

1 **Design Approval/Project Development Approval Memo**

2 **SR 99 S. Holgate St. to S. King St. Viaduct Replacement Project**

3 **MP 29.89 to 30.78**

4 **XL3237 PIN 809936D**

5 June 15, 2009

6 This document “Design Approval/Project Development Approval” package is submitted for approval and  
7 supersedes the “Design Approval Package” approved for this project on December 18, 2008.

8 **Alaskan Way Viaduct and Seawall Replacement Program Overview**

9 The Alaskan Way Viaduct & Seawall Replacement Program (AWVSRP) is located in an urban area within the  
10 City of Seattle in King County. The program limits extend along SR 99 from north of the S. Spokane Street  
11 Bridge (Milepost [MP] 29.29) to Mercer Street vicinity (MP 32.78) and underneath First Ave in downtown  
12 Seattle.

13 SR 99 is functionally classified as an Urban Principal Arterial Highway by Washington State Dept. of  
14 Transportation (WSDOT) and is currently classified as an M1 Managed Access Highway from S. Spokane St  
15 (MP 28.61) to Thomas St (MP 32.58). Speed limits are posted between 40-50mph.

16 It is also a designated National Highway System (NHS) route and a Highway of Statewide Significance, per  
17 WSDOT classification. The project corridor has a WSDOT freight tonnage designation of T-1 (more than 10  
18 million tons per year), and the City of Seattle classifies it as a Major Truck Street.

19 The AWVSRP is partially funded through a combination of state funds from the 2003 Nickel Funding Package  
20 and the 2005 Transportation Partnership Account (TPA) Package. It has also received funding from the U.S.  
21 Federal Highway Administration (FHWA) and the City of Seattle.

22 On March 14, 2007, the Project Team was directed by WSDOT to advance portions of the project that would  
23 contribute to improving safety and mobility, and have fundamental consensus among the project partners. One  
24 of the six Moving Forward: Early Safety and Mobility Projects (ESMP) is the South Holgate Street to South  
25 King Street Viaduct Replacement Project (H2K). This project has been divided into three stages and each stage  
26 will be released as a separate construction contract. Stage one involves relocating existing utilities; stage 2  
27 involves reconstructing SR 99 from S. Holgate to King St; and stage 3 involves demolishing the existing viaduct  
28 and roadside restoration.

29 In January 2009, the Governor, King County, and the City of Seattle agreed to recommend replacing the  
30 existing Viaduct through downtown Seattle with a 55' diameter single bore tunnel that will include stacked  
31 roadways consisting of two northbound lanes and shoulders above two southbound lanes and shoulders. The  
32 south portal to the tunnel will start at Royal Brougham Way S. (MP 30.32) and travel north under First Ave until  
33 reaching Mercer St (MP 32.78) where the north portal will emerge and connect to the existing SR 99 route near  
34 Ward St. (MP 33.08). At the north and south portals will be fully directional interchanges (currently in the

1 design phase) that will increase access to the city's Central Business District (CBD). Once the tunnel has been  
2 opened to traffic, and the existing Viaduct and detours are removed, the city of Seattle will construct new  
3 surface streets and urban design features on the waterfront.

4 The removal and replacement limits for bridge structures within the H2K Stage 2 Project extend from  
5 approximately S. Holgate Street (MP 29.89) to S. Dearborn Street (MP 30.66). Other required improvements  
6 for SR 99 and city surface streets extend the project construction work as far north as Lenora Street (MP 31.79  
7 vic.) and as far south as S. Spokane Street (MP 29.20). This project includes demolishing the existing viaduct  
8 and reconstructing infrastructure elements, including portions of many local streets and portions of SR 99.  
9 Near S. Holgate Street, SR 99 will transition from an at-grade roadway to a bridge structure over railroad tracks  
10 and S. Atlantic Street, returning to grade near S. Royal Brougham Way. An interim transition bridge structure,  
11 in place for 4 to 5 years, will be built to connect the bridge structure spanning S Atlantic Street to the existing  
12 Viaduct near the Railroad Way Ramps (MP 30.78) while construction for the deep bored tunnel takes place.  
13 After the tunnel is opened to traffic, this interim bridge structure and existing Viaduct will be removed.

14 Design Matrix 3, line 3-7 (*WSDOT Design Manual* Figure 325-5, January 2009) applies to this project. This  
15 roadway is being designed to P-1 design class criteria.

16 A joint NEPA/SEPA document for the AWVSRP was under development as an Environmental Impact  
17 Statement prior to March 2007.

## 18 **Existing SR 99 Roadway**

19 On SR 99 within the program corridor limits, existing Average Daily Traffic (ADT) ranges from approximately  
20 32,400 to 56,100 in the northbound direction and from 31,000 to 55,000 in the southbound direction. Ingress  
21 and egress on SR 99 from just north of S. Spokane Street (MP 29.26) to Thomas St. (MP 32.58) is currently  
22 limited to on- and off-ramps connecting to First Ave. S, Columbia Street, Seneca Street, Elliot Ave, Western  
23 Ave, and Denny Way.

24 The terrain in the S Holgate Street vicinity is mostly level. The posted speed limit is 50 mph in this segment for  
25 both the northbound and southbound roadways.

26 Within the project limits, SR 99 existing lane widths range from 9.5 to 12 feet and shoulder widths range from 0  
27 to 3 feet. Near S Holgate Street (MP 29.89 vic.), the existing lane widths are 12 feet and the shoulder widths are  
28 approximately 1 foot. The existing transition between the six-lane surface highway and the viaduct occurs near  
29 S. Holgate Street. The existing curve near S. Holgate Street is built on separate elevated structures for both  
30 northbound and southbound. The northbound roadway has a radius of 920 feet, and the southbound roadway  
31 has a radius of 1040 feet, with a superelevation rate of 6% for both roadways. The existing roadway design  
32 speed is 50mph when these existing horizontal geometrics are compared against the 6% maximum  
33 superelevation rate table (*WSDOT Design Manual* Figure 642-4c, November 2007) based on current design  
34 guidelines. The vertical curves in this area for both northbound and southbound roadways are 350 feet. The  
35 grade for both roadways in this area is 5 percent. Figure 650-11 from the WSDOT Design Manual (May 2008)  
36 indicates these existing sag curves meet 50 mph design criteria.

37 The Seattle International Gateway (SIG) Rail Yard lies immediately east of SR 99 and the Whatcom Rail Yard is  
38 immediately west of SR 99 in the vicinity of S. Holgate Street. In some areas the closest rail tracks are within 12  
39 feet of the roadway.

1 The project team is coordinating with the SR 519/I-90 to SR 99 Intermodal Access Project—I/C  
2 Improvements (SR 519 Phase 2) and the SR 99 Deep Bore Tunnel Project.

### 3 **Proposed SR 99 Roadway**

4 The H2K Stage 2 Project will reconstruct the existing SR 99 facility along the south portion of the alignment  
5 with at-grade, retained fill, and aerial roadways. The proposed SR 99 alignment begins major roadwork to the  
6 south near S. Walker Street (MP 29.89) with a six-lane, at-grade roadway which transitions to an elevated  
7 structure near S. Holgate Street. SR 99 is carried over the railroad tracks and South Atlantic Street before  
8 returning to grade in the vicinity of S. Royal Brougham Way.

9 SR 99 will be reconstructed to P-1 design class criteria. The full standard mainline roadway lane and shoulder  
10 layout consist of 10-foot shoulders and three 12-foot lanes for both the northbound and southbound roadways.  
11 The proposed northbound and southbound left and right shoulders will vary along the S. Holgate Curve in  
12 order to maximize the stopping sight distance (SSD) and accommodate existing site constraints.

13 The SR 99 Corridor Analysis established the design speed for SR 99 as 50 mph in the northbound direction and  
14 55mph in the southbound direction from the southern project limit to the vicinity of S. King Street, with an  
15 anticipated posted speed of 50 mph along this roadway segment (*SR 99 Corridor Analysis, (2009)*).

16 The design speed for this project is 50 mph from the southern project limits to the vicinity of S. Royal  
17 Brougham Way. At S. Royal Brougham Way, the design speed is reduced to 40 mph north of S. Royal  
18 Brougham Way through the transition section where SR 99 transitions from an at-grade side-by-side roadway to  
19 an interim transition structure and re-connects to the existing Viaduct just north the Railroad Way ramps. The  
20 transition structure will be in place during construction of this project, the SR 99 Deep Bore Tunnel project and  
21 its associated North and South Accesses. When the tunnel has been opened to traffic, the interim structure and  
22 existing Viaduct through downtown will be removed.

23 At the vicinity of S. Royal Brougham Way, the design speed for the transition structure was set at 50mph but  
24 several of the design elements meet only a 40 mph design speed. The Construction Corridor Analysis (approved  
25 2009) sets the posted speed for the transition section at 40mph for the duration of the construction projects  
26 until the tunnel has been completed and opened to traffic. The existing on- and off- ramps at Railroad Way  
27 Vicinity will be removed and replaced with interim ramps to maintain access to and from SR 99 during the  
28 construction period.

29 Near S Royal Brougham Way an underpass (U-Tube) will be constructed under SR 99 connecting surface streets  
30 east and west of SR 99. The configuration allows for both at-grade and grade-separated access between the Port  
31 of Seattle's Terminal 46 and BNSF's north Seattle International Gateway (SIG) rail yard.

32 The existing Whatcom rail yard lead track on the west side of SR 99 between E. Marginal Way and SR 99 will be  
33 removed. The BNSF tail track from the SIG rail yard will connect with the lead track and cross beneath the SR  
34 99 SB-1 bridge south of S. Atlantic Street, continue north along the west side of SR 99, and pass over the  
35 underpass at S. Royal Brougham Way. The tail track would continue north to the vicinity of S. King Street.

36 The project will build three bicycle/pedestrian paths within the project limits. One path is adjacent to the  
37 westbound lanes of S. Atlantic Street, extending from First Avenue S. to E. Marginal Way. The other two paths

1 are located on either side of SR 99 and extend from S. Atlantic to S. King Street. These two paths are located  
2 within landscaped corridors.

### 3 **Status of Major Design Elements**

4 The current status of the major design elements is described in the following sections.

#### 5 **Environmental**

6 The environmental documentation required for this project is an Environmental Assessment (EA), which  
7 anticipates a determination of a Finding of No Significant Impact (FONSI). All discipline reports for the EA  
8 have been finalized. The final EA was delivered on June 17, 2008 with the EA public meetings held in July 10  
9 and 15, 2008. The FONSI was completed on February 11, 2009.

#### 10 **Right of Way**

11 Existing Right of Way plans have been approved and an acquisition program is currently under way with  
12 expected completion in August 2009. Amended Right of Way Plans are under development. All necessary  
13 parcel acquisitions have either been completed or will be completed by October 8, 2009.

#### 14 **Project Design Decisions**

15 The AWVSRP employs a formal process, the Trend Program, for developing and documenting major project  
16 decisions. The Trend Program, through a Change Control Board brings changes to senior management's  
17 attention for review and adjudication. The response of the Change Control Board, with representation from  
18 WSDOT and Seattle Department of Transportation (SDOT) formalizes the decisions on project changes.

19 A trend not only evaluates scope, cost and/or schedule impact to individual projects within the AWVSRP  
20 program, but also evaluates secondary impacts to other projects as well. The scope impacts associated with  
21 project changes have identified and documented design decisions. When a trend is 'Fully Approved,' it initiates  
22 an update to baseline budgets and schedules, as well as contract task orders or task order amendments. If  
23 Capital Program Management System (CPMS) information (budget or schedule milestones) is changed by a  
24 "Fully Approved" trend, then a Project Control Request Form (PCRF) and/or a 603 Form will be initiated  
25 through appropriate channels at WSDOT Urban Corridors and Headquarters.

26 The trends (approved and unapproved) also serve as a history and record of key project decisions for the  
27 Alaskan Way Viaduct & Seawall Replacement Program. These documents are available in the project file. Fully  
28 approved trends are listed in the following table.

Trend Log Number/Rev.	Trend Title	Date
SS0005R1	Revised Scope for Option 6	September 10, 2007
SS0004R1	Add Early Utility Relocation Contract	June 13, 2008

SS0006R1	Viaduct Removal HolgatetoKing Funding Contribution to 1st & Atlantic Intersection Scope within SR519 DB Contract	August 15, 2008
SS0011	Divide Heavy Civil Contract to Create Four Phases	October 9, 2008
SS0016	U-Tube 2B Construction Option/Lightweight Fill/ Relocation of High Mast Light Pole	January 28, 2009
SS0005R1	Removal of UPRR Track 650 and Whatcom Lead	February 12, 2009
SS0019R2	Stage 2 Contract Alignment w/Bored Tunnel Implementation Plan	March 25, 2009*
SS0021	Port Side Path Change	February 12, 2009
SS0022	Stage 2 PS&E Changes	March 18, 2009*

1 \* approved in scope only; full approval to follow

2 Other project decisions involving WSDOT facilities for the H2K Project have focused on design class and  
3 roadway geometrics. These design decisions are documented in the corridor analysis documents, design  
4 parameters, design deviations, and the following documents (included as attachments in Design Decisions  
5 Section of this DAP/PDA):

6 Design decision: Use design class P-1 for permanent roadway design criteria

7 Design Decision: SR 99 Sag Vertical Curve

8 Clear Zone Determination (signed letter to SDOT)

9 Clear Zone Concurrence (signed letter from SDOT)

## 10 **Deviations**

11 Deviations have been approved by FHWA and WSDOT and have been recorded in the Design Variance  
12 Inventory System (DVIS). Copies of the approved deviation packages and the DVIS output are included in the  
13 Design Variances section of this DAP/PDA. The identified deviations for WSDOT facilities include the  
14 following: SR 99:

1 Deviations 1 & 2 Mainline – Holgate Curves Horizontal Stopping Sight Distance and Shoulder Width

2 Deviation #3 –Access Control

3 Deviation #4—Using 6% Max. Superelevation Chart

4 The interim transition structure design documentation is covered in the Construction Corridor Analysis.

## 5 **City of Seattle Design Elements**

6 City of Seattle design elements are not approved by WSDOT, and the design parameters and deviations are  
7 included in this DAP/PDA for informational purposes only. Design deviations from City of Seattle standards  
8 have been drafted for local access streets that are reconstructed within the H2K Project. The design team  
9 continues to work toward elimination or resolution of these design variances with SDOT. Final local street  
10 deviations will be prepared in conformance with the Seattle Right of Way Improvements Manual and will be  
11 approved by SDOT prior to issuance of the Street Use Permits as expected in August 27, 2009.

## 12 **Work Zone Traffic Control (WZTC) Strategy**

13 The H2K Project has developed a strategy to meet one of the major project goals for Maintenance of Traffic  
14 (MOT) during construction. This goal is to maintain at least two lanes of SR 99 traffic in each direction (NB  
15 and SB) through the corridor during the construction period. Only night and weekend closures are permitted.  
16 This Maintenance of Traffic strategy relies upon newly constructed detours. Likewise, the project team has  
17 worked closely with WSDOT and SDOT Traffic engineers to ensure that surface street traffic for freight, autos,  
18 bikes, and pedestrians will be maintained through the corridor with minimal closures during construction.

19 The detour durations will be minimized to satisfy another major project goal; the detours will adversely impact  
20 traffic operations through the corridor by reducing the speed limit to 40 mph on SR 99. The project has made a  
21 commitment to minimize adverse traffic impacts in support of the Environmental Assessment (EA) process. A  
22 Finding of Non-Significance (FONSI) is anticipated for the South Project. Any nonessential adverse impacts to  
23 traffic operations could have jeopardized the FONSI determination. In response, the project team evaluated  
24 several construction means and methods to minimize the detour durations, thereby reducing traffic-related  
25 impacts in support of the environmental process. In addition, several mitigation measures have been evaluated  
26 and adopted in support of this major project goal.

27 With the announcement in January 2009 of the Deep Bored Tunnel running under First Ave, the previously  
28 approved detour strategy was no longer viable as this strategy posed major complications with the Deep Bored  
29 Tunnel and Access points projects. A new traffic control strategy would have to be implemented in this project  
30 to facilitate maintenance of traffic for the program.

31 The proposed South Portal of the tunnel would be at the WOSCA site eliminating the possibility of a WOSCA  
32 detour with a new program milestone of opening traffic to the tunnel by 2015. With the tunnel portal  
33 connecting directly to the SB-1 bridge structure, there wasn't any need for the SB-2 permanent structure  
34 (original bridge per DAP signed on 12-18-2008). However, a roadway would need to be constructed to transfer  
35 traffic from the newly constructed SB-1 bridge to the Existing Viaduct after the part of Viaduct had been  
36 removed. After analyzing constructability, cost, scheduling, and maintenance of traffic, it was determined that  
37 an interim bridge structure would be constructed on the west side of the Viaduct that would connect the SB-1

1 bridge to the west side of the Viaduct near existing Railroad Way Ramps (MP 30.78). Interim northbound on-  
2 ramp and southbound off-ramps would also be constructed with the interim bridge structure so that the current  
3 northbound and southbound off ramps could be removed for tunnel construction. The official project  
4 direction for this alternative is documented in Trend SS0022 which was approved for scope.

5 The interim bridge structure could be built on an accelerated schedule with limited impacts to the existing SR  
6 99. It would also allow the full use of the WOSCA property for the tunnel and south portal projects so  
7 constructability issues could be limited. However, the Transition Structure would reduce SR 99 to two lanes  
8 and a speed of 40 mph in this area. Geometrics and other narrative information for the Transition Structure are  
9 documented in the Construction Corridor Analysis. This structure is expected to be in place for around 4 to 5  
10 years and will be removed with the rest of the Viaduct when the newly constructed tunnel is open to traffic.  
11 Permanent geometrics for interchanges and the South Tunnel Portal will be documented in the Design  
12 Approval Package for those projects.

13 SR 519 will also be detoured for a period of 4 to 5 years until decisions on where this route will go are decided.  
14 The proposed detour for SR 519 will have a northbound route from the intersection of S. Atlantic Street and a  
15 new constructed road called the frontage road, head north under the existing Viaduct footprint (just east of the  
16 transition structure), and connect to the intersection of the existing Alaskan Way S. and S. King Street. The  
17 southbound route will travel from the intersection of Alaskan Way S. and S. King Street, travel on a newly  
18 constructed road west of the transition structure, and connect to S. Atlantic Street near Colorado Avenues S.  
19 Both the northbound and southbound movements tie into the SR 519 – Phase 2 project. It is expected the  
20 ultimate SR 519 route and some city streets in this area will be constructed with one of the tunnel projects but  
21 the S. Holgate Street to S. King Street – Stage 2 project will set up detours to provide direction connections  
22 toand from the Seattle Ferry Terminal until the program construction is completed.

## 23 **Permits**

24 For the S. Holgate St to S. King St Viaduct Replacement Stage 2 Project, the following is a synopsis of the  
25 required permits along with permit status.

### 26 **City of Seattle Street Use Permits**

27 The City is aiming to issue permits no later than 5 days after the Round Table meeting, assuming they can  
28 confirm that all of their issues have been addressed by WSDOT design.

29 Anticipated issuance date of final permit for is 8/27/09. Draft permit conditions have been provided and are  
30 still under discussion.

### 31 **City of Seattle Shoreline Exemption**

32 A Shoreline Substantial Development Exemption was issued on 9/19/08 to cover this work. The Permit Team  
33 evaluated the current scope of work based on recent design decisions and confirmed that it is still covered by  
34 the existing Exemption.

### 35 **City of Seattle Noise Variances**

1 Temporary Noise Variances are issued per project contract, if nighttime work or loud daytime work (exceeding  
2 City standards) is anticipated. The application for 26 Temporary Noise Variances for this project was submitted  
3 to the City on 11/10/08 with Variances expected issued on 2/1/09.

#### 4 **King County Industrial Waste Discharge Permit**

5 One King County Industrial Waste Discharge approval will be required for each contract that discharges water  
6 from dewatering operations to sewer systems. Need to confirm Permit vs. Authorization for future stages as  
7 needed, and the schedule to submit applications for future Stages remains to be determined. Final permits will  
8 be issued only after the construction contractor has provided additional dewatering information for the  
9 County's approval.

10 Application for this project was submitted by 2/9/09 and a draft permit is expected to be issued on 8/7/09.

#### 11 **Ecology Construction Stormwater General NPDES Permit**

12 The Permit Team will need to review scope of future stages to confirm they can be covered under this same  
13 application and approval.

14 Coverage under the Department of Ecology's NPDES Construction Stormwater General Permit was obtained  
15 for the full project on 12/5/08 but will expire on December 16, 2010 and will require a re-issuance process  
16 around January 2010.

#### 17 **Cost Estimate**

18 The most recent Cost Estimate Validation Process (CEVP) was held in June 2009, however, the results of the  
19 process are not currently available.

20 The latest available cost estimate for the H2K Project is the Program Management Estimate with a cost index  
21 date of 09/18/2008. The total estimated project cost for H2K Project is approximately \$411,570,000 including  
22 Preliminary Engineering, Right of Way, and Construction costs. Backup data for this cost estimate may be  
23 found in Cost Estimate Section of this DAP/PDA.

#### 24 **Geotechnical**

25 Most of the existing soil in the H2K Project area is fill with a significant amount of old pilings and  
26 miscellaneous debris. The design team is assuming that all the soil is contaminated. Because of this, it is  
27 assumed that a significant portion of existing soil will be unsuitable for backfill.

28 The WSDOT Geotechnical Services Division is overseeing the geotechnical studies on this project.  
29 Geotechnical data, recommendations and studies completed for the project during 2001 through 2005 are  
30 summarized in: Executive Summary Geotechnical and Environmental Studies 2001 – 2005 (Shannon &  
31 Wilson, June 2006). Since then, an additional report has been prepared for Type, Size and Location (TS&L)  
32 studies: Geotechnical Data and Engineering Report for TS&L Studies – South Section (Shannon & Wilson, May  
33 2007). The 2007 report includes additional geotechnical data and results of analyses related to deep foundations  
34 for bridges; ground settlement and stability for retained fills (earth embankments); earthquake considerations;

1 and recommendations for strengthening the ground near the bridges. More recent geotechnical findings have  
2 been summarized in the following: Draft Letter – Geotechnical Feasibility Considerations, State Route 99 (SR  
3 99) South Project Utility Alignment, Alaskan Way Viaduct and Seawall Replacement Program (AWVSRP),  
4 Seattle, Washington, May 2008

5 It is anticipated that continuing geotechnical analyses will be summarized in a series of interim letters from the  
6 Geotechnical team. These interim letters will provide geotechnical and environmental recommendations for  
7 final design.

## 8 **Hydraulics**

9 Because this is a multiagency project, it is necessary to consider multiple policies when designing the stormwater  
10 drainage system. The City and King County own and maintain existing gravity systems (sewer and storm  
11 drainage) within the Project area. Ownership of the downstream infrastructure dictates which National  
12 Pollution Discharge Elimination System (NPDES) permit, issued by the Washington State Department of  
13 Ecology (Ecology), applies and what operational methods will be used to maintain the system.

14 Sanitary sewer and combined sewer flows including some runoff from the Project area are conveyed through  
15 the Elliott Bay Interceptor (EBI) to the West Point Wastewater Treatment Plant, which are both owned and  
16 operated by King County. Stormwater tributary to the separated stormwater drainage system is governed by  
17 Ecology and Seattle Public Utilities (SPU) policy. Runoff generated on SR 99 is subject to WSDOT policy.  
18 Ecology policy is used for water quality purposes only.

19 WSDOT and SPU stormwater policies and requirements were used. Both agencies have stormwater policies  
20 designed to meet NPDES requirements. NPDES permitting requirements for this project were initially  
21 discussed in detail in the Environmental Permits and Approvals Guide (Parametrix, April 2006). City drainage  
22 requirements are documented in Seattle Municipal Code Chapters 22.80022.808, the Stormwater, Grading, and  
23 Drainage Control Code (issued July and November 2000). Specific technical requirements resulting from the  
24 code are implemented by Director's Rules technical requirements manuals. WSDOT design standards used  
25 include the Hydraulics Manual, M2303 (WSDOT, March 2007) and the HRM, M3116 (WSDOT, May 2006).  
26 The City of Seattle is currently updating its Stormwater Grading and Drainage Code. The H2K project is vested  
27 under the current code. The design standards are based on both WSDOT and SPU practices.

28 The draft hydraulics report has been prepared and submitted for review. See the S. Holgate St. to S. King St.  
29 Viaduct Replacement Project – Draft Hydraulic Design Report: Utilities Project and 60% Design, September  
30 2008.

## 31 **Utilities**

32 Several utilities will be relocated throughout the project limits. WSDOT is currently relocating electrical  
33 distribution and transmission lines prior to the start of the H2K Project. These electrical utilities are attached to  
34 the existing AWV structure and must be removed prior to demolishing the section of the viaduct covered in this  
35 contract. This early relocation project, the Early Electrical Relocation Project (EERP), will be completed under  
36 a separate contract and will be substantially complete prior to Stage 2 construction.

37 The Stage 1 contract will relocate gas, water, sewer, electrical, storm water, and telecommunications lines. The  
38 majority of the work in the Stage 1 project is electrical line relocation, and minor work for the other utilities.

1 The Stage 1 work will overlap with major construction activities for Stage 2. Design reports for the  
2 encountered utilities (above) were finalized in May and June 2008.

3 This H2K Stage 2 contract will relocate gas, water, sewer, electrical, storm water, and minor adjustments to  
4 telecommunications lines. WSDOT has coordinated with the individual utility companies and agencies as the  
5 design has progressed. Agreements with each utility are in process and are on schedule to be finalized prior to  
6 the scheduled Ad date in October 2009.

7 **Bridge and Structure Coordination**

8 The WSDOT Bridge and Structures Office is overseeing the structural design for the bridges and walls on the  
9 project and meets with the Project Team regularly. This project will construct six new bridges and a retained-cut  
10 structure known as the “U-Tube.” Among these structures, one bridge will be interim called the Interim  
11 Transition Structure (“transition structure”) from the reconstructed SR 99 roadway to the existing AWW  
12 structure until the Deep Bored Tunnel project has been completed and opened to traffic. The following table is  
13 a summary of the major structures constructed in this project.

Bridge Number (SB)	Description	Permanent, Interim, or Temporary
1	Mainline SR 99 – NB and SB	Permanent
2	Mainline SR 99 Transition Zone (NB and SB)	Interim
5	Detour Alaskan Way over U-Tube	Temporary
6	Railroad over U-Tube	Permanent
7	Railroad over utilities in S. Royal Brougham Way	Permanent

14

8	West Bike Path over U-Tube	Permanent
U-Tube	Grade separation roadway beneath RR	Permanent

15

16 **Maintenance Coordination**

17 WSDOT Maintenance has provided input on a variety of design issues. WSDOT Maintenance has met  
18 regularly with the project team as part of the Fire and Life Safety Subcommittee, and has participated in the  
19 Constructability Reviews.

1 The H2K Project includes facilities owned and operated by the City as well as WSDOT roadways. In general,  
2 WSDOT standards will be used for SR 99 administration of the construction contract, and City details and  
3 standards will be used for features that will be maintained by the City of Seattle.

4 A more complete description of maintenance issues and agreements for this Project is available in the following  
5 reports:

6 S. Holgate Street to S. King Street Viaduct Replacement Project: 30% Design Level Constructibility Review,  
7 May 2008

8 PB/Jacobs Memorandum Documenting Maintenance Concerns, June 2008

## 9 **Traffic**

10 All traffic activities have been coordinated with WSDOT Northwest Region Traffic, WSDOT UCO Traffic,  
11 and SDOT Traffic. Plans for signals, signing, ITS, and illumination are under development. The 100% design  
12 plans for this project were issued in July 2009.

13 A more complete description of traffic issues and operations for this project is available in the following  
14 reports:

15 PB. November 2005. AWV Model Validation Report.

16 PB. January 2007. Travel Demand Modeling Assumptions for the Final EIS.

17 PB. August 2007. Final EIS Transportation Discipline Report.

18 PB. August 2008. S. Holgate Street to S. King Street Viaduct Replacement Project: Draft Traffic Analysis  
19 Report.