2 of the MUP Application package.

Over-Water Work – BMPs– Over-water work BMPs would be implemented for the proper use, storage, and disposal of materials and equipment on barges, boats, temporary construction pads (work bridges), or similar locations. Their purpose is to minimize or eliminate the discharge of potential pollutants to a watercourse or waters of the state. These procedures would be implemented for construction materials and wastes (solid and liquid), soil or dredging materials, or any other materials that may cause or contribute to exceedance of water quality standards. The plans or methods include:

- Construction Stormwater Pollution Prevention Planning
- Watertight Curbs, Bull Rails, or Toe Boards
- Oil Containment Boom
- Tie Downs to secure all materials
- Absorbent Materials to be placed under all vehicles and equipment on docks, barges, and other over-water structures
- Equipment Maintenance and Inspection
- Cover and Catchment Measures
- Construction Water Treatment Systems
- Spill Containment Kits and Containment Products
- Alternative Lubricants and Fuels
- Barges and Floats – used to stockpile materials, store construction equipment, transport demolition debris, and store water containment systems and water storage tanks

In-Water Work – BMPs– BMPs for in-water work are intended to both protect water quality and to protect resident or migrating aquatic species. The proposed BMPs include:

- Underwater Containment System/Temporary Cofferdam
- Sediment Testing
- Noise Attenuation
- Timing Restrictions – for Union Bay and West Approach in Salmonid Habitat Zone 4, work bridge pile installation limited to September 1 to April 30; for West Approach in Salmonid Habitat Zone 6, work bridge pile installation limited to October 1 to April 15, vibratory drilled shaft work limited to August 1 to March 31, and pile removal limited to August 1 to March 31

1.1.3.2 Wetlands and Wetland Buffers

WSDOT has designed the project to avoid or minimize the permanent and temporary wetland and wetland buffer impacts of the project while still meeting the project's engineering standards and design criteria. Specific design features to avoid impacts to wetlands were identified in the Ecosystems Discipline Report (WSDOT 2009d). Measures incorporated into the project design to minimize impacts to critical areas include:

- Increasing the bridge height to increase available light;
- Using work bridges instead of work roads over wetlands;
- Constructing the new roadway within the existing road footprint to the extent feasible;

- Overlapping the temporary work areas with permanent footprint;
- Minimizing the number and total area of in-water structures; and
- Spanning wetlands with bridges rather than filling them.

A more comprehensive list of the minimization measures used for the project can be found in Section 4.1 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Conceptual Wetland Mitigation Report* (WSDOT 2011).

Details of temporary wetland and wetland buffer impacts are provided in Chapter 3 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Final Wetland Mitigation Report* (WSDOT 2011) and Appendix B of the *West Approach Area Environmental Critical Areas Technical Memorandum* (West Approach Area ECAR)).

Temporary impacts from the West Approach Bridge Project will result from construction of the temporary work bridges, construction access, and associated clearing. These temporary impacts will occur in nine wetlands (LWN-1, LWN-2, LWN-3, and LWN-4; LWS-2, LWS-3, LWS-4, LWS-4A and LWS-5), and will include temporary filling and clearing. Temporary fill impacts within wetlands will result from the installation of work bridge piling. Temporary filling will total 0.20 acre (Table 15, West Approach Area ECAR), and will result from temporary pilings to support the temporary work bridges.

Temporary clearing impacts within forested and scrub-shrub wetlands would result from the clearing of vegetation to allow the construction of work bridges, or generally to provide access for construction equipment. Temporary clearing impacts will affect 1.55 acres of wetland (Table 15, West Approach Area ECAR). This includes 1.14 acres in Category II wetlands, 0.39 acre of Category III wetland, and 0.02 acre of Category IV wetland (Table 15). Work bridges will also temporarily shade 3.83 acres of emergent and aquatic bed wetland classes.

Temporary wetland buffer impacts will occur where temporary work bridges, access, and staging areas are proposed, but was conservatively assumed to encompass the entire limits of construction. Expected impacts include temporary soil disturbance and clearing. Temporary clearing impacts within wetland buffers will result where vegetation is cleared to allow the construction of work bridges, or generally to provide access for construction equipment. Temporary clearing will affect 1.6 acres of wetland buffer (Table 15, West Approach Area ECAR).

Permanent impacts result in the permanent loss (of area and/or ecological function) of wetland, Waters of the United States, and/or Waters of the State (Ecology et al. 2006). Permanent impacts associated with the West Approach project will result from widening the roadway surface from four lanes to six lanes, improving existing on- and off-ramps, and adding or expanding stormwater facilities at several locations to treat runoff from existing and new road surfaces. Permanent impacts to wetlands include the fill of 0.16 acre of wetlands within Wetlands LWN-1, LWN-2; LWN-3; LWS-2, LWS-3, LWS-4, and LWS-4A) (Table 15, Figure 4, West Approach Area ECAR). The filling of these wetlands will be a result of the construction of drilled shafts for the new fixed span portions of the proposed bridge structures. All six of the affected wetlands are classified as lacustrine in the hydrogeomorphic (HGM) system (i.e., dominated by the hydrology

of the lake; Hruby 2004). The Project will also result in the permanent shading of 4.29 acres of wetland, which is expected to primarily affect plant growth indirectly. Shading impacts will not result in a loss of wetland area, nor should it appreciably affect hydrologic or water quality functions. Sizes of the permanently affected wetlands range from 0.11 acre to over 26 acres. Detailed descriptions of the impacts to individual wetlands are provided in *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Draft Wetland Mitigation Report* (WSDOT 2011) and Appendix B of the West Approach Area ECAR.

Permanent impacts to wetland buffers generally result from the actual loss of vegetated buffer areas. In the case of roadway construction, this loss may result from the construction of paved road surfaces, adjacent roadbed or prism, bridges, and associated facilities (such as stormwater treatment facilities and conveyances). The West Approach Project will permanently fill portions of the buffers of seven wetlands (LWN-1, LWN-2, LWN-3, LWS-2, LWS-3, LWS-4, and LWS-4A), resulting from the total 1.52 acre of impact (Table 15, West Approach Area ECAR). Lastly, the West Approach Project will permanently shade 0.72 acres of buffer. Permanent buffer impacts are discussed in greater detail in Chapter 3 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Draft Wetland Mitigation Report* (WSDOT 2011) and Appendix B of the West Approach Area ECAR.

Unavoidable impacts to wetlands resulting from West Approach project will require compensatory mitigation to replace the wetland and wetland buffer area and function lost due to the project. These unavoidable impacts will be mitigated according to the requirements of the Federal Rule on Compensatory Mitigation and will be consistent with federal and state “no net loss” policies, as well as meeting the mitigation sequencing, compensation, reporting, and monitoring requirements described in SMC 25.09. After considerable analysis, WSDOT proposes to mitigate project impacts to wetlands and wetland buffers on-site within the study area and at the Union Bay Natural Area and WSDOT Peninsula mitigation sites. The UBNA site is located on the north side of Union Bay on Lake Washington, south of the intersection of NE 45th Street and Union Bay Place NE in the City of Seattle, Washington. The WSDOT-Owned Peninsula is located on the southern shore of Lake Washington's Union Bay, just south of the existing SR 520 Bridge and adjoining the Washington Park Arboretum in the City of Seattle.

1.1.3.2.1 Temporary Wetland Impact Mitigation

The majority of the impacts resulting from the project consist of activities do not result from permanent filling of wetlands. These impacts include temporary filling of wetlands and temporary clearing of wetlands. These impacts do not result in a loss of wetland area, but rather a diminishment in wetland function for some period of time. For the West Approach study area, temporary impacts to wetlands and wetland buffers include 0.17 acre of temporary fill, and 1.55 acres of temporary clearing, and 3.83 acres of temporary shade within wetlands and 2.33 acres of temporary clearing within wetland buffers (Table 19 West Approach Area ECAR and Appendix A of WSDOT 2011).

To mitigate for temporary impacts to wetlands and wetland buffers:

- Temporarily filled and cleared wetland and buffer areas will be revegetated at a ratio of 1:1 with appropriate native vegetation after construction of the project (including removal of temporary fill) is complete to restore functions in these areas.
- Restored areas will be monitored as described in Chapters 6 and 7 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Conceptual Wetland Mitigation Report* (WSDOT 2011).

1.1.3.2.2 Permanent Wetland Impact Mitigation

A number of the wetlands in the study area (LWN-3, LWN-4 and LWN-5), while rated as Category III, provide moderate levels of habitat function and have overall scores that approach the threshold for Category II wetlands. In order to provide appropriate mitigation for these higher quality functions, due to the interconnected nature of the wetlands systems in the Union Bay and Portage Bay areas, and the relatively high quality of these Category III wetlands, WSDOT will provide compensatory mitigation for all of the Category III wetlands in the I-5 to Medina Project area at the same ratio as the Category II wetlands.

With this increased mitigation ratios for permanent impacts, WSDOT has calculated the mitigation need for the West Approach study area to be 0.43 acre of wetland re-establishment and/or wetland creation (Table 19, West Approach Area ECAR). Additionally, WSDOT proposes to compensate for lost wetland functions due to 4.29 acres of permanent wetland shading by enhancing an equivalent area (minimum) of wetland. Since permanent wetland and wetland buffer impacts cannot be mitigated for on-site, WSDOT has identified the Union Bay Natural Area (UBNA) Mitigation Site and the WSDOT Peninsula Mitigation Site to satisfy compensatory mitigation requirements for impacts associated with the West Approach Bridge Project. A total of 2.29 acres of wetland creation and 9.39 acres of enhancement are proposed at the UBNA site and 2.59 acres of wetland re-establishment is proposed at the WSDOT peninsula site. The proposed mitigation areas will yield a surplus of mitigation credit relative to the mitigation need.

1.1.3.3 Fish and Wildlife Habitat Conservation Areas

While WSDOT has included measures to avoid or minimize impacts to the FWHCA and its buffer, some project elements and activities will require compensatory mitigation for unavoidable impacts to aquatic habitat and/or shoreline buffer habitat.

Temporary impacts from the three primary mechanisms (shading, benthic fill, and habitat complexity) were calculated. Based on these calculations, the West Approach project will result in temporary shading and benthic impacts of 11.46 acre-years and temporary habitat complexity impacts of 3.54 acre-years (Table 16 in West Approach ECAR) caused by work bridge construction.

Impacts to shoreline buffers that are also in wetlands or their associated buffers are discussed in the Wetland and Wetland Buffer Impacts section. Because shoreline buffers are contiguous with wetland buffers, detailed information characterizing the shoreline buffer impact areas in proximity to the respective wetlands is included in the wetland impact summary sheets in Appendix B of the ECAR.

Permanent impacts caused by the three primary mechanisms (shading, benthic fill, and habitat complexity) were calculated by applying the fish function modifiers to the raw impact acreage. Based on these calculations for adjusted acreages, the West Approach Project will result in permanent shading impacts of 2.80 acres, benthic fill impacts of 0.05 acre, and no habitat complexity impacts.

Policy SMC 25.09.200(B)(3)(b) pertains to over-water structures and states that the “Mitigation is provided for all impacts to the ecological functions of fish habitat on the parcel resulting from any permitted increase in or alteration of existing over-water coverage.” Many of the potential impacts to fish and other aquatic species will be indirect. For example, partial shading impacts from the new bridge structures could alter juvenile salmon migration patterns or timing, or influence the distribution of salmonid predators in the study area. These potential impacts could reduce the number of juvenile salmon completing successful outmigration to marine waters. Impacts on individual fish or populations of fish, resulting from habitat alterations are generally mitigated by increasing the quality and quantity of habitat for the species of interest.

1.1.3.3.1 Temporary Shoreline Habitat Mitigation

To mitigate for unavoidable, temporary, aquatic impacts, WSDOT sought off-site mitigation at the Seward Park 4 mitigation site because the site provides sufficient mitigation credit and mitigation at this location can mitigate for the functions and values that would be affected by the project. The Seward Park 4 site is large enough to provide a total of 19.37 acre-years of credit, of which 11.65 acre-year credits will be assigned to mitigate for temporary impacts associated with the West Approach Bridge Project.

Mitigation at the Seward Park 4 site would enhance poor substrate conditions by supplementing with suitable gravel to support juvenile salmonid rearing and adult sockeye salmon spawning conditions. More details about this project are contained in the West Approach Area Environmental Critical Areas Technical Memorandum, including Figures 10, 12-14.

1.1.3.3.2 Temporary Shoreline Buffer Mitigation

Temporary shoreline buffer impacts associated with vegetation clearing will be mitigated for by replanting all shoreline areas where clearing activities were required for project construction. Areas classified as temporary shade impacts do not require mitigation because these areas (1) have no clearing of vegetation, (2) are comprised of herbaceous vegetation, (3) the temporary structures will still allow some light under the structure, and (4) the impact durations are generally limited to one or two growing seasons. Therefore, any slight degradation in vegetation form or function in these areas is considered to be minor, and would be fully restored quickly (within a growing season) once the structures are removed.

WSDOT will meet or exceeded all of the shoreline buffer mitigation requirements on-site, within the project right-of-way (Table 21 in the West Approach Area Environmental Critical Areas Technical Memorandum). All 1.85 acres of temporary clearing areas within the study area will be replanted with native vegetation as described in the Planting Scheme section of the Critical Areas Technical Memorandum and shown in Figure 15.

1.1.3.3.3 Permanent Shoreline Habitat Mitigation

Although removal of the existing bridge deck and columns serves to offset impacts in-kind and on-site, additional in-kind and on-site opportunities to compensate for permanent impacts were not feasible. Therefore, WSDOT sought off-site mitigation that addressed the same functions and values that could be affected by the project, as allowed under SMC 25.09.200(B)(3)(b).

The West Approach project would result in permanent impacts to 2.85 adjusted acres of shoreline habitat. Because WSDOT cannot mitigate for these impacts on-site, WSDOT sought offsite mitigation and identified four different mitigation sites (South Lake Washington, Bear Creek, Cedar River, and Taylor Creek) wherein the combination of all four sites is large enough to provide the required mitigation area for permanent aquatic impacts for the entire I-5 to Medina project. Mitigation at these sites can address the same functions and values that would be affected by the project (Table 20 in the West Approach Area Environmental Critical Areas Technical Memorandum). Combined, the four sites provide 3.97 acres (adjusted using Fish Function and Mitigation Type modifiers) of restored and enhanced shoreline habitat to compensate for permanent aquatic impacts. Of this total available mitigation area, 2.85 acres will be assigned to offset permanent shoreline habitat (aquatic) impacts associated with the West Approach project (Table 20 in the West Approach Area Environmental Critical Areas Technical Memorandum). For a detailed discussion of these sites, please refer to Section 6 of the Aquatic Mitigation Plan (WSDOT 2011).

1.1.3.3.4 Permanent Shoreline Buffer Mitigation

To mitigate for unavoidable, permanent shoreline buffer impacts, the enhancement of adjacent (within ¼ mile) shoreline buffer areas is proposed (Table 21 in the West Approach Area Environmental Critical Areas Technical Memorandum). Permanent impacts will also be mitigated by enhancing non-impacted shoreline areas located within the project right-of-way but outside of the limits of construction. Enhancement will consist of planting, or under-planting, native trees and shrubs and removal of invasive non-native vegetation. The proposed buffer enhancement will maintain, or improve, many of the pre-project functions provided by the shoreline buffer. All temporarily cleared areas within the West Approach study area will be replanted with native vegetation. Although some tree clearing is necessary in forested areas, the vast majority of vegetation, including shrubs and herbaceous species will be maintained and many of the existing vegetation and shoreline functions will be fully functioning or only slightly degraded during and following construction.

A total of 9.04 acres of shoreline buffer improvement will occur in the West Approach project area, which includes wetland re-establishment, wetland enhancement and buffer enhancement. Of this total available mitigation area, a large portion (7.66 acres) will be available to offset shoreline buffer impacts associated with the Portage Bay Bridge project, while 1.38 acres will be assigned to offset the West Approach permanent shoreline buffer impacts. Figures 9 and 15 in the West Approach Environmental Critical Areas Technical Memorandum provide more details about types and location of this mitigation planting.

1.1.3.4 Off-Site Mitigation Areas

While the proposed project has avoided and minimized impacts to critical areas and their buffers to the extent feasible, some unavoidable impacts will occur. Total avoidance was not possible due to the location of the project along the existing road rights-of-way and the constraints associated with safety and design guidelines. Compensatory mitigation will replace the critical areas and functions lost as a result of the remaining unavoidable impacts. WSDOT has proposed four off-site mitigation projects to mitigate for impacts to ECAs. These sites include:

- Union Bay Natural Area (see MUP 3012592) – mitigation for wetland impacts
- WSDOT Peninsula Mitigation Site (see MUP 3012593) – mitigation for wetland impacts
- Seward Park Mitigation Site (see MUP 3012594) – mitigation for aquatic impacts
- Taylor Creek Mitigation Site (see MUP 3012595) – mitigation for aquatic impacts

1.1.4 Additional Mitigation Measures

In addition to the aquatic and wetland habitat mitigation measures summarized above, WSDOT is proposing numerous additional measures to avoid, minimize and mitigate for effects to the built environment and local neighborhoods and communities within the City of Seattle. These measures are addressed in the FEIS and associated discipline reports and will be captured more specifically in the following plans:

- Community Construction Management Plan (CCMP)
- Neighborhood Traffic Management Plan
- Tree and Vegetation Management and Protection Plan
- Seattle Community Design Process

Further details on these plans are found in the SEPA analysis of this decision as well as in application submittal for this project (Attachment 2, Section 6.0).

1.1.5 Project Construction Duration

WSDOT estimates that project construction will require 4.5 years for completion (from spring 2013 to fall 2017). Work bridges constructed adjacent to the Lake Washington Boulevard on-and-off-ramps will be in place for 2 years to facilitate demolition of these existing ramps. WSDOT requests that the permit expiration date be 6 years from permit issuance to allow for complete project closeout including cleanup, dismantling of staging areas, and restoration where required by permit conditions. DPD expects to determine the time limits for the permit (per SMC 23.60.074) upon review of final design details of the project, prior to issuance of the shoreline substantial development permit.

1.1.6 Public Comments

The comment period for this project ended on September 16, 2011. DPD held a public meeting and open house at the Museum of History and Industry (MOHAI) on the evening of October 5, 2011. Approximately 120 public comments were received either at the meeting or in writing to DPD. Overall, most of the comments pertained to the entire 520 bridge project, though many of these comments included focused comments on the West Approach project and area. Most of these comments expressed numerous concerns about both the short and long term impacts of the

construction of a larger bridge in the West Approach area. These concerns were primarily focused on the environmental and recreational impacts of the bridge construction in sensitive wetland and aquatic/nearshore habitats. A large number of comments expressed concern about the length of construction, timing of the permits, increased traffic and road impacts during construction, the larger size and greater impacts of the proposed design for the replaced bridge, and potential for substantial impacts during construction to local vegetation, mature trees, water/sediment quality, wildlife and recreational opportunities. A clear theme present in many of the comments for the entire project was that WSDOT (the applicant) should include or substitute more environmental and recreational mitigation in the immediate area of project impacts rather than further away (off-site) or outside the City. Concerns were also expressed about inadequate or incorrect information in the project application for the project.

1.2 ESSENTIAL PUBLIC FACILITY

1.2.1 Background

SR 520 is designated as a highway of statewide significance (HSS) pursuant to RCW 47.06.140 and RCW 47.05.022 (Resolution 660, dated January 21, 2004). Pursuant to RCW 36.70A.200, the proposed SR 520, I-5 to Medina: Bridge Replacement and HOV Project (Project) is defined by the State of Washington as an EPF due to its HSS designation. RCW 47.01.260 grants WSDOT plenary authority over state highways and provides that WSDOT shall exercise all the powers and perform all the duties necessary for the siting, design, and construction of state highways. Additionally, RCW 36.70.200(5) and WAC 365-196-550(3)(a) provides that no local development regulation may preclude the siting of EPFs. WAC 365-196-550(1)(b) further states that “Essential public facilities include the expansion of existing essential public facilities or support activities and facilities necessary for an essential public facility.”

1.2.2 The City’s EPF Criteria

SMC 23.80.004 (adopted 2004, revised 2006) identifies the following criteria to be considered in the review of an essential public facility:

SMC 23.80.004 (A)(1): Interjurisdictional Analysis. A review to determine the extent to which an interjurisdictional approach may be appropriate, including consideration of possible alternative sites for the facility in other jurisdictions and an analysis of the extent to which the proposed facility is of a county-wide, regional or state-wide nature, and whether uniformity among jurisdictions should be considered.

Opened in 1963, the existing SR 520 is a facility of state-wide nature. The floating span of the bridge now carries approximately 115,000 vehicles per day across the lake, providing east-west access for commuters, freight, transit, and general-purpose traffic. Existing state legislation directs the State Transportation Commission to give high priority to correcting deficiencies on highways of statewide significance.

The aging floating bridge is vulnerable to failure in a severe windstorm, and the fixed bridges along the corridor do not meet current seismic standards and could collapse in an earthquake. In addition, due to growth in jobs and housing, the corridor currently carries nearly twice as many

vehicles as it was originally designed for, resulting in extended congestion and impaired mobility. The uninterrupted movement of people and goods across SR 520 and the floating bridge is essential to the region's economic vitality and quality of life.

WSDOT initiated interjurisdictional coordination in 1998 with a 47-member stakeholder group that included three City of Seattle representatives to explore ways of improving mobility and access around Lake Washington. The interjurisdictional group considered and evaluated alternatives, including potential travel modes, project corridors, and crossing locations. The result, titled the Trans-Lake Washington Study, included recommendations to WSDOT on how to improve the SR 520 corridor. WSDOT used the study results to initiate a scoping study of alternatives to be considered in the environmental impact statement.

As part of its interjurisdictional approach, WSDOT engaged all agencies with jurisdiction in a Regulatory Agency Coordination process (RACp). The RACp included smaller technical working groups that met to discuss more specific project issues such as impacts to wetlands and parks, compliance with the Endangered Species Act compliance, and mitigation concepts. WSDOT has worked with agencies and stakeholders through legislative workgroups created by Engrossed Substitute Senate Bills 6099 and 6392, and Engrossed Substitute House Bill 2211. Additionally, WSDOT initiated technical coordination and executive management briefings with City of Seattle as needed or requested.

The interjurisdictional coordination, of which Seattle is a member, informed the Trans-Lake Washington Study, and provided input on alternatives for WSDOT's three subsequent environmental documents, including the draft environmental impact statement (2006), supplemental draft environmental impact statement (2010) and final environmental impact statement (2011). All technical design options for crossing Lake Washington were considered as part of the alternatives analysis, and evaluated within the context of state, regional, and local plans. A floating bridge, sited within the existing corridor, remained the lowest-cost and lowest-impact solution.

SMC 23.80.004 (A)(2): Financial Analysis. A review to determine if the financial impacts upon the City of Seattle can be reduced or avoided by intergovernmental agreement.

Financial impacts to the City of Seattle would occur from the loss of property tax revenue from properties acquired by WSDOT for additional right-of-way, and loss of park land and open space.

Construction of the project would require WSDOT to permanently acquire additional right-of-way in the SR 520 corridor, including 6 residential structures. This would result in taxable property being removed from the City of Seattle's tax base, and a decrease in the City's overall property tax revenue. By applying the 2008 tax levy rate, it is estimated that the loss of property tax revenue for the City of Seattle would be approximately \$8,600. This amounts to less than 0.01 percent of the City's 2008 budgeted property tax revenue, and would not substantially affect the city's overall tax revenue.

Approximately 8.6 acres of park or open space would be acquired by WSDOT for project right-of-way. The park and open space that would be acquired is not subject to property tax. This area would be purchased by WSDOT at fair market value, in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The monetary compensation for these acquisitions would mitigate for the potential financial impact to the City of Seattle. WSDOT will mitigate for the project's conversion of land that is protected by Section 6(f) of the Land and Water Conservation Fund Act by providing the City of Seattle with funding for the purchase and/or development of a replacement site.

Representatives of Seattle Parks and Recreation participated in the SR 520 Parks Technical Working Group. Through the work of the group and ongoing coordination with stakeholders, the total acquisition required by the Preferred Alternative would be less than the amount of acquisition required by previously evaluated design options. Therefore, the financial impact to the City of Seattle would be less than the other design options evaluated, and would be mitigated through monetary compensation and replacement of park property.

In addition, WSDOT and Seattle's Department of Planning and Development have reached a separate financial Memorandum of Agreement (MOA) to address Project fees. It will be necessary to amend this MOA in order to reimburse costs connected with staff time for future work associated with the mitigating conditions of City permits. Staff time will include activities such as reviews of plans, documents, inspections, and meetings. WSDOT has also offered to reimburse Seattle Parks and Recreation for their review and coordination efforts associated with this project. WSDOT has also committed to funding \$200,000 for implementation of the Seattle Department of Transportation's traffic calming efforts within the Arboretum, as described in the 2010 ESSB 6392 Arboretum Mitigation Plan.

SMC 23.80.004 (A)(3): Special Purpose Districts. When the public facility is being proposed by a special purpose district, the City should consider the facility in the context of the district's overall plan and the extent to which the plan and facility are consistent with the Comprehensive Plan.

The Washington State Department of Transportation is not a Special Purpose District

SMC 23.80.004 (A)(4): Measures to Facilitate Siting. The factors that make a particular facility difficult to site should be considered when a facility is proposed, and measures should be taken to facilitate siting of the facility in light of those factors (such as the availability of land, access to transportation, compatibility with neighboring uses, and the impact on the physical environment).

The SR 520 corridor is an important link between Seattle and the Eastside. While developing and refining the design, WSDOT, in partnership with affected jurisdictions, agencies, tribes, and the public, considered key constraints that ultimately guided siting of the facility. Measures to minimize the footprint and locate the project within the existing corridor while maintaining traffic during construction were prioritized. These measures included narrowing the roadway design to minimize right of way acquisitions and impacts on neighborhoods, parks and the environment, and minimizing structure impacts on the Arboretum by making alignment and structural engineering adjustments. The project alignment was also further modified to avoid and

minimize right of way effects away from Section 4f resources, which include historic and park properties.

Although wider than the existing facility, the proposed project would be similar to the existing configuration and would be primarily located on land that already exists as part of the transportation facility. The new roadway alignment for SR 520 through the Seattle area falls predominately within the existing WSDOT right-of-way in order to avoid impacts to existing structures and to minimize property acquisitions and displacements. Due to the density of the built and urban environment, a more efficient, straight-line alternative was not selected because it was not compatible with existing and neighboring uses throughout the corridor.

In comparison to other designs that were considered, the proposed project would result in the least overall harm to public parks, significant historic properties, and environmental resources such as wetlands and fish habitat. Adverse effects resulting from the project could not be entirely eliminated because of the density of development in the project vicinity, the narrow existing highway right-of-way, and community fragmentation caused by the original highway bisecting several parklands and neighborhoods.

Chapter 9 of the Final EIS discusses the constraints that led to the final siting and alignment of the Preferred Alternative.

SMC 23.80.004 (B): If the decisionmaker determines that attaching conditions to the permit approval will facilitate project siting in light of the considerations identified above, the decisionmaker may establish conditions for the project for that purpose.

As previously mentioned and further described in Chapter 9 of the Final EIS, WSDOT has conducted an extensive siting process in an effort to reduce environmental harm from the proposed replacement facility. The siting process began with the Trans-Lake Washington Study and has extended through the final design refinements included as part of the Preferred Alternative, and analyzed in the Final EIS. The proposed project includes extensive mitigation measures in order to site the facility; no additional conditions are needed pursuant to the criteria of this section.

City development regulations that are preclusive to the siting of SR520 and therefore necessitate a waiver from the identified standards are documented in this report. Table 1-1 summarizes the waivers that are required a result of preclusive development standards.

**Table 1-1
3012587 – West Approach Identified EPF Waivers**

SMC 25.09.060 ECA Development Standards
25.09.160.B.1: <i>Development, including but not limited to grading, filling, or draining, is prohibited within or over [most wetlands].</i>
25.09.160.C.2: <i>Development is prohibited in wetland buffers, except as approved by the Director under subsection 25.09.160.D.[buffer averaging and reductions]</i>
SMC 23.60 Shoreline Development Standards
23.60.152 Q. <i>Submerged public right-of-way shall be subject to the following standards:</i>
<i>1. All structures shall be floating except as permitted in subsection Q2 below;</i>
<i>3.The maximum height of structures shall be fifteen feet (15');</i>
<i>4. Structures shall not occupy more than thirty-five (35) percent of the right-of-way and shall not occupy more than forty (40) percent of the width of the right-of-way</i>
23.60.334. <i>The maximum height of structures shall be fifteen feet (15').</i>

1.3 ENVIRONMENTALLY CRITICAL AREAS (SMC 25.09)

The Environmentally Critical Areas Ordinance was adopted to promote safe, stable, and compatible development that avoids adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin.

Because the project requires development in both wetlands and wetland buffers, the project cannot meet the development standards of SMC 25.09.160.B.1 and 25.09.160.C.2, which prohibit most development in wetlands and wetland buffers. Since State regulations prohibit local development standards that would preclude the siting of an essential public facility, the City must therefore waive such standards. While the project cannot prescriptively meet the avoidance requirements of SMC 25.09, WSDOT is proposing mitigation to offset impacts (see subsection 1.1.3 WSDOT Proposed Mitigation Measures) in such a way that the proposed mitigation meets the intent of SMC 25.09 and meets or exceeds the mitigation ratio requirements described in SMC 25.09.160 and 25.09.200.

Applicable ECA development standards are discussed below, and those that are preclusive are specifically identified.

1.3.1 SMC 25.09.160 Development Standards for Wetlands

Because the project requires development in both wetlands and wetland buffers, the project cannot meet the development standards of SMC 25.09.160.B.1 and 25.09.160.C.2 which prohibit most development in wetlands and wetland buffers. WSDOT’s proposed mitigation for temporary and permanent wetland impacts is summarized above in Subsection 1.1.3.2 Wetlands and Wetland Buffers. While the project cannot prescriptively meet the avoidance requirements of SMC 25.09, WSDOT is proposing mitigation to offset impacts (see subsection 1.1.3 WSDOT Proposed Mitigation Measures) in such a way that the proposed mitigation meets the intent of

SMC 25.09 and meets or exceeds the mitigation ratio requirements described in SMC 25.09.160.E.

The remaining applicable development standards in SMC 25.09.160, including requirements for multi-agency coordination and long-term monitoring to ensure mitigation performance standards will be met.

1.3.2 SMC 25.09.200 Development Standards for Fish and Wildlife Habitat Conservation Areas

Construction of the West Approach project, as described previously, will require temporary and permanent development in the ECA shoreline habitat and ECA shoreline habitat buffer in the West Approach area, as defined in SMC 25.09.020. This development, and the impacts that will result from this development, trigger habitat mitigation requirements per SMC 25.09.200 B.

The WSDOT proposed mitigation for temporary and permanent shoreline habitat and shoreline buffer habitat is summarized in Subsection 1.1.3.3 Fish and Wildlife Habitat Conservation Area Mitigation above, and described more fully in the Final Aquatic Mitigation Plan, SR 520, I-5 to Medina: Bridge Replacement and HOV Project (Dec. 2011) and the West Approach Environmental Critical Areas Technical Memorandum (Nov, 2011). The mitigation sites were selected based on their size being large enough to provide the required mitigation area, and the same function and values to replace loss of ecological function. Per the calculations included in the Aquatic Mitigation Plan and the West Approach Environmental Critical Areas Technical Memorandum, WSDOT is proposing to replace more habitat than is being lost through the development of the West Approach project.

1.3.2.1 Temporary Impacts

The West Approach project will result in temporary impacts from the three primary mechanisms (shading, benthic fill, and habitat complexity). The West Approach project will result in temporary shading and benthic impacts of 11.46 acre-years and temporary habitat complexity impacts of 3.54 acre-years (Table 16) caused by work bridge construction.

Shoreline Habitat (Aquatic) Mitigation: To mitigate for unavoidable, temporary, aquatic impacts of 11.65 acre-years (WSDOT 2011c) (Table 20), WSDOT has identified off-site mitigation at the Seward Park 4 mitigation site because the site provides the sufficient mitigation credit and mitigation here can offset the functions and values that would be affected by the project (Table 20). The Seward Park Mitigation Site 4 is large enough to provide a total of 19.37 acre-years of credit, of which 11.65 acre-year credits will be assigned to mitigate for temporary impacts associated with the West Approach Bridge Project, resulting in a surplus of 7.72 acre-years of mitigation credit. Mitigation at the Seward Park 4 mitigation site would enhance poor substrate conditions by supplementing with suitable gravel to support juvenile salmonid rearing and adult sockeye salmon spawning conditions (WSDOT 2011c). Figures 10, and 12-14 show the Seward Park mitigation concept to compensate for temporary impacts to the FWHCA.

Shoreline Buffer Mitigation: Temporary shoreline buffer impacts associated with vegetation clearing will be mitigated by replanting all shoreline areas where clearing activities were required for project construction. Areas classified as temporary buffer shade impacts do not require mitigation because these areas (1) have no clearing of vegetation, (2) are comprised of herbaceous vegetation, (3) the temporary structures will still allow some light under the structure, and (4) the impact durations are generally limited to one or two growing seasons. Therefore, any slight degradation in vegetation form or function in these areas is considered to be minor, and would be fully restored quickly (within a growing season) once the structures are removed. WSDOT will meet all of the temporary shoreline buffer impact mitigation requirements on-site, within the project right-of-way (Table 21). All 1.85 acres of temporary clearing areas within the study area will be replanted with native vegetation as described in the following Planting Scheme section (Figure 15). Because vegetation types are similar across critical areas (i.e., wetlands and wetland/shoreline buffers), a unified planting scheme has been developed.

1.3.2.2 Permanent Impacts

Permanent impacts caused by the three primary mechanisms (shading, benthic fill, and habitat complexity) will result in permanent shading impacts of 2.80 acres, benthic fill impacts of 0.05 acre, and no habitat complexity impacts. Although removal of the existing bridge deck and columns serves to offset impacts in-kind and on-site, additional in-kind and on-site opportunities to compensate for permanent impacts were not feasible. Therefore, WSDOT sought off-site mitigation that addressed the same functions and values that could be affected by the project, as allowed under SMC 25.09.200(B)(3)(b) (see WSDOT 2011c, Section 5.0).

During the off-site selection process, WSDOT identified sites that when combined would provide sufficient mitigation for all impacts associated with the I-5 to Medina project, not just individual components. WSDOT has identified four different mitigation sites (Seward Park, South Lake Washington, Cedar River/Elliott Bridge, and Taylor Creek) wherein the combination of all four sites is large enough to provide sufficient mitigation area for permanent aquatic impacts for the West Approach Bridge Project and mitigation at these sites can offset the functions and values that would be affected by the project (Table 20). Combined, the four sites provide 3.97 acres (adjusted using Fish Function and Mitigation Type modifiers) of restored and enhanced riparian and shoreline/riverine habitat (WSDOT 2011c), sufficient to compensate for permanent aquatic impacts. Of this total available mitigation area, which is represented as adjusted values, 2.85 acres has been identified as suitable to offset impacts associated with the West Approach project (Table 20), resulting in a surplus of 1.12 acres of mitigation credit.

The Taylor Creek Mitigation Site would result in the restoration of the stream, stream delta, and riparian areas. In addition, the existing channel armoring and floodplain fill will be removed, providing a natural floodplain grade. The creek will be reconstructed with a natural meander pattern that will result in pool riffle morphology (WSDOT 2011c). The Taylor Creek Mitigation will provide 0.38 acre of credit (Appendix F). The Seward Park Mitigation Sites 1-3 have discrete mitigation opportunities which would result in the removal of bulkheads, bank regarding, gravel installation, and riparian revegetation (WSDOT 2011c). The combination of the sites will provide 0.61 acre of mitigation credit (Appendix F).

The South Lake Washington Site will provide 1.84 acres of mitigation credit (Appendix F). The objectives at this parcel are to restore approximately 1.68 acres of shoreline/ aquatic habitat and approximately 2 acres of upland habitat. This is intended to improve water quality and restore migratory habitat for juvenile Chinook salmon. The 90% plans for the South Lake Washington site are presented in Appendix E.

The Cedar River/Elliott Bridge mitigation site provides an opportunity to restore important floodplain functions. This mitigation site includes lowering a levee along the right bank of the Cedar River, enlarging a gravel bar, and excavating a backwater channel. Overbank flooding will support a complex of floodplain riparian and wetland habitats. The floodplain and riparian components of the Cedar River site will provide 1.14 acres of credit to offset impacts associated with the West Approach project (Appendix F). The Cedar River/Elliott Bridge site concept is presented in Appendix C.

1.4 ANALYSIS - SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT

The proposal is located within the following Shoreline Environments as designated by the Seattle Shoreline Master Program (SSMP): Conservancy Preservation (CP), Conservancy Management (CM), Conservancy Navigation (CN) and Conservancy Recreation (CR). The Shoreline Master Program, Chapter 23.60 of the Seattle Municipal Code, regulates use and development in the City's shoreline districts to implement the policy and provisions of the Shoreline Management Act of 1971 and the Shoreline Goals and Policies.

The SSMP requires that a shoreline permit be obtained prior to the undertaking of any substantial development within a shoreline environment. SMC Section 23.60.030 includes criteria for evaluating a shoreline permit. A substantial development permit shall be issued only when the development proposed is consistent with:

- A. The policies and procedures of Chapter 90.58 RCW;
- B. The regulations of this Chapter; and
- C. The provisions of Chapter 173-27 WAC.

Conditions may be attached to the approval of a permit as necessary to assure consistency of the proposed development with the Seattle Shoreline Master Program and the Shoreline Management Act.

1.4.1 The Policies and Procedures of Chapter 90.58 RCW

The State of Washington Shoreline policies (RCW Chapter 90.58) provide for the control of pollution and prevention of damage to the natural environment, and for the protection of the resources and ecology of the shoreline over the long term. It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. The Shoreline Management Act of 1971 provides definitions and concepts, and gives primary responsibility for initiating and administering the regulatory program of the Act to local governments. The Department of Ecology is to primarily act in a supportive and review capacity, with primary emphasis on insuring compliance with the policy and provisions of the Act. As a result of this Act, the City of Seattle adopted a local shoreline master program, codified

in the Seattle Municipal Code at Chapter 23.60 that also incorporates the provisions of Chapter 173.27 WAC. Development on the shorelines of the State is not to be undertaken unless it is consistent with the policies and provisions of the Act, and with the local master program. The Act sets out procedures, such as public notice and appeal requirements, and penalties for violating its provisions.

The City of Seattle Shoreline policies incorporate these goals by reference and include area objectives pursuant to these goals. These policies contemplate protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting public rights of navigation and corollary incidental rights. Permitted uses in the shorelines shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

As discussed below, the City's Shoreline policies encourage public access and discourage disrupting the shoreline environment. This proposal is consistent with the policies and procedures of the RCW Chapter 90.58.

1.4.2 The Regulations of Chapter 23.60

The regulations of SSMP Section 23.60.064 require that the proposed use: 1) conform to all applicable development standards of both the shoreline environment and underlying zoning; 2) be permitted in the shoreline environment and the underlying zoning district 3) satisfy the criteria of shoreline variance, conditional use, and/or special use permits as may be required and 4) SMC 23.60.014 C. for standards applicable to environmentally critical areas as provided in Seattle Municipal Code Chapter 25.09, Regulations for Environmentally Critical Areas, shall apply in the Shoreline District. If there are any conflicts between the Seattle Shoreline Master Program and Seattle Municipal Code Chapter 25.09, the most restrictive requirements shall apply.

At the east end of the west approach, the underlying zoning for the land and adjacent upland areas is Lowrise 3. West of McGilvra Boulevard East, the underlying zoning is Single Family 5000. West of approximately 37th Avenue East, the underlying zoning is Single Family 7200. The underlying zoning allows for primarily residential uses, however SMC 23.51A.002.F Public Facilities in Single Family Zones and SMC 23.51A.004.F Public Facilities in Multifamily Zones, allow for the location of essential public facilities subject to the review criteria in SMC 23.80.

1.4.2.1 SMP 23.60.004 - Shoreline Policies

Policies governing approval of development in shoreline districts are set out in the Land Use Element of the Seattle Comprehensive Plan and in SMC 23.60.220, the purpose and location criteria for each shoreline designation.

1.4.2.1.1 Environmentally Critical Areas (LUG 36)

Seattle's Comprehensive Plan Environmentally Critical Areas encourage protection of the ecological functions and values of wetlands, and fish and wildlife habitat conservation areas (LUG 36). As described above in Section 1.1.3.2 Wetlands and Wetland Buffer Mitigation and

Section 1.1.3.3 Fish and Wildlife Habitat Conservation Area, WSDOT has acknowledged that there will be both temporary and permanent impacts to existing wetlands and wetland buffers. For the West Approach study area, temporary impacts to wetlands and wetland buffers include 0.17 acre of temporary fill, 1.55 acres of temporary clearing, and 3.83 acres of temporary shade within wetlands and 2.33 acres of temporary clearing within wetland buffers (Table 19, West Approach Area ECAR, and Appendix A of WSDOT 2011**b**).

To mitigate for temporary impacts to wetlands and wetland buffers:

- Temporarily filled and cleared wetland and buffer areas will be revegetated at a ratio of 1:1 with appropriate native vegetation after construction of the project (including removal of temporary fill) is complete to restore functions in these areas.
- Restored areas will be monitored as described in Chapters 6 and 7 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Conceptual Wetland Mitigation Report* (WSDOT 2011**a**).

For the West Approach study area, permanent impacts to wetlands and wetland buffers include 0.16 acre of permanent fill within wetlands, 1.52 acres of permanent fill within wetland buffers, and permanent shading to 0.72 acre of wetland buffer (Page 37 and Table 19, West Approach Area ECAR). WSDOT has calculated the mitigation need for the West Approach study area to be 0.43 acre of wetland re-establishment and/or wetland creation. Additionally, WSDOT proposes to compensate for lost wetland functions due to 4.29 acres of permanent wetland shading by enhancing an equivalent area (minimum) of wetland. Since permanent wetland and wetland buffer impacts cannot be mitigated for on-site, WSDOT has identified the Union Bay Natural Area (UBNA) Mitigation Site and the WSDOT Peninsula Mitigation Site to satisfy compensatory mitigation requirements for wetland impacts associated with the West Approach project. A total of 2.29 acres of wetland creation and 9.39 acres of enhancement are proposed at the UBNA site and 2.59 acres of wetland re-establishment is proposed at the WSDOT peninsula site. The proposed mitigation areas will yield a surplus of mitigation credit relative to the mitigation need. (Page 55 and Table 19, West Approach Area ECAR).

Mitigation for temporary and permanent impacts to shoreline habitat and shoreline habitat buffers in the City are discussed in Section 1.3.3.3 above.

1.4.2.1.2 Shoreline Goals LUG 43, LUG 48, and LUG 49 – Protection of Shoreline and Aquatic Environment

The Shoreline Goals and Policies are located in Section C-4 of the Land Use Element. There are three goals specific to the protection of the shoreline and aquatic environment: LUG 43, “Protect those areas of shoreline that are geologically dangerous or fragile, or biologically fragile.”; LUG 48, “Preserve, protect and restore areas such as those necessary for the support of wild and aquatic life or those identified as having geological or biological significance.”; and LUG 49, “Insure that all future uses will preserve and protect environmental systems, including wild and aquatic life.”

As described above in Section 1.3.3.3 Fish and Wildlife Habitat Conservation Areas, while WSDOT has included measures to avoid or minimize impacts to the FWHCA and its buffer, some project elements and activities will require compensatory mitigation for unavoidable impacts to aquatic habitat or shoreline buffer habitat.

Many of the potential impacts to fish and other aquatic species will be indirect. For example, partial shading impacts from the new bridge structures could alter juvenile salmon migration patterns or timing, or influence the distribution of salmonid predators in the study area. For more details, see summary of impacts and mitigation in Section 1.3.2 and the West Approach Area Environmental Critical Areas Technical Memorandum and the Final Aquatic Mitigation Plan.

1.4.2.1.3 Shoreline Goals LUG 44 – Public Access, LUG 45 – View Preservation, LUG 46 – Transportation Network, and LUG 47

Goal LUG 44 provides for “the optimum amount of public access – both physical and visual – to the shorelines of Seattle. The proposed bike/pedestrian pathway along the bridge, and new connections to new off-bridge bike/pedestrian paths will allow for greater opportunities than currently exist for the public to access and enjoy the shoreline environment along Lake Washington.

LUG 45 describes that views of the shoreline and water from upland areas shall be preserved and enhanced where appropriate. LUG 47 includes “demolish transportation facilities that are functionally or aesthetically disruptive to the shoreline.” After their use for construction staging, the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp, and the existing R. H. Thompson Expressway ramps will be demolished, and will result in enhancing the aesthetic qualities of the shoreline environment in the vicinity of the arboretum (LUG 47).

LUG 46 promotes development of “a transportation network that supports and enhances use of and access to the shorelines.” The proposed West Approach Bridge will replace an existing bridge and allow for a continuation of the transportation network to the shoreline and across Lake Washington.

1.4.2.1.4 Shoreline Policy LU 270 – Heights in Shoreline Environment

There is one land use policy, LU 270, which is specific to heights in the Shoreline Environment: “The 35-foot height limit of the Shoreline Management Act shall be the standard for maximum height in the Seattle Shoreline District. Exceptions in the development standards of a shoreline environment may be made consistent with the Act and with the underlying zoning where: a. a greater height will not obstruct views of a substantial number of residences and the public interest will be served; and b. greater height is necessary for bridges or the operational needs of water dependent or water-related uses or manufacturing uses.”

As described above in the Proposal description, the profile of the west approach would be raised from its existing height and would provide a constant grade, increasing from a minimum of 11 feet above the water surface to approximately 23 feet near the Montlake shoreline, and from 52 to almost 60 feet at the west transition span of the floating bridge. The new structures would be

up to 32 feet higher than the existing bridge in places, with the greatest increase occurring in the area east of Foster Island.

The West Approach Bridge crosses four shoreline environments. The far west end is in the CM environment where it connects to land, as the bridge moves east it travels through the CP, CN and CR environments. In the CM environment the bridge height will not exceed thirty-five feet and therefore does not exceed the height limitation criteria in RCW 90.58.320. The maximum bridge height in both the CN and CR environments will be approximately 57 feet. The maximum bridge height in the CP environment will be approximately 40 feet. The City master program does not contain any height prohibitions within the CN environment. The CR environment does contain height prohibitions but bridges are specifically exempt [SMC 23.60.394(E)]. The CP environment contains a height limitation of 15 feet. This criteria would preclude the design of the EPF and therefore a waiver of modification has been requested. Since the proposed height of the bridge is not prohibited by the master program, as applied to an EPF, it is not prohibited by the criteria of RCW 90.58.320.

Because the proposed height is not otherwise prohibited the bridge will be in compliance with the regulations if “overriding considerations of the public interest will be served.” As discussed above and in more detail in Attachment 9 – Essential Public Facility Criteria of the application submittal material for this project, the project has been designated as an EPF and is needed to both improve traffic conditions and maintain public safety. The specific portion of the bridge that would exceed 35 feet is necessary to provide for a navigational channel for boats in compliance with U.S. Coast Guard requirements, to match existing grades and provide positive stormwater drainage. A navigation channel with a minimum height of 40 feet is required to pass the City of Seattle Fire Department boats. Therefore the public interest is served in allowing the increased height of the bridge and the project is in compliance with the criteria of Shoreline Management Act and implementing regulations.

1.4.2.2 Effective Date of Shoreline Permit

Seattle’s SMP allows the Director to adopt different time limits for the life of a shoreline substantial development permit. SMC 23.60.074.A states that : *“ Upon finding of good cause, based on the requirements and circumstances of the project proposed and consistent with the policy and provisions of WAC 173-27 and this chapter, the Director may adopt different time limits from those set forth ...this section ... as part of the decision on a shoreline substantial development permit... "Good cause, based on the requirements and circumstances of the project," means that the time limits established are reasonably related to the time actually necessary to perform the development on the ground and complete the project that is being permitted, and/or are necessary for the protection of shoreline resources. ”*

Construction is planned to begin in spring 2013 and be completed in fall 2017 for a duration of approximately four and one half (4.5) years. Work bridges constructed adjacent to the Lake Washington Boulevard on- and off-ramps will be in place for two (2) years to facilitate demolition of these existing ramps. Additional time may be required for mobilization and project closeout including cleanup, dismantling of staging areas, and restoration where required by permit conditions.

The applicant has requested an extension to the standard time limits applicable to shoreline substantial development permits to a total of eight (8) years from permit issuance to allow for complete project closeout including cleanup, dismantling of staging areas, and restoration where required by permit conditions. Given the scope of the proposed project, the construction of the new bridge and associated structures, and active use of the staging area within the shoreline area is expected to occur until fall of 2017. Due to the unusual scale and complexity of constructing a new bridge while keeping the existing bridge in operation until traffic can be moved to the new structure, an extension of this time limit is likely warranted. The time limits for the permit, per SMC 23.60.074A and B will be determined prior to issuance and be based on the time needed to complete the construction of the project (about 6 years).

1.4.2.3 Shoreline Uses

The proposed shoreline development is located in the Conservancy Preservation (CP), Conservancy Management (CM), Conservancy Navigation (CN) and Conservancy Recreation (CR) Shoreline Environments.

The proposed uses include:

- Bridge – Replacement of the bridge, including all components of the bridge, such as bridge approaches, embankments, retaining walls, lighting, roadway on the bridge, utilities on the bridge, a bike/pedestrian path on the bridge, and stormwater facilities that receive stormwater from the bridge structure (constructed stormwater wetland Facility M). This also includes all construction associated with the bridge, such as temporary work trestles and bridges, demolition, and construction staging/storage.
- Street – Off-bridge streets will be installed and replaced. This also includes the portion of the proposed lid over SR 520 within shoreline jurisdiction.
- Stormwater Facilities Off-bridge – The project will replace two City of Seattle facilities (S4 and S5) with bioswales.
- Bike/Pedestrian Path Off-bridge – Construction of bike/pedestrian paths that are not on the bridge.
- Stormwater Lines Off-bridge – An 8-inch-diameter outfall will be replaced with a 24-to 36-inch-diameter outfall pipe that will discharge above the OHWM to a riprap pad 15 to 20 feet landward of the OHWM.

A summary of the uses proposed in each of the four shoreline environments is provided on the following table:

**Table 1-2
Summary of Uses Proposed in Shoreline Environment**

Proposed Use	CP Environment	CM Environment	CN Environment	CR Environment
Bridge (including the Bike/Pedestrian Pathway on the Bridge)	CU	SU	SU	SU
Street	CU	SU		
Bike/Pedestrian Pathway on Land	SU	Allowed Outright		
Stormwater Lines	SU			
Stormwater Outfall	SU			

All of the proposed uses are allowed either outright, as a conditional use, or as a special use.

- Bridges are allowed by conditional use (CU) in the CP Environment (SMC 23.60.304), and as a special use (SU) in the CM Environment (SMC 23.60.424), CN Environment (SMC 23.60.242) and CR Environment (SMC 23.60.364) subject to the special use criteria of Section 23.60.032.
- Streets are allowed by conditional use (CU) in the CP Environment (SMC 23.60.304), and as a special use (SU) in the CM Environment (SMC 23.60.424) subject to the special use criteria of Section 23.60.032.
- Bicycle and pedestrian paths are allowed as special uses (SU) in the CP Environment (SMC 23.60.302) subject to the Special Use Criteria (23.60 032), and allowed outright as “shoreline recreation” in the CM zone (SMC 23.60.420).
- Utility lines are allowed as special uses (SU) in the CP Environment (SMC 23.60.302), subject to the Special Use Criteria (23.60 032).

See Section 1.4.3 Analysis - Shoreline Conditional Use for the analysis of whether the proposed bridge and street to be located in the CP Environment meet the Shoreline Conditional Use criteria.

An analysis of whether the proposed uses that are allowed as “special uses” is provided in the following Subsection 1.4.2.3.1.

1.4.2.3.1 Analysis – Shoreline Special Use

As summarized in Table 1-1, the following uses are subject to the special use criteria of Section 23.50.032:

- Bridges are allowed as a special use (SU) in the CM Environment (SMC 23.60.424), CN Environment (SMC 23.60.242) and CR Environment (SMC 23.60.364) subject to the special use criteria of Section 23.60.032.

- Streets are allowed as a special use (SU) in the CM Environment (SMC 23.60.424) subject to the special use criteria of Section 23.60.032.
- Bicycle and pedestrian paths are allowed as special uses (SU) in the CP zone (SMC 23.60.302) subject to the Special Use Criteria (23.60.032).
- Utility lines are allowed as special uses (SU) in the CP zone (SMC 23.60.302), subject to the Special Use Criteria (23.60.032).

SMC 23.60.032 provides the following:

Uses which are identified as requiring special use approval in a particular environment may be approved, approved with conditions or denied by the Director. The Director may approve or conditionally approve a special use only if the applicant can demonstrate all of the following:

A. That the proposed use will be consistent with the policies of RCW 90.58.020 and the Shoreline Policies;

See Section 1.4.1. The Director has determined that the proposed uses are consistent with the policies of RCW 90.58.020.

See Section 1.4.2.1 for an analysis of compliance with Shoreline Policies. The proposed uses (bridge, street, bicycle and pedestrian paths, and utility lines) are in compliance with the Shoreline Policies.

Shoreline Policy LU 270 – Heights in Shoreline Environment, is specific to heights in the Shoreline Environment: *“The 35-foot height limit of the Shoreline Management Act shall be the standard for maximum height in the Seattle Shoreline District. Exceptions in the development standards of a shoreline environment may be made consistent with the Act and with the underlying zoning where: a. a greater height will not obstruct views of a substantial number of residences and the public interest will be served; and b. greater height is necessary for bridges or the operational needs of water dependent or water-related uses or manufacturing uses.”* WSDOT has demonstrated that the higher height is needed for the West Approach for the operational needs of water vessels traveling north and south underneath the bridge on Lake Washington, that the public interest will be served by the project, and that the greater height will not obstruct views of a substantial number of residences.

B. That the proposed use will not interfere with the normal public use of public shorelines;

The proposed uses (bridge, street, bicycle and pedestrian paths, and utility lines) will replace an existing bridge within an established transportation corridor and within WSDOT right-of-way. The existing public use of adjacent shorelines will be maintained or improved by this project. The proposed will not interfere with the normal public use of public shorelines.

The proposed bike/pedestrian pathway along the bridge and new connections to new off-bridge bike/pedestrian paths will allow for greater opportunities than currently exist for the public to access and enjoy the shoreline environment along Lake Washington. After their use for construction staging, the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp, and the existing R. H. Thompson Expressway ramps will be demolished, and will result in enhancing the aesthetic qualities of the shoreline environment in the vicinity of the arboretum

Currently planned mitigation projects within the watershed, such as those on the WSDOT-owned peninsula and within the Union Bay Natural Area (further described in Chapter 5 of the Final Wetland Mitigation Plan) would contribute to the enhancement of shoreline areas and their use.

Throughout construction there will be periodic closures to two existing trails, the Arboretum Waterfront Trail and the Ship Canal Waterside trail. WSDOT will minimize the effects of these closures by preparing a detour plan to address the manner in which users would be rerouted during times of trail closure. The closure of a portion of the Arboretum Waterfront Trail would last for less than 6 months at a time. Closure of the Ship Canal Waterside Trail would last longer than 6 months; however, access west of Montlake Boulevard would remain available during and after construction and access to the eastern portion of the trail and its connection to the Arboretum Waterfront Trail would be rerouted during construction (see pages 10-2 to 10-11 in Chapter 10 of the Final EIS). Both trails would be open for normal public use when construction is completed. (See pages 32 – 34 of the Record of Decision)

C. That the proposed use of the site and design of the project will be compatible with other permitted uses within the area;

The proposed bridge structure would replace the existing bridge structure and access ramps. The project design includes features, such as landscaped lids and connections to new bicycle/pedestrian pathways, intended to enhance the compatibility with nearby neighborhoods. The new streets and utility lines are similar to those that already exist in the surrounding area, and will be compatible with those uses.

The City of Seattle Comprehensive Plan – Future Land Use Map shows the future uses in the project area as City-owned Open Space and Single-Family Residential Areas. Those match the current uses within the area of this project and the existing bridge. Replacement of the existing bridge will not change the current or proposed use in the area of this project. The overall project will provide improved bike/pedestrian access throughout the Open Space and Residential Areas. The project would be consistent with policies of the Seattle Comprehensive Plan related to completing and promoting use of a regional HOV system, limiting freeway capacity expansions to those accommodating “non-single-occupancy vehicle users,” protecting the Seattle neighborhoods from noise and traffic congestion, and improving transit connections.

The project’s addition of new HOV lanes and a regional bicycle and pedestrian path is consistent with the Puget Sound Regional Council’s (PSRC’s) Vision 2040 and Transportation 2040 plans as well as King County’s Countywide Planning Policies. These documents emphasize the need to

provide transportation system continuity and the use of alternative transportation modes, and to improve linkages between urban centers (See pages 5.2-12 to 5.2-14 of the Final EIS).

To maintain consistency with the Shoreline Master Program, the project has developed best management practices and other site-specific mitigation measures to protect shoreline areas and ensure compliance with the City of Seattle's Environmental Critical Areas Ordinance (see ECA analysis in report above).

D. That the proposed use will cause no unreasonably adverse effects to the shoreline environment in which it is to be located; and

See analysis above in Subsection 1.3.2.1.2 - Shoreline Goals LUG 43, LUG 48, and LUG 49 – Protection of Shoreline and Aquatic Environment. There will be temporary and permanent impacts to wetlands and aquatic habitat from the construction of the new facilities. WSDOT has proposed compensatory mitigation to replace the lost functions and values.

The project was designed in a manner that avoids and minimizes environmental effects to the greatest extent possible. To ensure that no significant adverse effects would result from the project, a natural resources technical working group was convened and guided the development of permit applications and mitigation plans that identify impacts, mitigation sequencing strategies, avoidance and minimization measures, and appropriate compensatory mitigation.

The process also informed ESA consultations, which culminated in the issuance of two Biological Opinions. Both Biological Opinions included incidental take statements, reasonable and prudent measures, terms and conditions, and conservation recommendations to avoid and minimize effects on listed species and designated critical habitat. The project will remain in compliance with the measures, and terms and conditions from the Biological Opinion (included in Attachment 18 of the Final EIS), and therefore would reduce potential adverse effects from suspended sediment, underwater sound, overwater structure, fish handling and stormwater discharge.

As discussed in the Record of Decision, the project is the environmentally preferable alternative, which is defined as the alternative that causes the least damage to the biological and physical environmental and best protects, preserves, and enhances historic, cultural, and natural resources. (See pages 100 and 101 in the Record of Decision). The Record of Decision also demonstrates that the project includes all practicable measures to minimize harm to wetlands. For example, the footprint of the bridge has been reduced to the maximum extent practicable through the west approach area, where the majority of affected wetlands are located. Where effects on wetlands could not be avoided, design considerations allowed for wetland impacts to be minimized and compensatory mitigation for unavoidable impacts is proposed, as discussed in more detail elsewhere in this decision.

E. That the public interest suffers no substantial detrimental effect.

The public interest was considered during development of project alternatives, and selection

of the preferred alternative. The project included extensive formal public outreach, consultation with affected agencies, and stakeholder coordination through legislatively mandated workgroup processes. The feedback provided through this coordination has been evaluated and documented as part of the NEPA /SEPA process for the project (see the Agency Coordination and Public Involvement Discipline Report, included in Attachment 7 of the Final EIS).

The proposed bridge and associated utility lines will serve the transportation needs of commuters, travelers, and commerce in the city, as well as the larger region. As a public transportation corridor, the proposal would not result in a substantial detrimental effect on the public interest. In addition to the shoreline and wetland habitat mitigation discussed above and in more detail elsewhere in this decision, WSDOT is proposing numerous measures to avoid, minimize and mitigate for the impacts to the public interest of this project, which are discussed in considerable detail in the FEIS and the application submittal material for this project, including Section 6.0 Additional Mitigation Elements.

1.4.2.3.2 Decision – Shoreline Special Use

The Director has determined that the proposed uses of bridge, street, bicycle/pedestrian paths, and utility lines meet the Special Use Criteria of SMC 23.60.032 and **are approved as follows**:

- The bridge structures as proposed are approved as a special use (SU) in the CM Environment (SMC 23.60.424), CN Environment (SMC 23.60.242) and CR Environment (SMC 23.60.364).
- The streets as proposed are approved as a special use (SU) in the CM Environment (SMC 23.60.424).
- The bicycle and pedestrian paths as proposed are approved as special uses (SU) in the CP zone (SMC 23.60.302).
- The utility lines and outfalls as proposed are approved as special uses (SU) in the CP zone (SMC 23.60.302).

1.4.2.4 Shoreline Development Standards

The proposed shoreline development is located in the Conservancy Preservation (CP), Conservancy Management (CM), Conservancy Navigation (CN) and Conservancy Recreation (CR) Shoreline Environments. Pursuant to the Seattle Shoreline Master Plan, the proposed action is subject to the:

1. general development standards (SMC 23.60.150, 23.60.152, 23.60.160, and 23.60.162);
2. development standards applicable to specific uses (SMC 23.60.179 – 23.60.210);
3. development standards for uses in the CP Environment (SMC 23.60.330, SMC 23.60.332, and SMC 23.60.334);
4. development standards for uses in the CM Environment (SMC 23.60.450, SMC 23.60.452, SMC 23.60.454, SMC 23.60.456, SMC 23.60.458, and SMC 23.60.460);
5. development standards for uses in the CN Environment (SMC 23.60.270); and

6. development standards for uses in the CR Environment (SMC 23.60.390, SMC 23.80.392, SMC 23.60.394, SMC 23.60.396, SMC 23.60.398, and SMC 23.60.400)

1.4.2.4.1 SMC 23.60.150 -23.60.162 - Development Standards

SMC 23.60.150 Applicable Development Standards.

All uses and developments in the Shoreline District shall be subject to the general development standards applicable to all environments, to the development standards for the specific environment in which the use or development is located, and to any development standards associated with the particular use or development.

See analysis below for each shoreline environment.

SMC 23.60.152 - General Development

General standards for all uses and development in all shoreline environments are established in SMC Section 23.60.152. Generally, these standards require that all shoreline activity be designed, constructed, and operated in an environmentally sound manner consistent with the Shoreline Master Program and with best management practices for the specific use or activity, in order to have minimal impact on the shoreline environment. The following general development standards are relevant to the proposed project:

- A. *The location, design, construction and management of all shoreline developments and uses shall protect the quality and quantity of surface and ground water on and adjacent to the lot and shall adhere to the guidelines, policies, standards and regulations of applicable water quality management programs and regulatory agencies. Best management practices such as paving and berming of drum storage areas, fugitive dust controls and other good housekeeping measures to prevent contamination of land or water shall be required.*

As described in Chapter 5 of the Final EIS, possible negative impacts to surface and ground water quality could result from construction of this project due to earthwork, concrete work, paving, stockpiling, erosion of disturbed soils or soil stockpiles by stormwater runoff, fugitive dust from demolition, equipment leaks or spills, material transport, storm drainage and/or combined sewer utility work, and dewatering. If not properly controlled through use of Best Management Practices, these project actions could result in construction-related pollutants that could increase turbidity and pH in portions of Union Bay and Lake Washington as well as affect other water quality parameters, such as the amount of available oxygen in the water.

Construction of the project would require the development and implementation of temporary erosion and sediment control (TESC) and spill prevention, control, and countermeasures (SPCC) plans (WSDOT 2008a). A TESC plan would detail the risk of erosion in different parts of the study area and would specify best management practices (BMPs) to be installed prior to construction activities and periodic maintenance and inspection procedures during construction. It would include environmental standards based on state regulations, such as turbidity and total

suspended solids (TSS) levels in stormwater discharged from construction staging and work areas. A SPCC plan would also be prepared to prevent, control, and identify countermeasures for potential spills of hazardous materials during construction, as required by WSDOT Standard Specification 1-07.15(1) (WSDOT 2008d).

The project will employ numerous Best Management Practices and mitigation measures to protect groundwater and surface water quality, which are summarized above in the Proposal Description (see page 5), briefly discussed below, and discussed in substantial detail in the FEIS in Chapter 6 Construction Effects of the FEIS, and in the discipline reports and plans attached as addendums to the FEIS including the Geology and Soils Discipline Report; Water Resources Discipline Report; Hazardous Materials Discipline Report, and the Final Aquatic Mitigation Plan.

1. Construction Stormwater Pollution Prevention Plan. This plan will describe overall BMPs, including location, size, maintenance requirements, and monitoring; specify methods for handling dewatering water, including storage, treatment, and discharge or disposal; discuss fugitive dust control, including surface protection and wetting techniques; outline flow control, including methods for routing off-site stormwater around the construction area and for controlling on-site stormwater discharges; address detention requirements and protocols to meet requirements and maintain existing conveyance system capacity; describe temporary water quality treatment for on-site stormwater runoff and/or dewatering water, including methods, location, and treatment goals; specify storm drain protection, maintenance, and monitoring; provide a list of Certified Erosion and Sediment Control Leads who would monitor and manage implementation and maintenance of BMPs; and outline water quality monitoring requirements, including location, frequency, and reporting. This plan would serve as the overall stormwater mitigation plan and would include each of the plans discussed below as appendices:
2. Temporary Erosion and Sediment Control Plan: This plan would outline the design and construction specifications for BMPs to be used to identify, reduce, eliminate, or prevent sediment and erosion problems. BMPs will be installed prior to earth disturbing activities and maintained until project completion and Notice of Termination is obtained.
3. Water Quality Monitoring. This plan will be a component of the TESC plan and in compliance with the NPDES permit and other approvals and include monitoring or sampling locations, procedures, reporting and identification of the applicable water quality standards from regulations or project approvals.
4. Spill Prevention, Control, and Countermeasures Plan: This plan would outline measures and BMPs to prevent any discharge of petroleum based products into surface waters and/or adjoining shorelines during construction. It will include requirements for spill prevention, inspection protocols, equipment, material containment measures, and spill response procedures.

5. Concrete Containment and Disposal Plan: This plan would outline the management, containment, and disposal of concrete and discuss BMPs that would be used to reduce high pH.
6. Dewatering Plan. This plan would outline the management, containment, and disposal of concrete debris, slurry, and dust and discuss BMPs that would be used to reduce high pH.
7. Fugitive Dust Plan. This plan would outline measures to prevent generation of fugitive dust from exposed soil, construction traffic, and material stockpiles.
8. Contaminated Soil Management Plan (CSMP). This plan will be developed by the contractor to address details, including all BMPs, for handling and disposal of known and unanticipated contaminated soil material and spoils.

These plans, once completed, will be submitted to DPD prior to issuance of the shoreline substantial development permit for this project.

- B. Solid and liquid wastes and untreated effluents shall not enter any bodies of water or be discharged onto the land.*

In addition to the above BMPs, WSDOT would implement the following procedures as appropriate for construction or demolition to prevent the discharge of solid and liquid wastes into the water or on land.

- Floating sediment curtain. This barrier is designed to control the settling of suspended solids (silt) in water by providing a controlled area of containment. This turbidity is usually created by disrupting natural conditions through construction or dredging in the marine environment. The containment of settleable solids is desirable to reduce the impact area.
- Underwater containment system/temporary cofferdam. This system would be implemented to prevent sediment, concrete, and steel debris from mixing with surface waters. Examples could include a temporary cofferdam, an oversized steel casing, or another type of underwater containment system developed by the contractor. This application would allow demolition work to be completed on and around an underwater structure and isolate the work zone. The system would also allow work to be completed at or below the mudline as determined by removal requirements by the state. Construction water and slurry within the containment system could be removed, treated, and pumped to an approved discharge location upon completion of the demolition.
- Construction water treatment systems. These systems consist of temporary settling storage tanks, filtration systems, transfer pumps, and an outlet. The temporary settling storage tank provides residence time for the large solids to settle out. The filtration system is provided to remove additional suspended solids below an acceptable size

(typically 25 microns). The pumps provide the pressure needed to move the water through the filter and then to an acceptable discharge location. Once the solid contaminants are filtered out, the clean effluent is then suitable for discharge to a municipal storm drain or an acceptable discharge location. These systems can be located on a work bridge or a barge.

Additional information on in-water construction activities, effects from these activities, and associated BMPs is provided in Section 6.11, Ecosystems of the FEIS.

D. The release of oil, chemicals or other hazardous materials onto or into the water shall be prohibited. Equipment for the transportation, storage, handling or application of such materials shall be maintained in a safe and leakproof condition. If there is evidence of leakage, the further use of such equipment shall be suspended until the deficiency has been satisfactorily corrected.

No petroleum products, fresh cement, lime or concrete, chemicals or other toxic or deleterious materials that may be used during construction will be allowed to enter surface waters. Equipment in use at the staging and construction areas will be maintained in a safe and leak-proof condition and will be inspected regularly. Appropriate repairs will be made to prevent the release of such materials. Relevant BMPs and mitigation measures are discussed in substantial detail in Chapter 6 Construction Effects of the FEIS, and in the discipline reports and plans attached as addendums to the FEIS including the Geology and Soils Discipline Report; Water Resources Discipline Report; and Hazardous Materials Discipline Report. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan and, in particular, Spill Prevention, Control, and Countermeasures Plan.

E. All shoreline developments and uses shall minimize any increases in surface runoff, and control, treat and release surface water runoff so that receiving water quality and shore properties and features are not adversely affected. Control measures may include, but are not limited to, dikes, catch basins or settling ponds, interceptor drains and planted buffers.

The contractor is responsible for the preparation and implementation of a number of water quality pollution control measures that will be outline in the required TESC, SPCC and Concrete Containment and Disposal plans, as described above. Relevant BMPs, including this SPCC plan, and mitigation measures are discussed in substantial detail in Chapter 6 Construction Effects of the FEIS, and in the discipline reports and plans attached as addendums to the FEIS including the Geology and Soils Discipline Report; Water Resources Discipline Report; and Hazardous Materials Discipline Report. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

Stormwater on the floating bridge would be treated in the manner as detailed in two AKART ("all known, available, and reasonable technologies") studies (WSDOT 2009k, 2009l). Stormwater treatment on the floating bridge would differ from treatment elsewhere in the corridor. Standard stormwater treatment facilities are difficult or infeasible to construct on

floating bridges. Conventional BMPs would add weight to the floating bridge, and turbulence during storms would limit the stormwater facilities' ability to settle out sediments. To address these challenges, WSDOT conducted the AKART analyses to evaluate the technologies that could be applied in the bridge setting (WSDOT 2009k, 2009l).

After application of a set of screening criteria, the AKART analyses determined that the most effective stormwater treatment technology would be high-efficiency sweeping of the paved roadway in conjunction with modified catch basin stormwater BMPs on the floating portion of the proposed bridge. The proposed floating bridge design creates separate, enclosed spill-containment lagoons (see Exhibit 5.10-2 in the FEIS) within the supplemental stability pontoons. Exhibit 5.10-2 also provides a schematic plan view drawing of the spill containment lagoon proposed for the SR 520, I-5 to Medina project. In addition to providing structural stability, the supplemental stability pontoons would create an area where roadway spills of petroleum or other pollutants would be contained. Surface pollutants in the lagoons would be removed on a periodic basis under normal monitoring and maintenance activities. The lagoons would also allow dilution of remaining pollutants prior to mixing with lake waters beneath the bridge. Ecology has reviewed and has conditionally approved the AKART studies (Fitzpatrick 2010). As part of the approval conditions, WSDOT will develop and implement a Department of Ecology approved monitoring program to verify the effectiveness of the treatment technologies.

F. All shoreline developments and uses shall utilize permeable surfacing where practicable to minimize surface water accumulation and runoff.

Permeable surfacing is not practical for the bridge and street surfaces in part due to the need for collection and treatment of stormwater to occur.

G. All shoreline developments and uses shall control erosion during project construction and operation.

The contractor for the project is responsible for the preparation and implementation of a Temporary Erosion and Sediment Control Plan (TESCP). The TESCP plan would detail the risk of erosion in different parts of the study area and would specify best management practices (BMPs) to be installed prior to construction activities and periodic maintenance and inspection procedures during construction. It would include environmental standards based on state regulations, such as turbidity and total suspended solids (TSS) levels in stormwater discharged from construction staging and work areas. Relevant BMPs and mitigation measures are discussed in substantial detail in Chapter 6 Construction Effects of the FEIS, and in the discipline reports and plans attached as addendums to the FEIS including the Geology and Soils Discipline Report; Water Resources Discipline Report; and Hazardous Materials Discipline Report. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

H. All shoreline developments and uses shall be located, designed, constructed and managed to avoid disturbance, minimize adverse impacts and protect fish and wildlife habitat conservation areas including, but not limited to, spawning, nesting, rearing and habitat areas, commercial and recreational shellfish areas, kelp and eel grass

beds, and migratory routes. Where avoidance of adverse impacts is not practicable, project mitigation measures relating the type, quantity and extent of mitigation to the protection of species and habitat functions may be approved by the Director in consultation with state resource management agencies and federally recognized tribes.

All in-water construction activities, such as pile-driving, would occur during project-specific work windows approved by the regulatory agencies. WSDOT has coordinated with the regulatory agencies and the Muckleshoot Indian Tribe to establish site- and project-specific in-water work windows to minimize the potential for project activities to affect juvenile or adult salmonids.

In some instances, project-specific work windows may extend outside the published Washington State Department of Fish and Wildlife (WDFW) work window. While the work window extension has the potential to expose fish to construction effects, several factors would contribute to minimizing and reducing those effects. For instance, the proposed work windows continue to exclude months when a majority of juvenile salmonids are expected to migrate into Lake Washington, and few juvenile or adult salmonids are likely to occur in the project area during the construction period. Also, adult salmonids are anticipated to use deep waters, away from construction activities that could induce behavioral effects or injury. And finally, best management practices would minimize the size of the area affected by water quality and sound levels that could cause effects to fish.

Based on the types and locations of potential impacts, the project has the greatest potential to affect juvenile salmonids in the rearing/feeding and migration life history stages; impacts during these life history stages could result in decreases in juvenile growth, survival, and fitness. The impact assessment characterized effects on aquatic resources based on area (acreage) of bridge structures and related changes to salmonid life history stages. The raw area calculations were adjusted based on the use of specific impact zones by salmonids, including the amount and type of fish utilization. This application of the Fish Function Modifier factor adjusted the impacts according to their ecological relevance (in most cases the modified impact acreage is less than the un-modified impact area).

Mitigation measures and actions proposed by WSDOT to address temporary and permanent impacts to shoreline habitat (aquatic) and shoreline habitat buffer impacts are detailed elsewhere in this decision as well as in the West Approach Environmental Critical Areas Technical Memorandum (Nov. 2011) and the Final Aquatic Mitigation Plan (WSDOT 2011, Dec.)

Standard over-water and in-water construction and demolition BMPs would be implemented in accordance with environmental regulatory permit requirements and WSDOT specifications. Specific in-water construction time periods would also be established through the project permitting process to minimize potential effects of pile-driving and other in-water construction activities on salmonid species. During column and bridge construction, BMPs would be used to avoid unintentional effects on habitat and water quality. Cofferdams, shaft castings, or other appropriate measures would be used to isolate work areas from open-water areas, particularly for

concrete pouring activities, and work bridges would be used to minimize the use of barges in shallow water areas. Bibs would be used to contain falling debris during construction of the new bridge decking and demolition of the existing decking. A temporary erosion and sediment control plan, a spill prevention, control, and countermeasures plan, and a stormwater pollution prevention plan would be developed and implemented. Appropriate BMPs and noise attenuation methods will be developed in coordination with the regulatory agencies, the Muckleshoot Indian Tribe, and environmental permitting processes, and implemented to minimize potential effects of pile-driving activities.

Other BMPs could include:

- Avoiding or minimizing any spillage of concrete or other construction material into the water
- Avoiding or minimizing direct lighting effects from entering Lake Washington from construction activities by adjusting the angle of the lights and/or using bulbs in a non-white light spectrum
- Operating construction equipment from work bridges and barges where possible to minimize ground disturbance when working in or near sensitive areas
- Restoring cleared areas to preconstruction grades and replanting the areas with appropriate native herbaceous and woody species after construction

The Final Aquatic Mitigation Plan (Dec. 2011) describes mitigation for aquatic resources effects. Temporary project effects that would likely require compensatory mitigation include partial shading and fill from the construction work bridges and falsework, which could increase predator use. These temporary effects would have the largest effect on juvenile Chinook as they migrate toward the Ship Canal in the shallow nearshore, where these work bridges are proposed to occur.

Again, mitigation measures and actions proposed by WSDOT to address temporary and permanent impacts to shoreline habitat (aquatic) and shoreline habitat buffer impacts are detailed elsewhere in this decision as well as in the *West Approach Environmental Critical Areas Technical Memorandum* (Nov. 2011) and the Final Aquatic Mitigation Plan (Dec. 2011.)

In addition to the shoreline and wetland mitigation actions proposed by WSDOT to mitigate for this project's impacts (summarized above), additional mitigation will be required as a condition of this permit (see Conditions at the end of this report in Section 1.6) to further address the local impacts to shoreline and wetland habitat that will result from the lengthy and intense construction period for this project. Details of this additional mitigation will focus on upland and wetland invasive vegetation removal and native plant revegetation in portions of the trail corridor for the Waterfront Trail from MOHAI to Foster Island.

- I. All shoreline developments and uses shall be located, designed, constructed and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, littoral drift, sand movement, erosion and accretion.*

Neither the project construction nor the staging area use within the Shoreline District will require permanent development that would negatively impact natural shoreline processes

such as water circulation, littoral drift, sand movement, erosion and accretion. The staging areas will be designed and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes, primarily through the use of BMPs to minimize and prevent impacts to surface water quality. Relevant BMPs and mitigation measures are discussed in substantial detail in the FEIS and, in particular Chapter 5 Operation Effects, Chapter 6 Construction Effects, and the Ecosystems Discipline Report included as an Addendum to the FEIS. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

- J. All shoreline developments and uses shall be located, designed, constructed and managed in a manner that minimizes adverse impacts to surrounding land and water uses and is compatible with the affected area.*

As describe elsewhere in this decision and analysis of shoreline development standards, WSDOT is proposing a number of actions and measures to avoid and minimize impacts to the surrounding land uses and areas, including Best Management Practices during construction that are summarized above and in greater detail in the FEIS and relevant Discipline Reports (e.g., Land Use, Economics, and Relocation Discipline Report and the Visual Quality and Aesthetics Discipline Report). The Record of Decision for the 520 Bridge Replacement Project also contains a summary of relevant measures (pages 24 to 26) to meet this standard.

- K. Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. Surfaces cleared of vegetation and not to be developed shall be replanted. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems or adverse impacts on shoreline features.*

Relevant BMPs and mitigation measures for consistency with these general development standards are discussed in substantial detail in Chapters 5 and 5 of the FEIS and, in particular, the Geology and Soils Discipline Report, Water Resources Discipline Report, and Land Use, Economics, and Relocation Discipline Report, all included in the FEIS as Addendum. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan. as well as other upland Best Management Practices that will be employed during construction of this project, including ensuring that a Certified Erosion and Sediment Control Lead is consulted and on-site during construction activities, clearly define construction limits with stakes and high visibility fence before beginning ground disturbing activities, minimizing vegetation and soil disturbance to the extent possible. For additional details for avoidance and minimization measures, please see relevant sections of the FEIS, including the Ecosystem Discipline Report and discussion of project-specific BMPs in the West Approach Environmental Critical Areas Technical Memorandum and other submittal material for this project application

- L. All shoreline development shall be located, constructed and operated so as not to be a hazard to public health and safety.*

Replacing the existing West Approach Bridge, which has been found to be vulnerable to damage from earthquakes, with a new structure designed to meet current engineering standards

should improve public safety in the project corridor. The staging and construction areas and the bridge, bike/pedestrian pathways and access ramps will be developed and operated in accordance with applicable safety standards and regulations. A Worker and Public Health and Safety Plan will be developed and implemented to ensure health and safety during construction of the project. The project site and staging areas shall be appropriately secured to prevent potential hazards to public health and safety, including installation of informational signs prior to performing hazardous activities within the project area.

M. All development activities shall be located and designed to minimize or prevent the need for shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site regrades.

Neither the bridge replacement project nor the staging area use within the Shoreline District will require the implementation of such measures. Use of a similar alignment for the new bridge reduces or eliminates the need for substantial site regarding or stabilization.

N. All debris, overburden and other waste materials from construction shall be disposed of in such a way as to prevent their entry by erosion from drainage, high water or other means into any water body.

Potential impacts of construction-related pollutants and/or erosion are summarized above and discussed in more detail in Chapter 6 of the FEIS. The contractor will provide for the disposal of all debris and other waste material associated with the proposed facilities in a manner that prevents their entry into any water body.

Relevant BMPs and mitigation measures are discussed in substantial detail in Chapter 6 Construction Effects of the FEIS, and in the discipline reports and plans attached as addendums to the FEIS including the Geology and Soils Discipline Report; Water Resources Discipline Report; and Hazardous Materials Discipline Report. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

Q. Submerged public right-of-way shall be subject to the following standards:

- 1. All structures shall be floating except as permitted in subsection Q2 below;*

The design of the West Approach cannot comply with this standard. The West Approach is located entirely within WSDOT right-of-way and is intended to provide an area under the bridge for navigation of water vessels that are otherwise precluded from moving north and south on Lake Washington by the floating portions of the bridge. If the entire bridge structure were floating, it would effectively block water vessels on the lake to areas either north or south of the bridge.

WSDOT has requested a waiver and DPD grants a waiver of this standard because the project is an Essential Public Facility and cannot comply with the standard given the necessary design and location of the structure (e.g. providing navigational clearance below the structure, providing positive stormwater drainage and meeting seismic safety regulations. RCW 36.70.200(5) and

WAC 365-196-550(3)(a) provides that no local development regulation may preclude the siting of EPFs.

2. *Piling and dolphins may be permitted to secure floating structures only if the structures cannot be safely secured with anchors or with pilings or dolphins located outside of the right-of-way;*

Given the waiver to allow a non-floating structure in the right-of-way, this standard is not applicable.

3. *The maximum height of structures shall be fifteen feet (15');*

The West Approach design cannot comply with this standard. As described above in the Proposal description, the profile of the west approach would be raised from its existing height and would provide a constant grade, increasing from a minimum of 11 feet above the water surface to approximately 23 feet near the Montlake shoreline, and from 52 to almost 60 feet at the west transition span of the floating bridge. The new structures would be up to 32 feet higher than the existing bridge in places, with the greatest increase occurring in the area east of Foster Island.

WSDOT has requested and DPD grants a waiver of this standard because the project is an Essential Public Facility and cannot comply with the standard given the necessary design and location of the structure.

4. *Structures shall not occupy more than thirty-five (35) percent of the right-of-way and shall not occupy more than forty (40) percent of the width of the right-of-way;*

The project proposes a bridge exceeding these percentages (sixty-six (66) percent of the ROW area and seventy-four (74) percent of the ROW width).

WSDOT has requested and DPD grants a waiver of this standard because the project is an Essential Public Facility and cannot comply with the standard given the design elements described in Q(1) above as well the proposed width of the structure is necessary to accommodate the land configuration of the selected design alternative.

5. *A view corridor of not less than fifty (50) percent of the width of the right-of-way shall be provided and maintained.*

The bridge structures will provide view corridors, and those corridors will exceed 50 percent of the width of the right-of-way, so the project meets this development standard.

6. *An open channel, unobstructed by vessels or structures for access to and from the water for public navigation and for access to adjacent properties shall be maintained.*

The project has been designed to provide the appropriate public navigation and access to adjacent properties. The West Approach is designed as a raised structure to provide an open channel for public navigation on Lake Washington between north and south sides of the bridge.

SMC 23.60.160 Standards for Regulated Public Access

A. 1. Regulated public access shall be a physical improvement in the form of any one (1) or combination of the following: Walkway, bikeway, corridor, viewpoint, park, deck, observation tower, pier, boat-launching ramp, transient moorage, or other areas serving as a means of view and/or physical approach to public waters for the public. Public access may also include, but not be limited to, interpretive centers and displays explaining maritime history and industry.

2. The minimum regulated public access shall consist of an improved walkway at least five (5) feet wide on an easement ten (10) feet wide, leading from the street or from a public walkway directly to a waterfront use area or to an area on the property from which the water and water activities can be observed. There shall be no significant obstruction of the view from this viewpoint.

WSDOT's proposal includes a bicycle/pedestrian pathway on the north side of the new bridge structure, and connections to new pathways along the restored waterfront. The proposed pathway on the bridge will be 14 feet wide. The proposal meets the standard for regulated public access.

In accordance with SMC 23.60.160, the newly established pedestrian and bicycle path would be in excess of 5 feet wide, and would provide a means to travel along the shoreline. By locating these trails along existing alignments and under SR 520, public access will be increased and intrusion on private open space will be minimized. The new boat launch and public park will not interfere with private open space. Through coordination with the City of Seattle, WSDOT will continue to consult regarding the final configurations, including type and design of the proposed improvements.

The project also meets the regulated public access requirements for the CR (SMC 23.60.400), CM (SMC 23.60.460), and UR (SMC 23.60.578) environments as discussed in the separate shoreline development standards documentation.

SMC 23.60.162 View Corridors

A. View corridors shall be provided for uses and developments in the Shoreline District as required in the development standards of the environment in which the use or development is located.

The development standards for each of the shoreline environments associated with the project site (Conservancy Preservation, Conservancy Management, Conservancy Navigation, and Conservancy Recreation) and two of these shoreline environments (Conservancy Management and Conservancy Recreation) require a view corridor. However, the code requirement regarding view corridors is specific to work in "lots", both within SMC 23.60.162.B and within the

individual shoreline environment development standards. The right-of-way does not meet the definition for “lot” (SMC 23.84A.024).

The more specific view corridor development standard for submerged public right-of-way (SMC 23.60.152Q.6) is applicable and is discussed above.

SMC 23.60.179 - 210 – Additional Development Standards Applicable to Specific Uses

Development standards applicable to specific uses in all shoreline environments are established in SMC Sections 23.60.179 through 23.60.210. The following development standards are relevant to the proposed project:

- SMC 23.60.180 Sign standards

In subsection B.1, it is stated that signs permitted in the CN, CP, CR, and CM environments shall be limited to identification signs, on-premises directional signs, and interpretive signs. The signs associated with the project would be identification and directional roadway signs. Their type, size, and lettering are regulated by federal and state highway signage standards.

- SMC 23.60.184 Standards for landfill and creation of dry land

Shoreline fills or cuts shall be designed and located so that no significant damage to ecological values or natural resources shall occur and no alteration of local currents or littoral drift creating a hazard to adjacent life, property or natural resources shall occur. As described above, neither the project construction nor the staging area use within the Shoreline District will require permanent development that would negatively impact natural shoreline processes such as water circulation, littoral drift, sand movement, erosion and accretion. The staging areas will be designed and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes, primarily through the use of BMPs to minimize and prevent impacts to surface water quality. Relevant BMPs and mitigation measures are discussed in substantial detail in the FEIS and, in particular Chapter 5 Operation Effects, Chapter 6 Construction Effects, and the Ecosystems Discipline Report included as an Addendum to the FEIS. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

- SMC 23.60.192 Standards for utility lines

New utility lines are to be constructed within existing utility corridors, to the extent practicable, and are to be located underground or under water. There will be new stormwater lines leading from the bridge to new stormwater facilities (constructed wetland). These lines will be connected to the bridge to the point of connection to land-based facilities. The project will meet these standards by constructing all new utility lines within existing utility corridors to the extent practical. Where the project installs utility lines outside of existing utility corridors, the project will meet SMC 23.60.192 (B) by installing utilities underground. The project will avoid installed overhead utilities, meeting SMC 23.60.192(C). And the project will meet SMC 23.60.192(D) by

restoring shoreline to pre-project configuration, replanting vegetation, and maintaining the new vegetation until it is reestablished.

- SMC 23.60.194 Standards for intakes and outfalls

All intakes and outfalls shall be located so they will not be visible at mean lower low water, and shall be designed and constructed to prevent the entry of fish. New stormwater outfalls will comply with State NPDES requirements and will be consistent with City regulations.

- SMC 23.60.206 Streets

New streets are permitted in the Shoreline District to serve lots in the Shoreline District and to connect to public access facilities. New streets are proposed as on- and off-ramps from the bridge to serve properties in the vicinity of the bridge and to provide access around the structure.

- SMC 23.60.210 Aquatic noxious weed control

SMC 23.60.210 allows for the removal or control of aquatic noxious weeds by a number of methods, including: A. by hand-pulling, mechanical harvesting, or placement of aquascreens; B. by derooting, rotovating or other method which disturbs the bottom sediment or benthos; and C. through the use of herbicides or other treatment methods applicable to the control of aquatic noxious weeds. Depending on the method used and the depth, some activities require a shoreline permit or permit approval from the Department of Ecology. WSDOT has not proposed to control the milfoil that exist in the vicinity of the West Approach, however such control could improve water quality and recreational uses, and could be permitted or allowed outright depending on the methodology.

1.4.2.4.2 Development Standards Applicable to CP Environment

There are no requirements for regulated public access or view corridors on the CP Environment.

- SMC 23.60.332 Natural Area Protection in the CP Environment

Developments in the CP Environment shall be located and designed to minimize adverse impacts to natural areas of biological or geological significance and to enhance the enjoyment by the public of those natural areas. Development in critical natural areas shall be minimized.

See discussion of temporary and permanent impacts and mitigation above in Sections 1.1.3.2 Wetlands and Wetland Buffers, 1.1.3.3, Fish and Wildlife Habitat Conservation Area Mitigation, and 1.3.2.1 Shoreline Policies. Development in critical natural areas has been avoided where possible, and minimized to the extent feasible. Where impacts have been found to be unavoidable, adequate on and off-site mitigation has been proposed.

- SMC 23.60.334 Height in the CP Environment

The maximum height in the CP Environment shall be fifteen (15) feet. As described above in the Proposal description, the profile of the west approach would be raised from its existing height

and would provide a constant grade, increasing from a minimum of 11 feet above the water surface to approximately 23 feet near the Montlake shoreline, and from 52 to almost 60 feet at the west transition span of the floating bridge. The new structures would be up to 32 feet higher than the existing bridge in places, with the greatest increase occurring in the area east of Foster Island. The need for additional height has been previously addressed in this decision.

1.4.2.4.3 Development Standards Applicable to CM Environment

- SMC 23.60.452 Critical habitat protection in the CM Environment

All developments in the CM Environment shall be located and designed to minimize disturbance of any critical habitat area.

See discussion of temporary and permanent impacts and mitigation above in Sections 1.1.3.2 Wetlands and Wetland Buffers, 1.1.3.3, Fish and Wildlife Habitat Conservation Area Mitigation, and 1.3.2.1 Shoreline Policies. Development in critical natural areas has been avoided where possible, and minimized to the extent feasible. Where impacts have been found to be unavoidable, adequate on and off-site mitigation has been proposed.

- SMC 23.60.454 Height in the CM Environment

SMC 23.60.454.A sets a maximum height in the CM environment for Lake Washington at fifteen (15) feet. In SMC 23.60.454.E, the code states “bridges may extend above the maximum height limit.” The need for increased height for the bridge structure has been previously discussed.

- SMC 23.60.458 View Corridors in the CM Environment

A. A view corridor or corridors of not less than thirty-five (35) percent of the width of the lot shall be provided and maintained on all waterfront lots and on any upland through lot separated from a waterfront lot designated CM, CR, CP or CN by a street or railroad right-of-way.

The bridge structures that are part of this project will provide view corridors, and those corridors will exceed 50 percent of the width of right-of-way, so the project meets this development standard.

- SMC 23.60.460 Regulated Public Access in the CM Environment

On public property, public access shall be provided and maintained on all publicly owned and publicly controlled waterfront whether leased to private lessees or not, except when the property is submerged land which does not abut dry land. The proposal includes a bike/pedestrian pathway on the bridge and connections to new bike/pedestrian pathways off the bridge. These new pathways will provide and maintain public access.

The Project will increase access to publicly owned areas of the shorelines by providing physical improvements to existing conditions through the establishment of a new walkway and bikeway on the new bridge. The project would enhance existing bicycle and pedestrian paths, and would create a new recreational path that will connect the Arboretum Waterfront Trail to the Arboretum. In addition, the existing hand-carried boat launch located in East Montlake Park will be relocated to the north, so that it will be closer to the new parking area after project construction. The project will also provide a new public park of up to 4 acres on the north shore of Portage Bay to mitigate for project effects on Section 6(f) protected park property. These improvements will include a variety of viewpoints, and would provide various locations where the public can approach the water. The new and enhanced paths will maximize views of Portage Bay, Union Bay and Lake Washington, and will also establish additional access points for the shoreline. The relocation of the hand-carried boat launch and the new public park will also provide unobstructed views of the shoreline, and will create new stretches of public access along the shoreline.

In accordance with SMC 23.60.160, the newly established pedestrian and bicycle path would be in excess of 5 feet wide, and would provide a means to travel along the shoreline. By locating these trails along existing alignments and under SR 520, public access will be increased and intrusion on private open space will be minimized. The new boat launch and public park will not interfere with private open space. Through coordination with the City of Seattle, WSDOT will continue to consult regarding the final configurations, including type and design of the proposed improvements.

The project also meets the regulated public access requirements for the CR (SMC 23.60.400), CM (SMC 23.60.460), and UR (SMC 23.60.578) environments as discussed in the separate shoreline development standards documentation.

1.4.2.4.4 Development Standards Applicable to CN Environment

There are no requirements for regulated public access or view corridors on the CN Environment.

- SMC 23.60.270 Development standards in the CN Environment

In addition to development standards applicable to all environments contained in Subchapter III, General Provisions, developments in the Conservancy Navigation Environment shall be located and designed to avoid interference with navigation. Buoys or other markings may be required to warn of navigation hazards. The proposal has been designed to avoid interference with navigation. Markings, including lighting, will be provided along the edges of the bridge structure to warn boaters of potential hazards.

1.4.2.4.5 Development Standards Applicable to CR Environment

- SMC 23.60.392 Natural Area Protection in the CR Environment

Developments in the CR Environment shall be located and designed to minimize adverse impacts to natural areas of biological or geological significance and to enhance the enjoyment by the public of those natural areas. Development in critical natural areas shall be minimized.

See discussion of temporary and permanent impacts and mitigation above in Sections 1.1.3.2 Wetlands and Wetland Buffers, 1.1.3.3, Fish and Wildlife Habitat Conservation Area Mitigation, and 1.3.2.1 Shoreline Policies. Development in critical natural areas has been avoided where possible, and minimized to the extent feasible. Where impacts have been found to be unavoidable, adequate on and off-site mitigation has been proposed.

- SMC 23.60.394 Height in the CR Environment

SMC 23.60.394.A sets a maximum height in the CR environment at fifteen (15) feet except as modified by Sections C through E of the section.. In SMC 23.60.394.E, the code states “bridges may extend above the maximum height limit.” The need for increased height for the bridge structure has been previously discussed.

- SMC 23.60.398 View Corridors in the CR Environment

A view corridor or corridors of not less than thirty-five (35) percent of the width of the lot shall be provided and maintained on all waterfront lots except those developed with single-family dwellings.

The bridge structures that are part of this project will provide view corridors, and those corridors will exceed 50 percent of the width of right-of-way, so the project meets this development standard.

- SMC 23.60.400 Regulated public access in the CR Environment

On public property, public access shall be provided and maintained on all publicly owned and publicly controlled waterfront whether leased to private lessees or not, except when the property is submerged land which does not abut dry land. The proposal includes a bike/pedestrian pathway on the bridge and connections to new bike/pedestrian pathways off the bridge. These new pathways will provide and maintain public access.

The Project will increase access to publicly owned areas of the shorelines by providing physical improvements to existing conditions through the establishment of a new walkway and bikeway on the new bridge. The project would enhance existing bicycle and pedestrian paths, and would create a new recreational path that will connect the Arboretum Waterfront Trail to the Arboretum. In addition, the existing hand-carried boat launch located in East Montlake Park will be relocated to the north, so that it will be closer to the new parking area after project

construction. The project will also provide a new public park of up to 4 acres on the north shore of Portage Bay to mitigate for project effects on Section 6(f) protected park property.

These improvements will include a variety of viewpoints, and would provide various locations where the public can approach the water. The new and enhanced paths will maximize views of Portage Bay, Union Bay and Lake Washington, and will also establish additional access points for the shoreline. The relocation of the hand-carried boat launch and the new public park will also provide unobstructed views of the shoreline, and will create new stretches of public access along the shoreline.

In accordance with SMC 23.60.160, the newly established pedestrian and bicycle path would be in excess of 5 feet wide, and would provide a means to travel along the shoreline. By locating these trails along existing alignments and under SR 520, public access will be increased and intrusion on private open space will be minimized. The new boat launch and public park will not interfere with private open space. Through coordination with the City of Seattle, WSDOT will continue to consult regarding the final configurations, including type and design of the proposed improvements.

The project also meets the regulated public access requirements for the CR (SMC 23.60.400), CM (SMC 23.60.460), and UR (SMC 23.60.578) environments as discussed in the separate shoreline development standards documentation.

1.4.3 Shoreline Conditional Use

1.4.3.1 Analysis of Shoreline Conditional Use Criteria

The CP environment allows the construction of a street and bridge as a shoreline conditional use (SMC 23.60.304) subject to the criteria for conditional use approval which are described in WAC 173-27-160.

WAC 173-27-160 provides that uses which are classified or set forth in the applicable master program as conditional uses may be authorized provided that the applicant demonstrates all of the following:

- A. That the proposed use is consistent with the policies of RCW 90.58.020 and the master program;*

The policies of the RCW 90.58.020 provide for management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses, while allowing development in a manner which will promote the public interest. It states, in part: permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

The proposed construction and operation of the project will protect statewide interests by providing a safe, reliable, and efficient transportation system. The project preserves the natural character of the shoreline by constructing within an alignment designed to minimize damage and

protect the resources and ecology of the shoreline by including best management practices to avoid harm to the shoreline and the removal of several on-and off-ramps. Mitigation is proposed for project activities. A new bike/pedestrian trail on SR 520 across Lake Washington and improved connections to local paths will increase access and recreational opportunities for the public in the shoreline areas.

B. That the proposed use will not interfere with the normal public use of public shorelines;

The proposed project would replace an existing bridge within an existing transportation corridor. The public use of public shorelines will be maintained or improved by the proposed bike/pedestrian on SR 520 across Lake Washington and improved connections to local bike/pedestrian paths. Additional mitigation actions, which are summarized elsewhere in this decision (Section 1.1.3 and 1.1.4), will contribute to maintaining or enhancing use of shoreline areas during and after construction of the project, including use of recreational trails in the project area (see Record of Decision, pages 32-34)..

All project nighttime noise levels will meet the requirements of the City of Seattle Noise Ordinance, SMC 25.08, and the Project's Major Public Project Construction Variance (if applied for and approved). Pedestrian and business access will also be maintained per any required Street Use Permit(s) acquired for the project.

C. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;

Other authorized uses within the area include single-family and multi-family housing, the University of Washington (on the north side of the Montlake Cut), park and recreation land (Foster Island and McCurdy Park), and the Washington Arboretum. The Future Land Use Map in the Comprehensive Plan shows the future uses in the project area as City-owned Open Space and Single-Family Residential Areas. The existing bridge was opened in 1963, and has operated continuously since that time. The new facility will replace the existing structure with a wider structure, will remove unused ramps from the R.H. Thompson Expressway, and will add a new cross-lake bicycle/pedestrian pathway. It will be no less compatible than the existing facility, and the design will help to improve compatibility. Replacement of the bridge will not change the current or proposed use in the area of this project.

The replacement or relocation of utility lines is necessary to avoid direct conflicts or avoid/remedy damage caused by construction of the Project and is compatible with other authorized uses in the area. The final replacement or relocation of the utility lines would be to current standards and in the same or general vicinity of the existing utility lines. Following the replacement or relocation of utility lines within the Shoreline District, the ground surface will be restored to the pre-construction condition according to the Street and Sidewalk Pavement Opening and Restoration Rule (SDOT Rule 5-2009) and coordinated through the Seattle Department of Transportation Street Use Permit issued to the Project.

D. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and

WSDOT has proposed both on and off site mitigation measures to reduce adverse effects to the shoreline environment from the new bridge, bicycle/pedestrian pathway, streets, and utilities lines. These mitigation measures will reduce impacts to a less than significant adverse level.

Best Management Practices, as described above and in the EIS documents, will be used to prevent impacts to waters of the state. By following these BMPs and WSDOT standard specifications and abiding by all other permit conditions, the proposed use would cause no significant adverse effects to the shoreline environment. See also discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan and other mitigation measures for this project summarized in the Environmental Critical Area analysis above and in the West Approach ECAR.

E. That the public interest suffers no substantial detrimental effect.

Opened in 1963, the existing SR 520 is a facility of state-wide nature. The floating span of the bridge now carries approximately 115,000 vehicles per day across the lake, providing east-west access for commuters, freight, transit, and general-purpose traffic. The aging floating bridge is vulnerable to failure in a severe windstorm, and the fixed bridges along the corridor do not meet current seismic standards and could collapse in an earthquake. In addition, due to growth in jobs and housing, the corridor currently carries nearly twice as many vehicles as it was originally designed for, resulting in extended congestion and impaired mobility. The uninterrupted movement of people and goods across SR 520 and the floating bridge is essential to the region's economic vitality and quality of life. While there will be temporary and localized impacts during the construction period, the long term effect would be a benefit to the public interest by the operation of the new bridge and bicycle/pedestrian pathway.

The public interest is not expected to suffer substantial detrimental effect; therefore, the proposal meets this criteria for Conditional Use approval.

The Project will increase access to publicly owned areas of the shorelines by providing physical improvements to existing conditions through the establishment of a new walkway and bikeway on the new bridge. The project would enhance existing bicycle and pedestrian paths, and would create a new recreational path that will connect the Arboretum Waterfront Trail to the Arboretum. In addition, the existing hand-carried boat launch located in East Montlake Park will be relocated to the north, so that it will be closer to the new parking area after project construction. The project will also provide a new public park of up to 4 acres on the north shore of Portage Bay to mitigate for project effects on Section 6(f) protected park property. These improvements will include a variety of viewpoints, and would provide various locations where the public can approach the water. The new and enhanced paths will maximize views of Portage Bay, Union Bay and Lake Washington, and will also establish additional access points for the shoreline. The relocation of the hand-carried boat launch and the new public park will also provide unobstructed views of the shoreline, and will create new stretches of public access along the shoreline.

In accordance with SMC 23.60.160, the newly established pedestrian and bicycle path would be in excess of 5 feet wide, and would provide a means to travel along the shoreline. By locating these trails along existing alignments and under SR 520, public access will be increased and intrusion on private open space will be minimized. The new boat launch and public park will not interfere with private open space. Through coordination with the City of Seattle, WSDOT will continue to consult regarding the final configurations, including type and design of the proposed improvements.

The project also meets the regulated public access requirements for the CR (SMC 23.60.400), CM (SMC 23.60.460), and UR (SMC 23.60.578) environments as discussed in the separate shoreline development standards documentation.

In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if conditional use permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW 90.58.020 and shall not produce substantial adverse effects to the shoreline environment.

This project is proposed within existing WSDOT right-of-way in a space that has been used as transportation corridor across Lake Washington for more than 50 years. Because this area will be preserved as a transportation corridor through the upgrade of this bridge and facility, additional requests for similar actions in the area is very unlikely, therefore cumulative impacts or substantial adverse effects resulting from additional similar requests are not expected.

1.4.3.2 Decision – Shoreline Conditional Use Approval

The proposed shoreline conditional use approval to allow a street and bridge in a CP environment is **GRANTED**.

1.4.4 The Provisions of Chapter 173-27 WAC

Chapter 173-27 WAC sets forth permit requirements for development in shoreline environments, and gives the authority for administering the permit system to local governments. The State acts in a review capacity. The Seattle Municipal Code Section 23.60 (Shoreline Development) incorporates the policies of the WAC by reference. These policies have been addressed in the foregoing analysis and have fulfilled the intent of WAC 173-27.

1.4.5 Decision – Shoreline Substantial Development Permit

The proposed shoreline substantial development permit is **CONDITIONALLY GRANTED**. Shoreline Substantial Development conditions are listed below in Section 1.6.

1.5 ANALYSIS – STATE ENVIRONMENTAL POLICY ACT (SEPA)

WSDOT's 2006 Draft Environmental Impact Statement (EIS) analyzed proposed corridor construction from the I-5 interchange in Seattle to just west of I-405 in Bellevue. The 2010

Supplemental Draft EIS evaluated the effects of a No Build Alternative and three 6-lane design options for the SR 520 corridor from I-5 to Medina. A Preferred Alternative, similar to Option A, was identified in April 2011 following consideration of comments on the SDEIS.

The June 2011 Final EIS and Final Section 4(f) and 6(f) Evaluations analyzed a No Build Alternative along with a Preferred Alternative and the three SDEIS design options for the I-5 to Medina corridor. The Preferred Alternative and the design options would replace vulnerable structures, add continuous HOV lanes, and include landscaped lids over SR 520 to reconnect neighborhoods that are now separated by the highway.

DPD's SEPA review of the SR 520 Seattle-side projects is limited to application of substantive authority and mitigation, as found in Seattle's Environmental Policies and Procedures ([SMC 25.05.660](#)). This is because WSDOT, as lead agency, has already completed the threshold determination process, which resulted in a Determination of Significance, and publication of the subsequent Environmental Impact Statement (EIS).

The substantive authority role allows the City to consider mitigation for impacts that were identified in the EIS for the SR 520 Replacement projects using the 'policies, plans, rules, or regulations' designated in the city's SEPA ordinance (SMC 25.05).

The SEPA Overview Policy (SMC 25.05.665) establishes the relationship among codes, policies, and environmental review. Specific policies for specific elements of the environment, certain neighborhood plans, and other policies explicitly referenced may serve as the basis for exercising substantive SEPA authority. The Overview Policy states in part:

"[W]here City regulations have been adopted to address an environmental impact; it shall be presumed that such regulations are adequate to achieve sufficient mitigation" (subject to some limitations).

Under certain limitations/circumstances (SMC 25.05.665 D 1-7) additional mitigation can be considered. The impacts identified in WSDOT's environmental documents and the City's SEPA policies are provided below.

1.5.1 Short-Term and Temporary Impacts

A number of temporary or construction-related impacts are expected from the anticipated 8-year construction period for this project, which are discussed in detail in the Final EIS (Chapter 6) and relevant Appendices or Addendums.

Several adopted City codes and/or ordinances provide mitigation for some of the identified impacts. Specifically these are: Stormwater, Grading and Drainage Control Code (grading, site excavation and soil erosion); Street Use Ordinance (watering streets to suppress dust, removal of debris, and obstruction of the pedestrian right-of-way); the Building Code (construction measures in general); and the Noise Ordinance (construction noise). In addition federal and State regulations and permitting authority are effective to control short-term impacts on water quality. Compliance with these applicable codes and ordinances will reduce or eliminate most of the short-term impacts to the environment. Some of these impacts are further discussed below.

1.5.1.1 General Construction Impacts

1.5.1.1.1 Short Term or Temporary Impacts

Seattle's SEPA policy regarding construction impacts recognizes that the construction process creates temporary impacts on the site and the surrounding area. The proposal is identified as having significant adverse impacts and mitigation measures have been planned in order to address the usual and direct impacts of noise, vibration, truck traffic, and air quality to name a few. There are also specific environmental policies for most of these types of impacts that may occur in the short-term and/or the long-term. Those impacts and the related SEPA policy discussion are detailed in the following paragraphs. Construction-related impacts not specifically addressed by a related SEPA policy (such as recreation or vibration) can be addressed under the authority of the Construction Impacts policy. The Community Construction Management Plan (CCMP) is the tool identified to address construction-related impacts and is included below as the proposed mitigation for these impacts.

Recreation. As described in the Project Description, construction of the West Approach Bridge will affect the Arboretum Waterfront Trail. The 0.5-mile trail meanders on a series of floating piers and structures through the marshland that connects Marsh and Foster islands to the main features of the Washington Park Arboretum. Raised observation platforms provide views of the various wetlands around the islands and of Union Bay and Husky Stadium. The western trailhead is located in East Montlake Park and connects to the Ship Canal Waterside Trail and on to the UW.

Construction would require periodic closures of the Arboretum Waterfront Trail at the access point in East Montlake Park. There would be temporary closures of the trail anticipated during construction where it crosses beneath SR 520 on Foster Island, primarily during construction of the work bridges. Construction would temporarily disrupt connectivity between the ends of the trail because a trail detour on Foster Island could not be provided during construction of the work bridges.

Each closure of the trail would be for less than 6 months and access to the trail would continue to be available from either East Montlake Park or the Washington Park Arboretum at all times. The trail segment between East Montlake Park and the northern portion of Foster Island could be accessed from the East Montlake Park trailhead. Access to this trailhead would be maintained throughout the construction period.

Construction would be coordinated to avoid simultaneous closures at the two locations of the trail to maintain access to the trail from at least one direction. The existing trail length, width, and alignment will remain the same following the proposed bridge construction.

The project construction footprint, including staging areas, has been kept to the minimum area needed, which would help avoid negative effects to any property, including recreation resources. In addition, the following measures have been or would be implemented to avoid or minimize recreation effects during construction.

- BMPs, including those already developed and used as a matter of policy by WSDOT, would be implemented to protect recreation resources from construction-related effects such as dust, vibration, noise, light and glare, and accidental damage from construction equipment. *See the Construction Techniques and Activities and Noise Discipline Reports (WSDOT 2009d and WSDOT 2009h) for more specific avoidance and minimization possibilities.*
- At East Montlake Park, some parking would remain available during most of the construction period to provide access to the boat launch area.
- Detours would be provided for trails and bicycle routes to temporarily route traffic around construction sites to minimize trail closures. Trails would be kept open as often as safely possible and simultaneous closures of alternate trails and paths would be avoided.
- Detour routes and traffic control measures would be implemented to provide access to UW recreational activities. Construction closures of roads would be timed to minimize effects on large events.
- Construction activities, including barge traffic and moorage, would be timed to avoid recreational boating events the week before and week after opening day of boating season.
- WSDOT, the City of Seattle, UW, and other appropriate regulatory agencies and stakeholders will evaluate the potential for determining the best methods for protecting specimen trees and important vegetation in the Arboretum.

The scope of the construction activities in area, intensity, and time will result in continual displacement or degradation of recreational pursuits in the area surrounding the project. Use and enjoyment of the nearby parks, natural areas, and trails will significantly affect large numbers of people in the vicinity for the 5.5-6 year construction period. The Construction Impacts Policy provides authority to mitigate adverse impacts of the construction process, subject to the Overview Policy. There is no City code or regulation that mitigates the recreational impacts caused by the construction of this project; therefore, the Overview policy provides that mitigation is permissible. Additional recreational amenities shall be required in the project vicinity to offer improved and/or additional opportunities as mitigation for the construction-related impacts of the proposal. More specific detail is provided in the conditions of approval at the end of this report, which identifies specific improvements at the Waterfront Trail from the current MOHAI parking lot to the western edge of Foster Island.

Greenhouse Gas Impacts: Construction activities including construction worker commutes, truck trips, the operation of construction equipment and machinery, and the manufacture of the construction materials themselves result in increases in carbon dioxide and other greenhouse gas emissions that adversely impact air quality and contribute to climate change and global warming. The analyses described above in Chapter 6 of the Final EIS and in the Air Quality Discipline Report Addendum and Errata address project-related impacts due to greenhouse gas emissions. Mitigation measures are discussed in Chapter 6 of the Final EIS to reduce fuel usage. Because GHG emissions are related to fuel consumption, any steps taken to minimize fuel use would reduce GHG emissions as well, and mitigate for these impacts.

1.5.1.1.2 General Proposed Mitigation

As requested by the Department of Archaeological and Historic Preservation, and outlined in the

Section 106 Programmatic Agreement, WSDOT and the construction contractor will develop a community construction management plan (CCMP) for each funded phase of project construction. The final CCMP will be developed and implemented prior to construction. The development of a CCMP is also identified as a commitment in the Memorandum of Understanding (MOU) between the WSDOT and the City of Seattle. The MOU was signed by the Mayor and City Council in October 2011.

A CCMP is a set of tools and commitments to help minimize the effects of construction on the public by providing timely and responsive information, as well as implementing standard specifications and best practices. A CCMP is in development for the floating bridge and landings portion of the corridor, which has received funding for construction. A CCMP will be developed with public input for each future construction phase in Seattle that receives funding, including natural resources mitigation sites. Key topics that will be addressed in the CCMP will include:

- Noise
- Vibration
- Air quality and fugitive dust
- Visual quality: aesthetics, glare, lighting
- Traffic and transportation (haul routes, traffic, detours, street parking, damage resulting
 - from heavy trucks and hauling, access, including emergency service access
- Utilities and services
- Vegetation management and erosion control
- In-water work (construction barges, work bridges, pontoon moorage, pontoon towing)

For each of the topics listed above, the CCMP will address the following questions:

- 1) What can the public expect?
- 2) What are the applicable commitments from the Section 106 Programmatic Agreement?
- 3) What regulations must WSDOT and the contractor comply with?
- 4) What else are WSDOT and the contractor doing to avoid, minimize, and mitigate for construction effects on local communities and historic properties?
 - a. BMPs and WSDOT standard specifications.
 - b. Additional agreements, such as environmental commitments made through other regulatory and permitting processes.
 - c. Additional tools that will be used to avoid, minimize, and mitigate construction effects on local communities and historic properties.
- 5) Specific communication tools to address this concern: How can the public get more information or talk to someone about concerns?

Additional processes that will implement the goals of the Community Construction Management Plan are the Neighborhood Traffic Management Plan (where applicable), and the Tree and Vegetation Management and Protection Plan. These are described in more detail below, and will have a separate final product. The final work product will be a Community Construction Management Plan, and this document will be submitted to the City.

1.5.1.2 Air Quality

1.5.1.2.1 Short Term or Temporary Impacts

Construction impacts for the project are discussed in Chapter 6 of the Final EIS (2011) and Attachments, including the Air Quality Discipline Report Addendum and Errata. Information provided in the Final EIS includes the results of a quantitative analysis prepared for the peak construction year for the West Approach (Table 6.8-1).

Air quality effects from construction of the SR 520 Replacement Project would occur primarily as a result of emissions from heavy-duty construction equipment (such as bulldozers, backhoes, and cranes), diesel-fueled mobile sources (such as trucks, brooms, and sweepers), diesel- and gasoline-fueled generators, and on- and offsite project-related vehicles (such as service trucks and pickups). Dust emissions would also occur and would be associated with demolition, land clearing, ground excavation, cut-and-fill operations, and roadway and interchange construction.

1.5.1.2.2 Proposed Mitigation: Air Quality

Chapter 6 of the Final EIS included description and discussion of mitigation measures to address the potential impacts identified in these analyses, including implementation of WSDOT's Memorandum of Understanding with Puget Sound Clean Air Agency (PSCAA) to comply with PSCAA regulations that require dust control during construction and to prevent deposition of mud on paved streets. The CCMP will also provide mitigation for short term or temporary impacts to air quality. With these measures in place, no additional mitigation pursuant to Seattle's SEPA policy on Air Quality or Construction Impacts is warranted.

1.5.1.3 Surface Water Quality

1.5.1.3.1 Short Term or Temporary Impacts

Construction impacts for the project are discussed in Chapter 6 of the Final EIS (2011) and Attachments, including the Water Resources Discipline Report Addendum and Errata and the Hazardous Materials Discipline Report Addendum and Errata. Temporary construction-related effects on water quality and mitigation for these effects are addressed in more detail in each of the two Discipline Reports

1.5.1.3.2 Proposed Mitigation: Water Quality

Construction effects on surface water would be avoided, minimized, and mitigated, and the amount of required treatment would be minimized and mitigated by the development, implementation, and ongoing updating of certain management plans, listed and summarized in Chapter 6 of the Final EIS. Construction of the project would require the development and implementation of temporary erosion and sediment control (TESC) and spill prevention, control, and countermeasures (SPCC) plans (WSDOT 2008a). A TESC plan would detail the risk of erosion in different parts of the study area and would specify best management practices (BMPs) to be installed prior to construction activities and periodic maintenance and inspection procedures during construction. It would include environmental standards based on state regulations, such as turbidity and total suspended solids (TSS) levels in stormwater discharged from construction staging and work areas.

A SPCC plan would also be prepared to prevent, control, and identify countermeasures for potential spills of hazardous materials during construction, as required by WSDOT Standard Specification 1-07.15(1) (WSDOT 2008d). Additional information on the requirements of SPCC plans is provided in the 2009 Hazardous Materials Discipline Report (Attachment 7 to the Final EIS).

Construction of the project would require compliance with approved TESC and SPCC plans. The project would also require a concrete containment and disposal plan (CCDP). The CCDP would outline how concrete would be managed, contained, and disposed, and what pH levels would be mitigated to ensure that pH changes due to concrete construction and demolition activities do not harm aquatic species.

Containment of pollutants during in-water construction is key to maintaining water quality. In addition to the above BMPs, WSDOT would implement the following procedures as appropriate for construction or demolition.

- Floating sediment curtain - This barrier is designed to control the settling of suspended solids (silt) in water by providing a controlled area of containment. This turbidity is usually created by disrupting natural conditions through construction or dredging in the marine environment. The containment of settle-able solids is desirable to reduce the impact area.
- Underwater containment system/temporary cofferdam – This system would be implemented to prevent sediment, concrete, and steel debris from mixing with surface waters. Examples could include a temporary cofferdam, an oversized steel casing, or another type of underwater containment system developed by the contractor. This application would allow demolition work to be completed on and around an underwater structure and isolate the work zone. The system would also allow work to be completed at or below the mudline as determined by removal requirements by the state. Construction water and slurry within the containment system could be removed, treated, and pumped to an approved discharge location upon completion of the demolition.
- Construction water treatment systems - These systems consist of temporary settling storage tanks, filtration systems, transfer pumps, and an outlet. The temporary settling storage tank provides residence time for the large solids to settle out. The filtration system is provided to remove additional suspended solids below an acceptable size (typically 25 microns). The pumps provide the pressure needed to move the water through the filter and then to an acceptable discharge location. Once the solid contaminants are filtered out, the clean effluent is then suitable for discharge to a municipal storm drain or an acceptable discharge location. These systems can be located on a work bridge or a barge.

Additional information on in-water construction activities, effects from these activities, and associated BMPs is provided in Section 6.11, Ecosystems, of the Final EIS.

Seattle's SEPA Water Quality policy anticipates that local, state and federal regulations address potential impacts from construction site runoff. In addition, Seattle's Environmental Critical Areas Ordinance and Shoreline Master Program provide regulatory authority for mitigating water quality impacts on wetland and shoreline habitats. See discussion above in Shoreline analysis section regarding implementation of the Construction Stormwater Pollution Prevention Plan and the ECP.

The CCMP will also provide mitigation for short term or temporary impacts to Surface Water Quality. With these measures in place, no additional mitigation pursuant to Seattle's SEPA policy on Surface Water Quality is warranted.

1.5.1.4 Drainage and Earth

1.5.1.4.1 Short Term or Temporary Impacts

The construction-related effects from this project on earth and groundwater are addressed in Chapter 6 of the Final EIS and in the Geology and Soils Discipline Report Addendum and Errata.

1.5.1.4.2 Proposed Mitigation: Drainage and Earth

The construction-related effects from this project on earth and groundwater and mitigation measures to address and minimize these effects are addressed in Chapter 6 of the Final EIS and in the Geology and Soils Discipline Report Addendum and Errata. Any additional information required to verify conformance with applicable ordinances and codes (The Stormwater Code and Director's Rule 16-2009) will be required prior to issuance of any required building permits or demolition permits. See discussion above in Shoreline analysis section regarding implementation of the Construction Stormwater Pollution Prevention Plan and the ECP.

A TESC plan will be required to adequately and systematically identify and minimize project risk. The purpose of the TESC plan is to clearly establish when and where specific best management practices (BMPs) will be implemented to prevent erosion and the transport of sediment from a site during construction. The TESC plan sheets will show the BMP locations and other features such as topography and sensitive area locations for multiple project stages.

Potential BMPs are as follows:

- Maintaining vegetative growth and providing adequate surface water runoff systems
- Using quarry spalls and, possibly, truck washes at construction vehicle exits from the construction site
- Regularly sweeping and washing adjacent roadways
- Constructing silt fences downslope of all exposed soil
- Using quarry spall lined temporary ditches, with periodic straw bales or other sediment catchment dams
- Providing temporary covers over soil stockpiles and exposed soil
- Using temporary erosion-control blankets and mulching to minimize erosion prior to vegetation establishment

- Constructing temporary sedimentation ponds for removal of settle-able solids prior to discharge
- Limiting the area exposed to runoff at any given time
- Frequently watering exposed surface soils to minimize visible dust

Where construction dewatering could result in settlement that might damage adjacent facilities, mitigation could include the following:

- Re-injecting the pumped groundwater between the dewatering wells and the affected facility
- Using construction methods that do not require dewatering

The CCMP will also provide mitigation for short term or temporary impacts to Drainage and Earth. With these measures in place, no additional mitigation pursuant to Seattle's SEPA policy on Drainage and Earth is warranted.

1.5.1.5 Traffic and Parking

1.5.1.5.1 Short Term or Temporary Impacts

The construction-related effects related to traffic and parking are addressed in Chapter 6 of the Final EIS and in the Final Transportation Discipline Report attached to the Final EIS. The analysis includes effects on local streets, the regional freeway system, truck transportation, transit, and bicycle and pedestrian travel.

Construction of the project, including demolition of structures and use of some areas for contractor staging, would require adjustments to the existing lanes and intersections on roadways. Construction equipment and activities would occupy a portion of the transportation right-of-way and construction truck traffic would be present on the roadways. These could affect the capacity of the roadway and pose distractions to drivers. During off-peak traffic periods, some travelers would encounter lane closures. Some local street delays can be expected during reconstruction of the Montlake Boulevard East bridge over SR 520, but during most of the construction period, congestion is expected to be similar to existing conditions due to temporary roadway improvements.

The most substantial construction effects would be related to closure of the Lake Washington Boulevard ramps to and from SR 520. When the ramps are closed, more traffic would travel through the Montlake/SR 520 interchange, resulting in some changes in local street traffic operations. There is limited transportation right-of-way available in the Montlake interchange area for construction activities to take place, and existing transportation conditions are congested. WSDOT would make improvements along Montlake Boulevard during construction to accommodate the temporarily increased activity and traffic.

When nearby routes are closed, bicyclists and pedestrians would experience increased traffic on the sidewalks and crossings along Montlake Boulevard. Bicyclists and pedestrians would also be exposed to increased vehicle traffic on the roadway when the Lake Washington Boulevard ramps are closed. Construction of the Montlake lid and interchange would affect Montlake Boulevard

near SR 520 for about 4 years. Construction activities could restrict bicycle and pedestrian access to one side of Montlake Boulevard over SR 520 for short periods of time. Major realignments of Montlake Boulevard would be needed during construction. The pedestrian crossings would be realigned along the section of Montlake Boulevard over SR 520. Safe access meeting the Americans with Disabilities Act requirements will be provided throughout construction.

The temporary roadway capacity improvements during construction would allow traffic conditions to remain similar to existing conditions throughout most of the construction period. However, increased traffic from Lake Washington Boulevard, in combination with the presence of construction activities along Montlake Boulevard, is expected to increase delay at the Montlake interchange during three periods of construction. Throughout construction, there would be intermittent short-term lane closures along ramps, local streets, and the highway. These closures would be limited to nights and weekends when traffic volumes are lowest. Lane closures are not expected to substantially affect traffic operations during off-peak travel times. However, travelers can expect intermittent delays and, during isolated construction activities, some travelers would need to use alternate routes to reach their destinations. WSDOT would notify the public of all times when travel through the project area could be disrupted.

The most substantial changes in traffic volumes would occur when the Lake Washington Boulevard ramps are closed beginning in year 3. Before the north side of the west approach bridge can be constructed, the westbound off-ramp to Lake Washington Boulevard must be closed and removed to make room for new construction. Later, the eastbound on-ramp would be closed to allow the south side of the west approach bridge to be constructed. When the ramps are closed, traffic that currently uses them would transition to using the Montlake interchange, which would be the permanent location for access to and from SR 520 in the Montlake vicinity. Drivers who currently use the Lake Washington Boulevard ramps would reach the Montlake interchange via Lake Washington Boulevard or 24th Avenue East (Exhibit 6.1-1 in the Final EIS).

WSDOT evaluated the local street traffic conditions that would be likely during construction. Traffic operations would vary during the construction timeline at some locations. The results of the traffic operations analysis for affected intersections are shown in Table 6.1-2 of the Final EIS. The results in Table 6.1-2 of the Final EIS show that most intersections would function similarly to existing conditions, and better in some cases because the temporary intersection improvements would be included. Delay would increase at three locations: Montlake Boulevard East/SR 520 westbound ramps (from LOS B to C during years 3 and 4), Montlake Boulevard East/Lake Washington Boulevard/ Eastbound SR 520 ramps (from LOS E to F during the AM peak hour in year 6) and Montlake Boulevard East/East Shelby Street (from LOS B to C during the morning peak in the last year of construction). The increased delay at these three locations would not happen at the same time.

1.5.1.5.2 Proposed Mitigation: Traffic and Parking

WSDOT has proposed a number of mitigation measures designed to minimize impacts to traffic and parking during the construction phase of the West Approach. These measures include increasing roadway capacity, relocating transit stops, construction timing and coordination with jurisdictions and neighborhoods, development of and implementation of a Transportation

Management Plan (TMP), and a more neighborhood specific Neighborhood Transportation Management Plan (NTMP). The proposed measures are summarized below.

Roadway Capacity Improvements: WSDOT would make several capacity improvements to the intersections on Montlake Boulevard before closing the Lake Washington Boulevard ramps. The improvements would accommodate the expected increases in traffic volumes and minimize substantial delays that otherwise would occur on Montlake Boulevard at SR 520. These improvements would help offset the effects of the Lake Washington Boulevard ramp closure. The proposed changes in the Montlake area include the following:

- Add capacity on the westbound off-ramp at Montlake by providing two dedicated turn lanes. In addition, a signal would be added to the intersection of the Montlake Boulevard/SR 520 westbound ramp.
- Add capacity on Montlake Boulevard across SR 520 to provide two northbound through lanes, three southbound through lanes, and southbound right-turn and left-turn lanes.
- Include dual northbound left-turn lanes from East Montlake Place East to the SR 520 eastbound on-ramp.
- Add an additional general-purpose lane on the SR 520 eastbound onramp at Montlake Boulevard
- Add a westbound lane on Lake Washington Boulevard at the intersection with Montlake Boulevard.
- Relocate the transit stops on Montlake Boulevard at SR 520.

In addition to the Lake Washington Boulevard ramps, the 24th Avenue East bridge across SR 520 north of Lake Washington Boulevard would be closed to all traffic for approximately 1 year while the bridge is demolished and reconstructed. The 24th Avenue East bridge provides access to the Museum of History and Industry (MOHAI), East Montlake Park, and McCurdy Park. The MOHAI facility would be moved prior to demolition of the bridge. A potential temporary alternative access to parking at East Montlake Park could be provided. When the new bridge is opened in conjunction with the new westbound off-ramp, it will alleviate some traffic congestion on Montlake Boulevard East. Drivers exiting from westbound SR 520 will be able to turn left on 24th Avenue East to access Lake Washington Boulevard or East Montlake Place East and travel south, without going through the Montlake interchange.

Construction Timing and Coordination: WSDOT will perform the following:

- Restrict lane closures to nights and weekends, when traffic volumes are lowest (to the maximum extent practicable).
- Engage in regular, ongoing coordination with all affected jurisdictions to identify potential conflicts with other projects or public events, and plan for isolated construction activities that require special transportation considerations.
- Implement a continuous public information program to inform travelers, nearby residents, and businesses about transportation conditions, upcoming changes, and travel options during construction.
- Work to manage the flow of traffic and minimize traffic demand during construction using a combination of methods, all of which will be incorporated into the construction

traffic management plan (TMP). The traffic management plan will be coordinated with the public outreach communications plan.

Other mitigation options include developing and implementing work zone management strategies. These strategies may include using intelligent transportation systems, traveler information, real-time work zone monitoring, traffic incident management, and enforcement techniques. More details on strategies feasible for this project are described in Chapter 6 of the Final EIS and are summarized below.

- Traveler Information Systems - Traveler information systems are designed to inform the general public of construction activities and transportation system operating conditions. Examples include, but are not limited to, dynamic and variable message signs, highway advisory radio, e-mail alerts, and project Web sites that provide real-time information on traffic conditions around construction and outlying areas.
- Incident Management Systems - Incident management systems are planned and coordinated strategies to detect, respond to, and remove traffic incidents to restore traffic capacity as safely and quickly as possible. The process of restoring traffic capacity involves law enforcement, fire and rescue, emergency medical services, transportation, public safety communications, emergency management, towing and recovery services, hazardous materials contractors, and traffic information media.
- Active Traffic Management - Active traffic management technology controls traffic based on the prevailing conditions. Potential tools include: overhead sign bridges to display variable speed limit and real-time traffic information; variable speed limit to reduce speed limits approaching areas of congestion, collisions, or special events; queue warning to warn commuters of downstream queues (or backups) and direct through-traffic to alternate lanes; and travel time signs to display estimated travel time and other condition reports..
- Construction Worker Shuttle Service - This service shuttles workers from outlying temporary or permanent parking facilities into the work zones, thereby reducing the number of vehicles arriving at and leaving the work zone areas and the parking demand in the work zones.

Several strategies would be used to help mitigate construction activities during special events, including graduations, city functions, and sporting events at the UW:

- Tailor special event traffic management plans to consider project construction congestion, including transit priority and special event shuttle services.
- Increase shuttle services so access is provided both to and from events.
- Provide event discounts with the use of transit shuttles.
- Implement additional event date/time-specific parking restrictions.
- Add police officer traffic control as needed.
- Provide a Web site and other outreach regarding construction and travel options to special events that is accessible and understandable.
- Restrict construction activities during major events.

Transportation Management Plan (TMP): WSDOT will prepare a construction TMP, in coordination with other stakeholders, to ensure that construction effects on local streets, property owners, and businesses are minimized. The TMP will include, as a minimum, the following measures:

- Details on required street and lane closures (duration and timing)
- Proposed detours and signing plans (for vehicles, pedestrians, freight, and bicycles)
- Compliance with Americans with Disabilities Act accessibility requirements.
- Measures to minimize effects on transit operations and access to/from transit facilities (in coordination with transit service providers)
- Traffic enforcement measures, including deployment of police officers
- Coordination with emergency service providers
- Measures to minimize traffic and parking effects from construction employees
- Measures to minimize effects of truck traffic for equipment and material delivery
- Measures to minimize disruption of access to businesses and properties
- Measures to minimize conflicts between construction activities and traffic during events

As part of the construction TMP, WSDOT will evaluate a set of temporary Transportation Demand Management (TDM) and transit enhancements to provide additional travel options to the public during construction. WSDOT will focus on supporting existing programs rather than implementing an entirely new program during the construction period.

TDM includes a variety of strategies that provide alternatives to driving in single-occupant vehicles, particularly during peak traffic periods. TDM programs include financial incentives, outreach to increase public awareness about travel options, services that help people choose a new travel option, and new travel options such as vanpools to encourage a shift away from travel in single occupant vehicles. The goal of TDM is to increase the efficiency of travel on roadways by moving more people in fewer vehicles. Transit is typically a primary consideration for any comprehensive TDM program because it is a reliable mode of moving many people in fewer vehicles. The people-moving capacity of transit is necessary for many TDM strategies to be successful. WSDOT is coordinating with King County Metro and Sound Transit to develop construction management plans that maintain the reliability of transit as an alternative to driving. WSDOT will continue this coordination throughout construction.

The TDM strategy and goals for the project will be developed during the final planning phase of the project. WSDOT will develop demand management goals based on the estimated construction effects on traffic for the project. The goals will be designed to complement the other construction traffic management techniques that will be implemented. WSDOT will evaluate areas of greatest need and benefit to maximize traveler options in those areas.

Neighborhood Traffic Management Plan (NTMP): To ensure that neighborhood specific traffic issues are adequately addressed, WSDOT and the Seattle Department of Transportation (SDOT) will collaborate to develop a NTMP. The final NTMP will be developed and implemented prior to construction. The purpose of the NTMP will be to catalog and develop solutions for community traffic concerns in the corridor and surrounding neighborhoods, and to

identify potential funding sources for projects consistent with the recommendations and findings of the ESSB 6392 Final Workgroup Technical Report. The NTMP will define traffic management measures to proactively reduce project construction effects and develop long term traffic management strategies that work in management practices.

A timeline and schedule for the development of the NTMP will be completed by the end of 2011. Public outreach efforts, including the formation of a community advisory group, will begin in 2012.

As conditioned, the proposal's construction- related impacts can be adequately mitigated, pursuant to the authority in SEPA's Traffic and Transportation and Construction Impacts policies.

1.5.1.6 Noise

1.5.1.6.1 Short Term or Temporary Impacts

Construction-related impacts related to noise are addressed in Chapter 6 of the Final EIS and in the Noise Discipline Report Addendum and Errata attached to the Final EIS. Noise would include the use of typical construction equipment, impact construction equipment (e.g., pavement breakers, pile-drivers, jackhammers, and sandblasting tools), and non-impact noise-producing equipment such as concrete pumps, cranes, excavators, haul trucks, loaders, and tractor trailers.

The City of Seattle has developed a set of construction-specific allowable noise-level limits that would apply to construction within the Seattle city limits. Unlike the Washington Administrative Code, the Seattle Municipal Code does not exempt daytime construction activities from regulation. Table 6.7-2 in Chapter 6 of the Final EIS includes the maximum permissible sound levels depending on the district designations of the sound source and receiving properties (rural, residential, commercial, or industrial). Most project construction could be performed within the indicated noise limits shown in Tables 6.7-2 if the work was performed during normal daytime hours. If construction occurred at night, WSDOT would be required to meet the noise level requirements for night-time construction or obtain a noise variance from the governing jurisdiction.

1.5.1.6.2 Proposed Mitigation: Noise

The project will need to meet the requirements of the City of Seattle noise ordinance and the conditions of any variance that may be obtained. Several construction noise and vibration abatement methods—including operational methods, equipment choice, or acoustical treatments—could be implemented to limit the effects of construction. The methods used might vary in the project corridor, depending on the type of construction. The following list describes some of the more common construction noise and vibration abatement methods that could be used.

- Operation of construction equipment could be limited wherever possible within 500 feet of any occupied dwelling unit during nighttime hours or on Sundays or legal holidays, when noise and vibration would have the most severe effect.

- Mufflers would be required on all engine-powered equipment, and all equipment would be required to comply with EPA equipment noise standards.
- WSDOT could limit activities that produce the highest noise levels (such as hauling, loading spoils, jackhammering, and using other demolition equipment) during daytime hours.
- Minimization of the noise associated with pile-driving could include limiting the time the activity could take place.
- Other less effective methods of reducing noise from pile-driving are coating the piles, using pile pads, or using piston mufflers.

A construction log could be kept for each of the construction staging areas. The log could contain general construction information such as the time an activity took place, type of equipment used, and any other information that might help identify the equipment and activities causing any noise exceedances or generating complaints about noise. Tracking this type of information would help the contractor manage noise effects by pinpointing problematic activities or equipment, and facilitating quick resolution of any issues or exceedances.

A complaint hotline could also be established to investigate noise complaints and compare them to the construction logs. A construction monitoring and compliance program could help to ensure that all equipment met state, local, and manufacturer's specifications for noise emissions. Equipment not meeting the standards could be removed from service until proper repairs were made, and the equipment re-tested for compliance. This procedure could be used for all haul trucks, loaders, excavators, and other equipment that would be used extensively at the construction sites and that would contribute to potential noise effects.

The following is a list of potential noise mitigation measures that could be included in the construction contract specifications:

- Minimize noise by regular inspection and replacement of defective mufflers and parts that do not meet the manufacturer's specifications.
- Install temporary or portable acoustic barriers around stationary construction noise sources and along the sides of the temporary bridge structures, where feasible and practical.
- Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
- Shut off idling equipment.
- Reschedule construction operations to avoid periods of noise annoyance identified in complaints.
- Notify nearby residents and institutions whenever extremely noisy work would be occurring.
- Restrict the use of back-up beepers during evening and nighttime hours.

Additional noise mitigation measures may be implemented as more details on the actual construction processes are developed and as part of any noise variance that may be required.

Any requests from WSDOT for construction noise variances for this project will generate specific mitigation requirements from the Seattle Department of Planning and Development that will be specified in any issued noise variance. As conditioned, the proposal's construction-related noise impacts can be adequately mitigated, pursuant to the authority in SEPA's Noise and Construction Impacts policies.

1.5.1.7 Plants and Animals

1.5.1.7.1 Short Term or Temporary Impacts

Section 6.11 of Chapter 6 of the Final EIS describes the construction impacts on ecosystems (including wetlands, fish, fish and aquatic habitat, wildlife, and federally and state listed species). Construction activities in the waters of Lake Washington could have a variety of effects on fish and other aquatic species. These activities include noise and vibration from pile-driving; temporary shading from work and detour bridges; and turbidity resulting from anchor placement and column removal in the lake. Wildlife and habitat may be affected by temporary clearing and shading of vegetation. The Ecosystems Discipline Report Addendum and Errata (Attachment 7 to the Final EIS) provides a detailed technical discussion on potential effects.

In-water construction would occur from construction bridges where water depths would allow construction staging from barges. Construction work bridges would remain in place for up to 59 months. Construction from barges in the west approach area would occur in a juvenile salmonid migration corridor and could temporarily affect their behavior.

Pile-driving in the waters south of Marsh Island would likely affect only fish in this relatively confined area. The dense aquatic vegetation in this area likely limits the use of this habitat by fish, particularly salmonids. Pile-driving in waters east of Foster Island would affect fish behavior up to 72 feet in most areas but up to 446 feet near the west high rise.

The average noise levels near wildlife habitat along SR 520 (within 100 feet) would rise during general construction. Noise levels would decrease with distance from the construction area. In most cases, noise levels at distances of 750 to 1,000 feet from areas of active construction would be similar to existing noise levels. Pile-driving in the Portage Bay and the Washington Park Arboretum areas is anticipated to raise noise levels. See Section 6.7 of the Final EIS and the Noise Discipline Report Addendum and Errata (Attachment 7), for more details on construction noise. Noise from construction could cause wildlife to avoid this area during construction. In addition, pile-driving could increase noise in an area that waterfowl and bald eagles use for foraging during the day. This could displace bald eagles and waterfowl during foraging.

In addition to the pile-driving activities, in-water construction would also include installing temporary cofferdams to isolate some work areas from the aquatic environment and minimize the overall effects. Cofferdams are generally constructed with steel sheet piling vibrated into the mud with a vibratory hammer—typically to approximately 20 feet below the mud line. The area within the cofferdam is then de-watered to effectively isolate additional construction activities from the aquatic environment. While the cofferdams are intended to minimize biological and water quality effects of construction, the dewatering process can result in stranded fish within the

enclosure. To minimize such effects, WSDOT fish handling and exclusion protocols (WSDOT 2009g) and any additional measures specified in the environmental permits for the project would be implemented.

Construction activities would also include replacing upland and in-water permanent bridge support structures (piers). The types of piers used would vary based on geological conditions, groundwater depth, water depth (if the structure is placed in water), and weight of the superstructure and the load it will carry. Substructure foundation types expected for this project include spread footings (upland only), drilled shafts, concrete columns, and water or mudline shaft caps. Regardless of the type of substructure, construction BMPs would be implemented to minimize the potential adverse effects of installing these structures on fish or aquatic habitat.

Other potential short-term construction effects could include spills of hazardous materials (e.g., oil and gasoline), chemical contaminants, or other pollutants. To reduce potential spills of petroleum and hydraulic fluids in sensitive areas, maintenance or fueling of construction equipment, vehicles, or vessels would not be allowed within 200 feet of the area waterways without the implementation of appropriate spill prevention and control measures. Materials that modify pH, including cement, cement grindings, and cement saw cuttings, would be managed so that they will not contaminate surface water runoff or otherwise enter the area waterways.

Temporary Impacts to Wetlands: Temporary impacts from the West Approach Bridge Project will result from construction of the temporary work bridges, construction access, and associated clearing. These temporary impacts will occur in nine wetlands (LWN-1, LWN-2, LWN-3, and LWN-4; LWS-2, LWS-3, LWS-4, LWS-4A and LWS-5), and will include temporary filling and clearing. Temporary fill impacts within wetlands will result from the installation of work bridge piling. Temporary filling will total 0.17 acre (Table 15, (West Approach Area ECAR)), and will result from temporary pilings to support the temporary work bridges.

Temporary clearing impacts within forested and scrub-shrub wetlands would result from the clearing of vegetation to allow the construction of work bridges, or generally to provide access for construction equipment. Temporary clearing impacts will affect 1.55 acres of wetland (Table 15, West Approach Area ECAR). This includes 1.14 acres in Category II wetlands, 0.39 acre of Category III wetland, and 0.02 acre of Category IV wetland (Table 15, West Approach Area ECAR). Work bridges will also temporarily shade 3.83 acres of emergent and aquatic bed wetland classes.

Temporary wetland buffer impacts will occur where temporary work bridges, access, and staging areas are proposed, but was conservatively assumed to encompass the entire limits of construction. Expected impacts include temporary soil disturbance and clearing. Temporary clearing impacts within wetland buffers will result where vegetation is cleared to allow the construction of work bridges, or generally to provide access for construction equipment. Temporary clearing will affect 1.6 acres of wetland buffer (Table 15, West Approach Area ECAR).

1.5.1.7.2 Proposed Mitigation: Plants and Animals

Areas affected by construction of the SR 520, I-5 to Medina project would require mitigation. Through the NRTWG, WSDOT engaged regulatory agencies and the Muckleshoot Indian Tribe in developing appropriate mitigation for project construction effects. All in-water construction activities, like pile-driving, would occur during project-specific work windows approved by the regulatory agencies. WSDOT has coordinated with the regulatory agencies and the Muckleshoot Indian Tribe to establish site- and project-specific in-water work windows to minimize the potential for project activities to affect juvenile or adult salmonids.

A spill prevention, control, and countermeasures plan and a concrete containment and disposal plan will be developed before beginning construction (see discussion above in Shoreline Substantial Development Permit analysis).

Standard over-water and in-water construction and demolition BMPs would be implemented in accordance with environmental regulatory permit requirements and WSDOT specifications. Specific in-water construction time periods would also be established through the project permitting process to minimize potential effects of pile-driving and other in-water construction activities on salmonid species.

During column and bridge construction, BMPs would be used to avoid unintentional effects on habitat and water quality. Cofferdams, shaft castings, or other appropriate measures would be used to isolate work areas from open-water areas, particularly for concrete pouring activities, and work bridges would be used to minimize the use of barges in shallow water areas. Bibs would be used to contain falling debris during construction of the new bridge decking and demolition of the existing decking. A temporary erosion and sediment control plan, a spill prevention, control, and countermeasures plan, and a stormwater pollution prevention plan would be developed and implemented.

Appropriate BMPs and noise attenuation methods will be developed in coordination with the regulatory agencies, the Muckleshoot Indian Tribe, and environmental permitting processes, and implemented to minimize potential effects of pile-driving activities.

Other BMPs could include:

- Avoiding or minimizing any spillage of concrete or other construction material into the water
- Avoiding or minimizing direct lighting effects from entering Lake Washington from construction activities by adjusting the angle of the lights and/or using bulbs in a non-white light spectrum
- Operating construction equipment from work bridges and barges where possible to minimize ground disturbance when working in or near sensitive areas
- Restoring cleared areas to preconstruction grades and replanting the areas with appropriate native herbaceous and woody species after construction

Wetland Mitigation: Wetland mitigation ratios were derived using standard ratios in the joint guidance (Ecology, USACE, and EPA 2006a), plus modifiers agreed to by the agencies with jurisdiction over wetlands and the Muckleshoot Indian Tribe. Mitigation specific to construction

effects on wetlands (Table 6.11-9) would be mitigated at one or more mitigation sites listed in Section 5.11. The Conceptual Wetland Mitigation Plan (Attachment 9 to this Final EIS) presents wetland mitigation in more detail.

Aquatic Mitigation: The Conceptual Aquatic Mitigation Plan (Attachment 9 to this Final EIS) describes mitigation for aquatic resources effects. Temporary project effects that would likely require compensatory mitigation include partial shading and fill from the construction work bridges and falsework, which could increase predator use. These temporary effects would have the largest effect on juvenile Chinook as they migrate toward the Ship Canal in the shallow nearshore, where these work bridges are proposed to occur. Mitigation for these effects would occur at one or more of the mitigation sites identified in Section 5.11.

Additional mitigation measures include restoration of the areas affected by construction activities areas as follows:

- Replanting temporarily affected wetlands and riparian habitat with native vegetation after construction
- Planting native shade-tolerant vegetation in areas under the completed elevated roadway and ramps, where feasible and practical
- Mitigating wildlife habitat areas in accordance with the City of Seattle regulations and Washington Park Arboretum policies.

The Surface Water Discipline Report and Hazardous Materials Discipline Report also contain mitigation measures that will minimize and mitigate impacts to natural resources, primarily with respect to Best Management Practices that will be employed for protection of water quality and aquatic habitat during construction activities. See discussion above regarding implementation of Construction Stormwater Pollution Prevention Plan.

Tree and Vegetation Management and Protection Plan: As part of the Community Construction Management Plan process, and as agreed to in the signed MOA between the State and the City of Seattle, WSDOT will develop a Tree and Vegetation Management and Protection Plan (TVMPP). The final TVMPP will be developed and implemented prior to construction. The plan will be developed in collaboration with the City, neighborhoods, and organized groups, such as the ABGC, and will address areas of the corridor where specific trees and or vegetation are to be removed or disturbed as part of the construction or resulting project improvements.

The plan will identify areas of mature tree removal, protection, potential relocation, and restoration of project areas including areas temporarily dedicated to construction, including staging and lay down areas. The goal of the plan is to minimize affects to trees where feasible. WSDOT will ensure that contractors adhere to the plan, notify neighborhoods prior to impacts, and that tree and vegetation removal would only occur at the approximate time required for construction.

1.5.2 Long-Term Impacts

Several long-term or use-related impacts are anticipated as a result of approval of this proposal including impacts on recreation, visual quality, air quality, surface water quality, and plants and animals (ecosystems), and beneficial impacts to traffic and transportation.

Several adopted City codes and/or ordinances provide mitigation for some of the identified impacts. The Stormwater Code requires on-site collection of stormwater, with provisions for controlled tightline release to an approved outlet. The Environmental Critical Areas Ordinance provides protection for plants and animals and their habitat. Generally, compliance with these applicable codes and ordinances is adequate to achieve sufficient mitigation of most long-term impacts. However, due to the nature of the proposal, some of the potential impacts warrant further analysis.

1.5.2.1 Public Views

1.5.2.1.1 Long Term Impacts

Changes in visual quality are described in Chapter 5 of the Final EIS and in the Visual Quality Discipline Report Addendum and Errata included in Attachment 7 to the Final EIS.

The City's SEPA Public View Protection Policy specifically addresses impacts on public views of significant natural and human-made features from identified public locations. These include public parks and viewpoints, scenic routes, and view corridors. For the project, the Washington Park Arboretum and Madison Park Beach are identified. East Lake Washington Blvd. and the existing SR520 are scenic routes in the vicinity of the project. No adverse impacts on public views from these locations are anticipated to occur as a result of the proposal. SEPA does not provide authority to mitigate impacts from private properties.

The SR 520 Project would result in wider bridges and roadways that would be shifted from the existing alignment in some areas and raised or lowered. The views most affected would be in the vicinity of the Portage Bay Bridge, the Montlake area, and the wetlands in Washington Park Arboretum.

The SR 520 Project would change McCurdy Park, the Museum of History and Industry (MOHAI) building and parking lot, and a portion of East Montlake Park into roadway and a stormwater treatment wetland. The result of this would be high levels of change to the visual character of the landscape from the viewpoint of motorists and adjacent residents. However, the stormwater treatment wetland would be a positive change because replacing the large asphalt parking lot with a natural-appearing wetland would be more consistent with the appearance of the shoreline and wetlands of Union Bay and the Arboretum. Landscape treatment and a new, smaller parking lot to serve park users would restore East Montlake Park's functions and establish visual unity with the surrounding area.

The West Approach bridge through Union Bay and east to Lake Washington would be much wider than the existing structures, which could change boaters' and park users' experience in this area. The West Approach would be shifted northward approximately 190 feet farther than the existing structure. Views would change for north Madison Park residences; views of the

Laurelhurst hills could possibly be blocked, although more open water in Union Bay would be revealed.

The primary effect from the project would be the noticeably greater width and height of the west approach as compared to the existing bridge. The profile of the west approach would be raised from its existing height and would provide a constant grade, increasing from 12 feet above the water surface at the Montlake shoreline up to 48 feet at the west transition span of the floating bridge. The increased height would make the bridge slightly more visible from distant viewpoints, such as Husky Stadium or Laurelhurst, and slightly more visible to north Madison Park residences and other distant viewpoints. For motorists and transit riders, the west approach would continue to provide panoramic or scenic views to Lake Washington and the Cascades when traveling east, and to the Arboretum when traveling west.

The new Arboretum Waterfront Trail under the bridge would provide a more comfortable and pleasant experience than the narrow underpass that exists today because of the increased height and openness afforded by the widely spaced columns. However, the greater height and width of the structures would make them a more visually dominant element in this area, especially in the areas directly north and south of the highway. Near the northern shoreline of Foster Island, the effects on visual quality would be less.

In the near to medium term, overall visual quality ratings for the project in the areas close to the new highway would be lower than those for existing conditions. This is due to the combination of larger structures and the removal of vegetation during construction. The ratings in this area for vividness, intactness, and unity would be diminished until trees and shrubs grew taller and filled in. In 10 to 20 years, after the vegetation had matured, vividness, intactness, and unity would be similar to or higher than their current high ratings. This would also be true for middle and distant views because structures would be seen from the side, minimizing the visual effect of the greater width.

The project would include the removal of the R.H. Thomson Expressway ramps, opening views of park landscapes and water bodies and providing a more natural-appearing character than now exists.

1.5.2.1.2 Proposed Mitigation: Public Views

The following mitigation measures would be performed by WSDOT:

- Establish and follow design guidelines, developed in conjunction with the standards of both state and local jurisdictions, that include visual standards for the corridor. The guidelines and standards would present ways to ensure visual unity and consistency throughout the SR 520 corridor. These include defining the appearance and style of built elements, such as lighting, railings, sign bridges, structures, and walls. The guidelines would also address the use of public art in the corridor, including the process for selection and location of any art in cooperation with municipal and county jurisdictions and art organizations.

- Revegetate areas where natural habitat, vegetation, or neighborhood tree screens were removed during construction. These areas would be under Portage Bay Bridge in Roanoke Park; along the roadway in the Eastside study area; and in the Montlake and West Approach Landscape Units, in particular at the NOAA Northwest Fisheries Science Center, East Montlake Park, and the Arboretum. The *Roadside Classification Plan* (WSDOT 2007) requires that areas within the right-of-way and construction easements be revegetated to align with the goals for the designated roadside classification. Mature vegetation would generally be used to revegetate parks and re-establish tree screens in these areas in consultation with local jurisdictions and agencies. Revegetation plans would also provide for adequate irrigation and monitoring until trees and plants are well established.
- Follow the guidelines of the *Roadside Classification Plan* to blend the project into the adjacent land uses, while creating a unified experience for the roadway user. Refer also to the Seattle Department of Transportation's Streetscape Design Guidelines in the *Seattle Right-of-Way Improvement Manual* (City of Seattle 2009).
- Establish landscaping that would be compatible with the character of the existing vegetation, especially along Lake Washington Boulevard, Montlake Boulevard, and through the Washington Park Arboretum, East Montlake Park, Ship Canal Waterside Trail, Arboretum Waterfront Trail, Montlake Playfield, and Interlaken Park/Delmar Drive East.
- Establish guidelines to ensure the design of structures are aesthetically compatible with the surrounding land and waterscapes in scale and architectural style, and unified in appearance.
- Redesign the remaining portion of East Montlake Park in cooperation with the Seattle Parks and Recreation Department. Grass and trees in the south Shelby-Hamlin area would be replaced with trees and screening vegetation to soften the appearance of the new lid wall. Mature and/or larger size trees, shrubs, vines, and groundcovers for replacement or enhancement would be selected as appropriate in consultation with Seattle Parks and Recreation. Plantings would be irrigated and monitored until established.
- Design the Canal Reserve (the area between the new regional bicycle/pedestrian path and adjacent residences in the Shelby-Hamlin neighborhood) to be compatible with the location and consistent with corridor visual standards for unity. The treatment would be a fence or vegetation or a combination of both, depending on available space.
- After construction, restore Foster Island, including shoreline and buffer restoration and roadside planting. Development of revegetation plans will require coordination with the Seattle Parks and Recreation Department, the University of Washington, the Muckleshoot Indian Tribe, and the Arboretum Foundation, as identified in the Arboretum Mitigation Plan (Attachment 9 to the Final EIS). Plans will require mature and/or larger trees, shrubs, plants, and adequate irrigation and monitoring until vegetation is established.

Revegetation for the areas where the Lake Washington Boulevard and R.H. Thomson Expressway ramps are to be removed will also be coordinated with these entities.

WSDOT will collaborate with the Seattle Design Commission (SDC), City of Seattle, UW Architectural Commission, Arboretum and Botanical Garden Committee (ABGC), Seattle Bicycle Advisory Board, Seattle Pedestrian Advisory Board, and Seattle neighborhoods to expand and refine an aesthetic vision, establish goals, and suggest design treatments for urban design and streetscapes within the project area. This collaboration will include identifying the existing urban amenities that will remain after construction of SR 520, and co-developing a community engagement process for refining the goals and principles. It will ultimately result in a set of urban design guidelines to inform and direct final design and construction of SR 520.

The following options were developed as part of the ESSB 6392: Design Refinements and Transit Connections Workgroup (see Attachment 16 to the Final EIS):

- Connect users to locations both on the Montlake Boulevard lid (e.g., transit stops, bicycle lockers, comfort stations, viewpoints, plazas) and to the existing network of local and regional open spaces and paths/trails, including the Arboretum Waterfront Trail, the Lake Washington Loop Trail, East Montlake Park, UW open space, UW main campus, and Sound Transit's University Link UW station.
- Replanting the Canal Reserve site.
- Connecting or augmenting Olmsted boulevard aesthetic and Arboretum collections/aesthetic through planting plans that respect Arboretum Master Plan, Olmsted precedents and City of Seattle standards."

Based on consultation with the Arboretum and Botanical Garden Committee (ABGC) and the Muckleshoot Indian Tribe, along with WSDOT's technical evaluation, WSDOT has also identified a suite of projects including aesthetic and landscape enhancements and other design features that could occur within future WSDOT right-of-way areas. WSDOT will continue to work with applicable and interested tribes and the ABGC to fully define and implement appropriate aesthetic treatments for the new crossing of Foster Island. The Arboretum Mitigation Plan is included in Attachment 9 to the Final EIS. Chapter 9 also discusses ABGC coordination efforts and this mitigation plan.

The FEIS evaluated potential effects on the visual quality from many locations, including those identified in this section as having potential protection under Seattle's SEPA Public View Protection policy. No significant adverse impacts on views from the above-identified public viewpoints, parks, or scenic routes will result from the proposed action; no additional mitigation is warranted

1.5.2.2 Air Quality

1.5.2.2.1 Long Term Impacts

Operational effects of the project on air quality is addressed in Chapter 5 of the Final EIS and, in particular, the Air Quality Discipline Report Addendum and Errata included in Attachment 7 to the Final EIS. Seattle's SEPA Air Quality Policy provides that air quality impacts associated with auto emissions are primarily mitigated by federal emissions controls, the state inspection/maintenance program, and public transportation improvements. The Puget Sound Clean Air Agency (PSCAA) is responsible for monitoring air quality in the Seattle area and oversees compliance with applicable standards.

1.5.2.2.2 Proposed Mitigation: Air Quality

No additional mitigation pursuant to SEPA is warranted.

1.5.2.3 Surface Water Quality

1.5.2.3.1 Long Term Impacts

Operational effects of the project to surface water quality are analyzed and discussed in Chapter 5 of the Final EIS and in the Water Resources Discipline Report included in Attachment 7 to the Final EIS.

1.5.2.3.2 Proposed Mitigation: Surface Water Quality

The Washington State Department of Ecology is the primary agency that regulates stormwater in the state. Ecology requires stormwater from all new pollutant-generating impervious surfaces, such as highways, to be treated before it is discharged. Ecology and WSDOT have agreed that runoff from highway projects will be treated using best management practices (BMPs) from the *Highway Runoff Manual (HRM)* (WSDOT 2008a) before discharged into Lake Washington.

The SR 520 Project would increase pollutant generating impervious surface (PGIS) areas because of the wider roadways and bridges. The project includes different designs to convey the stormwater to treatment facilities, and the facilities were located to meet those conveyance needs. The treatment facilities will be sized to meet the HRM requirements

In the area of Union Bay, stormwater facilities would be a constructed stormwater treatment wetland and a biofiltration swale. A new discharge location south of the existing outfall would be added. Stormwater along the West Approach would be conveyed to a stormwater treatment wetland and then discharged to Union Bay.

The SR 520 Project would include the construction of a stormwater treatment system that, overall, would reduce pollutant loading to surface waters in the project area (see Table 5.10-3 in the Final EIS). Stormwater discharges from these areas would meet water quality criteria according to the HRM's evaluation methods. Stormwater discharges to Union Bay would receive enhanced treatment that would exceed the minimum level of treatment required by the HRM.

Seattle's SEPA Water Quality policy anticipates that local, state and federal regulations address potential impacts from construction site runoff. In addition, Seattle's Environmental Critical

Areas Ordinance and Shoreline Master Program provide regulatory authority for mitigating water quality impacts on wetland and shoreline habitats. See discussion above in Shoreline section regarding implementation of the Construction Stormwater Pollution Prevention Plan and the ECP.

No additional mitigation for operation-related impacts to surface water quality pursuant to SEPA is warranted.

1.5.2.4 Noise

1.5.2.4.1 Long Term Impacts

The Noise Discipline Report Addendum and Errata presents additional noise analysis completed for the Preferred Alternative (WSDOT 2011i). As a result of that analysis and as described in Chapter 2 of the Final EIS, a number of design features were added to the Preferred Alternative design that may reduce noise effects during operation such as:

- Use of 4-foot tall concrete traffic barriers coated with noise absorptive materials along the mainline SR 520 from I-5 to Lake Washington.
- Encapsulating bridge expansion joints and applying noise absorptive materials to lid portals.

1.5.2.4.2 Proposed Mitigation: Noise

No additional mitigation pursuant to the SEPA policy on noise is warranted.

1.5.2.5 Plants and Animals

1.5.2.5.1 Long Term Impacts

Operational effects of the project on natural resources (i.e., fish, wildlife and vegetation) are analyzed and discussed in more detail in Chapter 5 of Final EIS and in the Ecosystems Discipline Report Addendum and Errata included in Attachment 7 to the Final EIS.

Impacts would occur to wetlands, fish, wildlife and habitat. Some wetland areas will be filled or vegetation altered by shading, both of which reduce the wetland's capacity to store stormwater, filter pollutants, protect stream banks and lakeshores, and provide wildlife habitat. These alterations can also reduce the uniqueness of wetlands (by decreasing vegetation diversity) or decrease their educational or scientific value by limiting access, reducing wetland size, or changing the wetland character. Loss of wetland area reduces the wetland's potential to remove pollutants from stormwater. Filling parts of project area wetlands may reduce their capacity to provide flood storage, although this capacity is very limited in the project area. Some of the shoreline habitat functions provided by wetlands would be lost.

The Project would create larger areas of reduced fisheries habitat function compared to existing conditions, primarily due to increased shading by the larger overwater structures. The Project would also eliminate some aquatic habitat due to placement of columns and other in-water structures. Compared to the existing structures, the proposed overwater structures are about twice as wide.

Nearshore habitats would also experience shading effects. Shading in these areas could affect fish and alter fish movement and distribution by reducing the growth of aquatic vegetation in shallower areas (WSDOT 2009c). This would alter the habitat conditions and potential fish use of these areas, including juvenile salmonids and their predators. Juvenile salmonids also tend to avoid or hesitate entering shaded areas such as under docks and bridges. In the West Approach area, the shadow of the bridge may delay, but not prohibit, outmigration of juvenile salmonids (Celedonia et al. 2008). Such delays could result in an increase in predation.

The increased height and reduced shade of the Project structures, the reduced number of in-water structures compared to existing conditions, and the increased spacing between in-water structures would reduce overall habitat complexity. Because predator species use shade and structures to conceal themselves from their prey, these changes in the West Approach bridge configuration would likely decrease the predation rates along the migratory corridor.

All anadromous salmonids (fish that migrate to the ocean) in the Lake Washington watershed travel under or adjacent to the Portage Bay and Evergreen Point bridges. The project has the potential to negatively affect individual fish in the Lake Washington watershed—including the ESA-listed populations of Chinook salmon, steelhead, and bull trout—by altering a portion of their rearing and migration habitat. However, the project is not expected to adversely affect overall salmonid populations or evolutionarily significant units in the watershed, as reported in the 2010 Biological Assessment (included in Attachment 18 to the Final EIS).

The Project would affect wildlife by permanently removing vegetation and wildlife habitat, increasing shading, and decreasing noise disturbance from increased highway operations. The new roadway would displace some high quality wildlife habitat, principally wetlands and forested uplands, in the corridor and thereby reduce cover, nesting, and foraging habitat for some wildlife species. However, the area is already highly fragmented by the existing roadway and surrounding development.

Vegetation would be removed from areas where new roadway would be on the ground, and some vegetation would be removed for columns to support the roadway (Table 5.11-6 in the Final EIS). Removing vegetation would reduce cover for urban-adapted species such as black-capped chickadees, American robins, and eastern gray squirrels. Habitat quality is generally low for the Urban Matrix cover type. In the Open Water and in the Parks and Other Protected Areas cover types (specifically the Washington Park Arboretum), existing wildlife habitat quality is relatively high, and upland and wetland vegetation removal would represent a loss of wildlife cover and forage. Waterfowl such as Canada geese and mallards would likely continue to use the area

The proposed project would remove a large beaver lodge in Union Bay adjacent to Foster Island, which would displace the animals, but is not expected to reduce the viability of the beaver population in this area.

Operation of the Project would have minimal effects on bald eagles and peregrine falcons, since those that forage in the area are accustomed to the presence of traffic. The Project would require the removal of a narrow swath of wetland and shoreline vegetation in the West Approach area

where these birds forage for prey. The effect on prey availability would be minimal, however, because this affected foraging area is small relative to the total foraging area for these species.

Vegetation would be shaded where the roadway (bridges and approaches) would be elevated, including through the Washington Park Arboretum. The elevated roadway would also shade open water, but shading in open-water areas would likely have only a minor effect on wildlife.

There would be no effects on any wildlife species protected under the ESA or state lists from the operation of the project, because none occur in these portions of the project. Operation of any of the options would have minimal effects on bald eagles, which are protected under the Bald and Golden Eagle Protection Act as described above.

1.5.2.5.2 Proposed Mitigation: Plants and Animals

Chapter 5 and the Discipline Report contain mitigation measures that will be employed to minimize and mitigate for potential impacts to these resources. The Water Resources Discipline Report and the Hazardous Materials Discipline Report, both included in Attachment 7 to the Final EIS, also contain mitigation measures that will minimize and mitigate impacts to natural resources during operation of the proposed project.

Consistent with regulatory guidance, WSDOT has designed the project to avoid and minimize the effects of the Project. Specific aspects of the design that have been incorporated to avoid and minimize effects on ecosystems are as follows:

- As discussed in Section 5.10 of the Final EIS, stormwater treatment facilities would be constructed to treat roadway runoff before it is discharged to downstream aquatic habitat. This would improve water quality in the study area.
- The Project would include fewer bridge columns, spaced farther apart than the existing columns, to reduce impacts on wetlands, wetland buffers, and open waters. Fewer columns also help reduce potential habitat for salmonid predators.
- The existing Lake Washington Boulevard ramps and R.H. Thomson Expressway ramps would be removed, which would expose previously shaded areas. These ramps are mainly over upland or open water areas, as opposed to vegetated wetlands, but their removal would expose approximately 0.6 acre of previously shaded aquatic bed wetlands. In addition, 18 support columns (less than 0.1 acre of fill) would be removed.
- Although the elevated structures would be wider than existing structures, in many areas the bridges would be higher than they are today, allowing more light under the elevated roadway sections. This would improve aquatic habitat conditions in some areas and offset and minimize potential negative effects in other areas.

Wetlands. Compensatory mitigation would be provided by WSDOT for effects to wetlands. The information presented in this section is from the conceptual wetland and aquatic habitat mitigation plans, which are included as Attachment 9 to the Final EIS. As described in Chapter 1 of the Final EIS, WSDOT engaged the regulatory agencies with jurisdiction over wetlands and

aquatic habitat as well as the Muckleshoot Indian Tribe in the Natural Resources Technical Working Group (NRTWG) to assist in the development of appropriate mitigation for project effects. The compensatory mitigation for the project is a comprehensive package designed to follow Ecology and U.S. Army Corps of Engineers' joint guidance, as found in *Wetland Mitigation in Washington State: Part 1: Agency Policies and Guidance* (Ecology et al. 2006a) as well as local "no net loss" policies. The project was also designed to meet the mitigation sequencing, compensation, reporting, and monitoring requirements typically used in WSDOT projects.

For the West Approach study area, permanent impacts to wetlands and wetland buffers include 0.16 acre of permanent fill within wetlands, 1.52 acres of permanent fill within wetland buffers, and permanent shading to 0.72 acre of wetland buffer (Table 15, West Approach Area ECAR). WSDOT has calculated the mitigation need for the West Approach study area to be 0.43 acre of wetland re-establishment and/or wetland creation (Table 19, West Approach Area ECAR). Additionally, WSDOT proposes to compensate for lost wetland functions due to 4.29 acres of permanent wetland shading by enhancing an equivalent area (minimum) of wetland creation (Table 19, West Approach Area ECAR). Since permanent wetland and wetland buffer impacts cannot be mitigated for on-site, WSDOT has identified the Union Bay Natural Area (UBNA) Mitigation Site and the WSDOT Peninsula Mitigation Site to satisfy compensatory mitigation requirements for wetland impacts associated with the West Approach project. A total of 2.29 acres of wetland creation and 9.39 acres of enhancement are proposed at the UBNA site and 2.59 acres of wetland re-establishment is proposed at the WSDOT peninsula site (Table 19 and Figure 8, West Approach Area ECAR). The proposed mitigation areas will yield a surplus of mitigation credit relative to the mitigation need (West Approach Area ECAR, page 55).

Fish and Aquatic Resources. In cooperation with resource agencies and the Muckleshoot Indian Tribe through the NRTWG, WSDOT has developed conceptual plans for habitat improvements, restoration, or construction to mitigate the effects of bridge construction, the increased width of shoreline and open-water crossings, and direct physical impacts from construction activities.

The Conceptual Aquatic Habitat Mitigation Plan is included in Attachment 9 to the Final EIS. Because of the different types of potential project effects on fish and aquatic resources, and because these potential effects would occur in several distinct habitat types (for example, open water versus shoreline) WSDOT will conduct specific mitigation activities at more than one location within the Water Resource Inventory Area (WRIA) 8 watershed.. The primary mitigation goal is to compensate for the project's physical and biological effects while enhancing the production and survival of fish species to the maximum extent practicable. More details about mitigation actions proposed to address permanent impacts to fish and aquatic resources can be found in Section 1.1.3.3 above and in the West Approach Environmental Critical Areas Technical Memorandum (Nov.2011).

Wildlife and Habitat. WSDOT has coordinated with the City of Seattle, the University of Washington, Seattle Parks and Recreation, and the Arboretum Foundation in developing a planting strategy to offset the project's effects on regulated shoreline habitat under the City's shoreline management regulations. Many shoreline areas of Union Bay and the Montlake

Playfield are not fully vegetated and/or contain invasive species. Some of these areas could be replanted with native trees and shrubs and the invasive species removed. Specific measures to address wildlife impacts, in addition to mitigation measures discussed above regarding permanent impacts to wetland and shoreline and aquatic habitat, will be implemented per consultation by WSDOT with Washington Department of Fish and Wildlife.

In addition to the proposed habitat mitigation measures described above, DPD has imposed a condition on this permit (see Section 1.6) for additional habitat mitigation along the Waterfront Trail from the current MOHAI parking lot to the western edge of Foster Island to be funded by WSDOT in order to address permanent local habitat impacts of this construction that are not fully mitigated by the off-site aquatic and shoreline mitigation proposed and summarized in the West Approach ECAR. Removal of wetland and upland invasive species and native plant revegetation in this trail corridor will directly benefit wildlife that use this area. Impacts to local wildlife for this project are summarized above and in more detail in the West Approach ECAR.

1.5.2.6 Other Impacts

Several adopted Codes and Ordinances and other Agencies will appropriately mitigate the other use-related adverse impacts created by the proposal, such as the Puget Sound Clean Air Agency and the Seattle Energy Code (long-term energy consumption).

1.5.3 Conclusion - SEPA

As part of the project proposal WSDOT has included substantial mitigation for identified impacts. A summary of these mitigation measures is in the project file, including the Montlake Bridge Environmental Critical Area Technical Memorandum (ECAR, Nov. 2011), as well as in the shoreline and SEPA analysis in this decision.

In addition to the wetland and aquatic mitigation measures detailed in the ECAR and described in Section 1.1.3, WSDOT proposes the following mitigation measures as part of their proposal for this permit application:

- Community Construction Management Plan
- Neighborhood Transportation Management Plan
- Tree and Vegetation Management and Protection Plan
- Seattle Community Design Process

DPD's analysis of the application is based on the proposal together with these mitigation measures and views this mitigation as appropriate pursuant to the City's SEPA policies. If the applicant proposes substantive revisions at a future date, additional SEPA review may be required.

Because of the length and intensity of construction activities in the West Approach area due to this project and the disturbance this work will cause to local residents as well as impacts to local wildlife from habitat loss and disruption, DPD has determined further mitigation in the form of trail and habitat improvements along the Waterfront Trail from the existing MOHAI parking lot to the western edge of Foster Island is required in addition to what has been proposed by the applicant (see discussion in SEPA and Shoreline analysis above and Section 1.6 (#12) below).

WSDOT shall also cover expenses of any property damage that occurs due to vibrations from construction activities, which shall also be a component of the CCMP as summarized below.

1.5.4 Decision - SEPA

The proposal is **CONDITIONALLY GRANTED**

1.6 SHORELINE AND SEPA CONDITIONS

1. The project must be designed and built in substantial conformance to the site plan and project specifications submitted to the City of Seattle with the Application for Shoreline Substantial Development Permit, including the mitigation measures described in Sections 1.1.3 and 1.1.4 above. Additional mitigation measures for habitat impacts described in this analysis and in the following conditions are required.
2. The time limits for the permit, per SMC 23.60.074A and B will be determined prior to issuance and will be based on the time needed to complete the construction of the project, currently estimated by WSDOT to be 6 years.

Prior to Issuance of Master Use Permit

3. Updates to Financial Memorandum of Agreement

WSDOT and Seattle's Department of Planning and Development have reached a separate financial Memorandum of Agreement (MOA) to address Project fees. It will be necessary to amend this MOA in order to reimburse costs connected with staff time for future work associated with the mitigating conditions of City permits. Staff time will include activities such as reviews of plans, documents, inspections, and meetings.

4. Final Design

WSDOT or its contractor shall provide revised plan sheets, as needed, showing final design for all development approved for the West Approach Bridge project (3012587). Any changes to current plan set sheets for the West Approach Bridge shall be clearly identified on these revised plans, including any revisions that change the project's impacts on aquatic, shoreline buffer, and/or wetland habitat. Changes may be subject to a revision of the SSDP or a new SSDP may be required.

5. Environmental Critical Area Technical Memorandum

A revised Environmental Critical Area Technical Memorandum or addendum to the report shall be provided to DPD that clearly updates, as needed, all information in this report relevant to the environmental impacts and/or mitigation based on the final design for the West Approach Bridge.

6. Union Bay, WSDOT Peninsula, Seward Park, and Taylor Creek Mitigation Sites

WSDOT or its contractor shall provide DPD with final construction grading plans, landscaping plans, wetland mitigation and aquatic mitigation plans for the Union Bay Mitigation Site (project 3012592), WSDOT Peninsula Mitigation Site (3012593), Seward Park Mitigation Site (3012594), and Taylor Creek Mitigation Site (3012595). DPD will verify that these plans are substantially consistent with the wetland and shoreline habitat mitigation presented for these sites in the current West Approach Environmentally Critical Area Technical Memorandum (ECAR).

The revised plans shall also clearly show any changes from current mitigation plans and demonstrate clearly that mitigation requirements proposed under these permits have been met or exceeded by the final design plans. This information will also include final maintenance and monitoring plans for the mitigation projects. This submittal shall include all pertinent technical reports supporting development of the final plans.

The grading plans for these projects shall include all substantive elements (not necessarily all submittal requirements) needed for a grading permit under SMC 22.170.070 of the Seattle Grading Code as verified by DPD. DPD may opt to assign mutually agreed upon expert third party reviewer(s) to review technical aspects of the final mitigation plans to ensure implementation of the plans will adequately meet ECA/Shoreline mitigation requirements as provided in the ECAR. Third party reviews may include, but are not limited to, review of design elements relating to wetland and buffer vegetation planting and invasive management, hydrology and drainage design, and soils/geology.

7. Additional Plan Submittals

In addition to the information described above, WSDOT or its contractor shall prepare and provide copies to DPD of the following plans identified in the conditions below (#8 – 11), to be referenced on all permit submittals. The Community Construction Management Plan and the Tree and Vegetation Management and Protection Plan shall be maintained in both the contractor's construction office and any on-site construction offices. More information on these plans is contained or referenced in the application submittal materials for this project to DPD, including the West Approach ECAR, the FEIS (e.g., Chapter 6) and the relevant Discipline Reports for the EIS, as well as WSDOT's Highway Runoff Manual (HRM). These plans shall include all project-specific Best Management Practices that go beyond standard BMPs described in the HRM and are necessary due to the nature of this project and its location. These project-specific BMPs are summarized in the application material for this project (e.g., Sections 6.0 and 7.0 of the Shoreline Application project description and supplemental information, dated November 29, 2011) as well as the shoreline and SEPA analysis above.

8. The Community Construction Management Plan

WSDOT and the City of Seattle have entered into a Memorandum of Understanding (MOU), signed Nov. 17, 2011, to address many aspect of the construction and operation of the expanded SR520 facilities. The MOU identifies numerous WSDOT commitments for public involvement and mitigation actions. A significant component of the MOU is the Community Construction Management Plan (CCMP). The CCMP will be developed with public input for each future

construction phase of the 520 Bridge Replacement Project in Seattle that receives funding, including the West Approach section (Master Use Permit No. 3012587) and the four mitigation sites to be located at the Union Bay Natural Area (Master Use Permit No. 3012592), WSDOT Peninsula (Master Use Permit No. 3012593, Seward Park (Master Use Permit No. 3012594), and Taylor Creek (Master Use Permit No. 3012593).

Key topics that will be addressed in the CCMP for 3012587, 3012592, 3012593, 3012594, and 3012595 will include:

- a. Noise
- b. Vibration. [Note: This section of the CCMP shall include details regarding how WSDOT will conduct outreach to potentially affected property owners in the project area and provide pre-construction surveys of residences or other privately-owned structures to establish baseline for potential impacts due to vibration during construction. This section shall include details for how claims of damage clearly caused by construction will be resolved.]
- c. Air quality and fugitive dust
- d. Visual quality: aesthetics, glare, lighting
- e. Traffic and transportation (haul routes, traffic, detours, street parking, damage resulting from heavy trucks and hauling, access, including emergency service access)
- f. Utilities and services
- g. Vegetation management and erosion control
- h. In-water work (construction barges, work bridges, pontoon moorage, pontoon towing, and boat navigation)

Final work products that will be developed and implemented as part of the CCMP process will include the CCMP, Neighborhood Traffic Management Plan, Tree and Vegetation Management and Protection Plan, and Seattle Community Design Process.

9. Neighborhood Traffic Management Plan

WSDOT and the Seattle Department of Transportation will collaborate to develop the Neighborhood Traffic Management Plan. The purpose of the plan will be to catalog and develop solutions for community traffic concerns in the corridor and surrounding neighborhoods and to identify potential funding sources for projects consistent with the recommendations and findings of the ESSB 6392 Final Workgroup Technical Report.

10. Tree and Vegetation Management and Protection Plan

As part of the Community Construction Management Plan process, and as agreed to in the signed MOU between the State and the City of Seattle, WSDOT will develop a Tree and Vegetation Management and Protection Plan (TVMPP). The final TVMPP will be developed and implemented prior to construction. The plan will be developed in collaboration with the City, neighborhoods, and organized groups, such as the ABGC, and will address areas of the corridor where specific trees and or vegetation are to be removed or disturbed as part of the construction or resulting project improvements.

The plan will identify areas of mature tree removal, protection, potential relocation, and restoration of project areas including areas temporarily dedicated to construction, including staging and lay down areas. The goal of the plan is to minimize effects on trees where feasible. WSDOT will ensure that contractors adhere to the plan, notify neighborhoods prior to impacts, and that tree and vegetation removal would only occur at the approximate time required for construction. A DPD planner or designated representative shall be a participant in this process.

11. Seattle Community Design Process

The Seattle Community Design Process (SCDP) fulfills a recommendation made by the 2010 ESSB 6392 Workgroup to “expand and refine an aesthetic vision, establish goals, and suggest design treatments for urban design and streetscapes within the project area.

” This collaboration would include identifying the existing urban amenities that will remain after construction of SR 520, and co-developing a community engagement process for refining the goals and principles. It would ultimately result in a set of urban design guidelines that would inform and direct final design and construction of SR 520.” (Urban Design and Streetscape Technical White Paper)

At the conclusion of the SCDP, WSDOT will develop a progress report that will include the results of the feedback collected from an Expert Review Panel, an agency and community design group and the broader public. This feedback will guide WSDOT as they continue to refine the urban and sustainable design elements of the preferred alternative.

12. Improvements at Waterfront Trail

In collaboration with Seattle Parks, WSDOT shall fund the design, permitting and construction costs for repair and maintenance of portions of the Waterfront Trail from the existing MOHAI parking lot to the western edge of Foster Island that require repair or maintenance due to existing condition. This work would include upland and wetland invasive species removal and native plant revegetation within this trail corridor, as needed. WSDOT and the City of Seattle shall develop a Memorandum of Agreement to ensure that WSDOT covers the project costs in a timely and reasonable manner given the objectives summarized above. If this work proves to be infeasible, contingency project(s) of equivalent value shall be selected and funded that improve shoreline habitat and/or shoreline recreational opportunities in the 520 project area.

WSDOT will work with Seattle Parks to identify the needed repairs to the existing trail facility and produce a cost estimate for the project. WSDOT will also work with Seattle Parks to identify the implementing party for the project. The implementing party will be responsible for developing an implementation schedule as well as permitting for the project. The implementing party will also be responsible for developing a contingency plan if the project is determined to be infeasible through the public process and collaboration with relevant permitting authorities. The contingency plan will identify alternative, unfunded project(s) in the 520 project corridor that have similar or equivalent value to the affected community as the top priority projects.

The project shall coordinate with and not conflict with other commitments made by WSDOT for the avoidance, minimization and mitigation of 520 project impacts, such as the CCMP, Seattle Community Design Process and the Arboretum Mitigation Plan, which are separate but related efforts.

Prior to the Start of Construction

13. Provision of Additional Plans

The following plans shall also be fully prepared, as applicable, and provided to DPD prior to the start of any construction activities for this project.

a. Stormwater Pollution Prevention Plan (SWPPP)

The SWPPP for this project shall be completed and provided to DPD prior to any construction activities on this project. This plan is intended to address water quality concerns from stormwater and other project related process water. The Temporary Erosion and Sediment Control (TESC) Plan and the Spill Prevention, Control, and Countermeasures (SPCC) Plan will implement the requirements of the SWPPP.

b. Temporary Erosion and Sediment Control Plan (TESCP)

The TESCP shall outline the design and construction specifications for BMPs to be used to identify, reduce, eliminate, or prevent sediment and erosion problems. It would include environmental standards based on state regulations, such as turbidity and total suspended solids (TSS) levels in stormwater discharged from construction staging and work areas. This Plan will address the following elements:

- 1) Marking clearing limits
- 2) Establishing construction access
- 3) Controlling flow rates
- 4) Installing sediment controls
- 5) Stabilizing soils
- 6) Protecting slopes
- 7) Protecting drain inlets
- 8) Stabilizing channels and outlets
- 9) Controlling pollutants
- 10) Controlling dewatering
- 11) Maintaining BMPs
- 12) Managing the project

c. Spill Prevention, Control and Countermeasures Plan

The Spill Prevention, Control and Countermeasures Plan shall outline requirements for spill prevention, responsible personnel, spill reporting processes and forms, site information including site plans inspection protocols, equipment, material containment measures, and spill response procedures.

d. Concrete Containment and Disposal Plan

The Concrete Containment and Disposal Plan shall outline the management, containment, and disposal of concrete and discuss BMPs that would be used to prevent the discharge of stormwater or other materials with an elevated pH. Any collected wastes with an elevated pH will be treated prior to discharge to surface or groundwater or will be discharged to a sanitary sewer or similar system in the compliance with regulatory approvals.

e. Water Quality Monitoring Plan

The contents of the Water Quality Monitoring Plan are described in the HRM and include monitoring or sampling locations, procedures, reporting and identification of the applicable water quality standards from regulations or project approvals.

f. Fugitive Dust Control Plan

The Fugitive Dust Control Plan shall outline measures to prevent generation of fugitive dust from exposed soil, construction traffic, and material stockpiles. This plan will be prepared to address air quality in compliance with a Memorandum of Agreement between WSDOT and the Puget Sound Clean Air Agency.

g. Geotechnical Report

Plans shall be submitted to DPD that clearly demonstrate, at least conceptually, that all aspects of the development including temporary structures and earthwork activities needed to construct the proposed development will be confined to the public right-of-way. Building permits may be required if temporary or permanent encroachments on or beneath adjacent private property are needed to construct the development.

14. WSDOT and/or its contractor shall obtain all required permits and approvals from other local, state and federal authorities, including King County, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington Department of Ecology, U.S. Army Corps of Engineers, Puget Sound Clean Air Agency, OSHA, and any others that apply to this project.

During Construction

15. The contractor and WSDOT shall be responsible for compliance with each of the Plans described above, including all components of the CCMP and all construction-related Best Management Practices summarized in the FEIS and associated Discipline Reports and submittal materials for the application for this project, including the Environmental Critical Area Technical Memorandum for the West Approach.
16. The contractor and WSDOT shall be responsible for compliance with the City of Seattle Noise Regulations or the modified requirements listed in any approved Noise Variances.

17. The contractor and WSDOT shall be responsible for implementing fish and wildlife protection and enhancement recommendations made by Washington Department of Fish and Wildlife to WSDOT through the HPA process and consultation with WDFW's wildlife experts.
18. WSDOT or its contractor shall make available to DPD, upon request, the results of all monitoring reports for potential construction-related impacts such as water quality monitoring, sediment quality monitoring, spill activity, fish or wildlife disturbances etc.

Within Six Months of Completion of Habitat Mitigation and Revegetation Actions Identified in Project Decision

19. Within Six Months of Completion of Habitat Mitigation and Revegetation Efforts. WSDOT or its contractor shall supply provide DPD with as-built plans showing all development, including landscape planting, completed at the aquatic and shoreline mitigation sites proposed for this project, including on-site revegetation actions.

For Life of the Project

20. All operational Best Management Practices identified in the 2011 FEIS for this project, associated Discipline Reports, and the West Approach ECAR shall be implemented and enforced.
21. WSDOT or its contractor shall provide DPD copies of monitoring reports associated with performance of aquatic and wetland habitat mitigation projects.

Signature: _____ (signature on file) Date: January 17, 2012
Ben Perkowski, Senior Land Use Planner
Department of Planning and Development