

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable:

SR 99: Battery Street Tunnel Fire and Safety Improvements

2. Name of applicant:

Washington State Department of Transportation (WSDOT)

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

Allison Hanson, UCO Director of Environmental Services: (206) 716-1136
WSDOT
Urban Corridors Office
401 Second Avenue S., Suite 400
Seattle, WA 98104

4. Date checklist prepared:

October 7, 2008

5. Agency requesting checklist:

WSDOT

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

The currently proposed schedule is October 2009 through May 2011.

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

Other safety improvements to the Battery Street Tunnel (Tunnel) have been identified and may occur in the future as a separate project under the Alaskan Way Viaduct (AWV) Program.

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

The following information directly related to this proposal has been prepared:

- Technical Memorandum entitled *Alaskan Way Viaduct Battery Street Tunnel Closure Soot Sampling*, WSDOT, November 21, 2007
- *Geotechnical and Environmental Report for TS&L Studies – Battery Street Tunnel*, Shannon & Wilson, Inc., December 2006
- *Cultural Resources Assessment, Alaskan Way Viaduct & Seawall Replacement Program Battery Street Tunnel Fire and Safety Upgrades*, WSDOT, July 2008

- *SR 99: Battery Street Tunnel Fire and Safety Improvements Transportation Discipline Report*, WSDOT, October 2008
- *SR 99: Battery Street Tunnel Fire and Safety Improvements Air Quality Discipline Report*, WSDOT, October 2008
- Measurements and modeling of noise levels, WSDOT, 2008
- *Final Hydraulic Summary Report*, HDR, August 2008
- *Phase I Environmental Site Assessment, Third and Battery Street (2400-2410 Third Avenue)*, 2008, Kleinfelder West, Inc.

This State Environmental Policy Act (SEPA) Checklist and the supporting documents, the Transportation Discipline Report and the Air Quality Discipline Report, will be posted on the AWV Program website at <http://www.alaskanwayviaduct.org>. The other documents listed above would be available upon request.

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

Martin Selig Real Estate has applied for a Master Use Permit and a Building Permit from the City of Seattle to construct a commercial building on a portion of the lot located at 2400 Third Avenue. WSDOT is pursuing a partial fee acquisition for this property.

Seattle City Light (SCL) is planning the design and implementation of 18 new electrical service connections. SCL will be responsible for the permitting for these connections.

Seattle Public Utilities (SPU) will upgrade the seven existing water connections, one at each sprinkler pit, and provide a new connection at the standpipe/hydrant valve pit and for the southbound equipment room at Third Avenue. SPU will also install piping from the Tunnel wall and connect to the existing sewer at the manhole. SPU will be responsible for the permitting of these connections.

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

The following permits and approvals would be needed for the proposed work:

- Street Use Permit, City of Seattle
- Noise Variance(s), City of Seattle
- Building/Demolition Permit, City of Seattle
- King County Wastewater Discharge Authorization or Permit
- Compliance with Governor's Executive Order 05-05

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

The project would upgrade the fire and safety systems in the Tunnel, part of State Route (SR) 99 in downtown Seattle.

The project would convert the ramps just south of the Tunnel (the northbound on-ramp from Western Avenue and the southbound off-ramp to Western Avenue) to maintenance and emergency access only. The northbound on-ramp would be closed with a gate, as well as modifications to the sidewalk and adding a curb to a driveway. The southbound off-ramp would be closed with a barrier, deflectors, and striping. The ramp closures are proposed because of the high frequency of collisions associated with these ramps and physical site constraints that prohibit modifying the ramps to meet current safety and design standards.

The project would replace and upgrade the Tunnel's electrical and mechanical systems and install beam seat bumpers (needed to prevent support beams inside the Tunnel from slipping from their bearing points during a seismic event). The project would also replace Tunnel lighting, heat-activated detectors, fire sprinkler deluge valves, and fire pull stations. The project would remove hazardous materials associated with system components and other Tunnel elements, such as asbestos transite conduit, lead-based paint, light fixtures, and light tubes containing heavy metals. Accumulated soot on the Tunnel's upper walls and ceiling areas would be removed prior to major construction activity on the project. See Item B.7.a for additional information on this aspect of the project.

The project would repair the air supply system and upgrade Tunnel system control panels. Improvements include repairing interior Tunnel walls where they are damaged and painting the walls with reflective paint.

Two existing sign bridges located on SR 99 would be removed, and three new sign bridges would be installed.

The project would need to demolish the existing commercial building located at 2400 Third Avenue to construct a new equipment room and egress on the southeast portion of the lot. This building is approximately 10,200 square feet and was constructed in 1946. It is situated on a 0.3-acre parcel and was constructed on spread footings with no basement. The site is located adjacent to the Tunnel. The tax parcel ID number is 065600047008.

Following demolition, an independent structure, approximately 1,800 square feet in size, would be built to house the egress for the Tunnel's southbound bore and an equipment room. This structure would abut the Tunnel, allowing egress from the Tunnel to an outside exit. The equipment room and egress structure would be constructed at the corner of Battery Street and the public alley between Third and Fourth Avenues. After the demolition of the existing structure at the site, excavation to a depth of approximately 20 to 25 feet below the Tunnel roof would proceed. The equipment room and egress would be constructed using cast-in-place concrete with spread footings used for the foundation. The only portion of the structure that would be above grade would be the headhouse, which would house the emergency egress from the southbound lanes and provide access to air for the mechanical systems.

The existing northbound headhouse at the southeast corner of Battery Street and Fourth Avenue is a masonry, concrete, and glass block structure rising one story above grade. This structure would be architecturally upgraded in conjunction with new systems to be installed on the roof of the headhouse for the mechanical systems serving the northbound emergency egress. A 4-foot-high screen to be erected above the roof line would help to obscure the headhouse and the mechanical equipment along the perimeter. The exterior paint finishes would be updated, and the painted glass block would be cleaned and replaced as required.

In addition, the traffic control system and intelligent transportation systems (ITS) would be upgraded. ITS and traffic control system improvements to the Tunnel include:

- A new Tunnel master control system.
- One new variable message sign at each of the Tunnel portals, with two additional variable message signs, one near northbound Virginia Street and one near southbound Ward Street.
- New traffic signals at the portals and new warning beacons within the Tunnel.
- New horizontal swing gates to close northbound lanes at the south portal and the southbound lanes at the north portal.
- Additional closed-circuit television within and approaching the Tunnel for traffic surveillance, security monitoring, and fire detection.
- New ITS equipment.
- The ability to connect to a 24-hour regional control facility.
- Upgrade and replacement of associated conduits and wiring.
- Installation of new roadway signing and striping.

In addition to the above project elements, WSDOT plans to install backflow prevention for each water connection—one in each of the seven sprinkler pits, one in the standpipe/hydrant valve pit, and one in the southbound equipment room. WSDOT will also install piping from the vaults into the tunnel, and for the southbound equipment room water supply, WSDOT will install piping from the tunnel to the water meter vault. SPU will upgrade the seven existing water connections, one at each sprinkler pit, and provide a new connection at the standpipe/hydrant valve pit and for the southbound equipment room at Third Avenue. SPU's upgrade and new connection service includes installing a meter vault for each connection. SPU will also install piping from the tunnel wall and connect to the existing sewer at the manhole.

Other utility improvements include SCL's design and implementation of 18 new electrical service connections. SCL will be responsible for the permitting for these connections.

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

The project is located in downtown Seattle within, above, and adjacent to the Tunnel, within Section 31, Township 25N, Range 4E. The attached Exhibit 1 shows the project location. The Tunnel is approximately one-half mile in length and extends from Seventh Avenue near Denny Way at the north end to First Avenue at the south end. The two existing sign bridges to be demolished are on SR 99 near the intersection of Western Avenue and Virginia Street, and on SR 99 near Thomas Street. The three new signs would be installed at Western Avenue (just south of the existing bridge), at Thomas Street just north of the existing sign bridge, and at Ward Street near Sixth Avenue North. The new equipment room and emergency egress portion of the project would be located on the southeast corner of the 0.3-acre parcel located at 2400 Third Avenue, Seattle, WA 98121. This site is located adjacent to the Tunnel.

B. ENVIRONMENTAL ELEMENTS

1. Earth

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

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

In most of the project area, slopes are less than 10 percent. The only work being performed near a steep slope is the sign bridge just south of the south Tunnel portal. The slope in this area is about 30 to 45 percent and is located about 40 feet to the northwest of the drilled shafts that would be installed for the sign bridge foundations. No work would occur within the designated steep slope area.

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

The Tunnel and the surrounding area are primarily paved. Very little of the project area has any exposed soils. The Tunnel crosses through an area (between First Avenue and Denny Way) of four different surface geology unit types: Hf, Hls, Qpgm, and Qvgl. Hf units are characterized as fill composed of various materials, including timber, timber piles, and railroad construction debris, along with cobbles and boulders. Hls units are composed of disturbed, mixed soil types. Qvgl units are glaciolacustrine deposits composed of fine-grained glacial flour deposits with silty clay and clayey silt with beds of silt and fine sands. Qpgm units are glaciomarine deposits with clayey soils and mixed clay, silt, sand, and gravels.

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

The Tunnel is predominantly paved and the surrounding area is largely impervious surface. The project is near an area classified as a Liquefaction-Prone Area as mapped by the City of Seattle, but not within it. The City's Sensitive Area GIS maps show that the liquefaction area is at the edge of the project boundary west of Elliott Avenue.

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

Approximately 4,000 cubic yards of excavation would be associated with the demolition at 2400 Third Avenue and the construction of the southbound egress facility. Excavation is also needed for sprinkler valve pit renovation work; vent/grate replacements; conduit trenching for controls and signs; and installation of emergency access ramp gates, sign bridges, and standpipe connections.

Cast-in-place concrete drilled shafts would be used for the footings of the new sign bridges. Approximately 48 cubic yards of concrete would be used to construct the drilled shafts. The drilled shafts would be approximately 15 feet deep for the Western Avenue and Thomas Street sign bridges, and slightly deeper for the Ward Street sign bridge to avoid interference with utility locations.

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

As with any construction project, minor erosion could occur. The majority of the project area is currently paved and nearly level, and there will not be large areas of exposed or stockpiled soils at any one time. It is anticipated that the use of construction Best Management Practices (BMPs) to be employed will prevent and/or minimize erosion and sedimentation.

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

No additional impervious surface area would be created by the proposed action. Some impervious surface will be reduced by the demolition of the existing building on Third Avenue, and only a portion of that building's site (approximately 1,800 square feet) would be used for the construction of the equipment room and egress facility.

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

BMPs for temporary erosion and sediment control (TESC) will be developed and installed as needed. A TESC plan will be prepared to include a description of the BMPs to be used in compliance with WSDOT's *Highway Runoff Manual*.

2. Air

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

Prior to Tunnel upgrades and/or building demolition, hazardous materials and soot deposits will be abated from the Tunnel and the Third Avenue site building. WSDOT will ensure that all abatement activities are performed by licensed personnel under proper permits from jurisdictional environmental regulatory agencies governing appropriate removal, handling, and disposal of hazardous materials.

During construction, potential short-term emissions could include construction vehicle emissions and fugitive dust. Carbon monoxide and particulate matter are typical pollutants of concern that would be generated by typical construction equipment (with combustion engines) to be used for the project, such as drill rigs, trucks, excavators, compressors, etc. Also, in the short term, fugitive dust would be generated from the demolition of the existing building on the Third Avenue site, as well as other construction activities. The completed improvements would not generate any air emissions different from current conditions.

The Air Quality Discipline Report prepared for this project contains detailed information about the types of emissions that would be expected to result from the proposed action, both during construction and in the built condition. Air quality modeling and analysis were conducted in the project's study area. This report is included as an appendix to this document.

The project may improve air quality in the vicinity of Western Avenue near Battery Street due to reduced traffic volumes and vehicle delay and associated reduced idle times as a result of eliminating the ramps at Western Avenue. However, there would not be an overall reduction in volumes, since traffic would be dispersed to other ramps instead, such as north of the Battery Street Tunnel.

No exceedances of National Ambient Air Quality Standards (NAAQS) are anticipated based on the projected traffic data (Section 5.4.2 of the Transportation Discipline Report) and the analysis discussed in the Air Quality Discipline Report. The Transportation Discipline Report study results show that although changes in traffic patterns could negatively affect PM peak congestion at a few intersections in the study area, the project is not expected to degrade levels of service (LOS) for project area intersections during AM peak conditions, compared to baseline. Overall, the project would provide a benefit for portions of northbound and southbound SR 99 in the study area by reducing traffic volumes, thereby decreasing vehicular emissions and improving LOS and speeds, which reduces emissions due to idling. (See also the response to Item B.14(f) below.)

Additionally, the project would not increase and could slightly reduce greenhouse gas emissions in the area, for the same reasons discussed above.

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

There are no known sources of emissions or odors that would affect this proposal.

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

To control fugitive dust from construction, BMPs would be implemented in accordance with the December 1999 Memorandum of Agreement between WSDOT and the Puget Sound Clean Air Agency (PSCAA), Section 425.05(7) of the WSDOT Environmental Procedures Manual, and State Fugitive Dust Regulations at Washington Administrative Code (WAC) 173-400-040. Other potential construction BMPs are listed in Section 6.2 of the Air Quality Discipline Report.

3. Water

a. Surface:

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

No surface water body is located on or in the immediate vicinity of the site. Elliott Bay is located approximately 800 feet away from the project site at its closest point.

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

No work would be required within 200 feet of Elliott Bay.

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

No fill or dredge materials would be placed in or removed from surface water or wetlands.

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

No surface water withdrawals or diversions would be required.

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

The proposal does not lie within a 100-year floodplain.

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

The proposal does not involve any discharges of waste materials to surface waters.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

With regard to the Tunnel fire and safety improvements, no groundwater would be withdrawn, and no water would be discharged to groundwater. However, construction dewatering will likely be required for the proposed demolition of the building at 2400 Third Avenue and the excavation for the equipment room. If dewatering is needed, compliance with all related City and County regulations will be ensured.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material is proposed to be discharged into the ground.

c. Water runoff (including stormwater):

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

The existing Tunnel's drainage collection and disposal would not be modified by this proposal. Stormwater that enters the Tunnel from surrounding streets at each end and through the Battery Street drain grates is collected in the Tunnel drains that flow to the City of Seattle's combined sewer system. Water from the combined sewer system flows to the West Point Treatment Plant and then discharges to Elliott Bay.

Stormwater from the new WSDOT equipment room/egress structure will flow to the combined sewer system through existing surface street or Tunnel drainage systems or a new side sewer connection, if needed. A side sewer permit would be required if a new connection is needed, but would be a component of the building permit.

If required, appropriate drainage facilities will be provided on the site after demolition. Infiltration or a drainage connection to the combined sewer system may be used depending on the final site condition. Stormwater from the new WSDOT structure will flow to the combined sewer system through either the Tunnel's existing drainage system or a new side sewer connection.

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

Waste materials are not likely to enter ground or surface waters as a result of construction or operation of either the Tunnel improvements or the new equipment room with Tunnel egress. The southbound equipment room/egress to be built will tie into the combined sewer system as the existing building does now.

Much of the work would be contained within the Tunnel itself. Sediment generation and associated erosion to surface waters is not a substantial issue in this predominantly paved area, including the demolition site. However, concrete and chemicals would be used as part of the construction work within the Tunnel, and removal of soot from the Tunnel walls would generate contaminated material for disposal. Contaminated water related to the soot removal work in the Tunnel will be collected and contained to prevent contaminants from reaching the sewer system and prevent any potential impacts to surface waters.

The installation of sign post foundations and installation of the gate structures to close the two ramps would occur on surface streets around the Tunnel. This work has minor potential to generate sediment that could potentially reach area surface waters during storm events. However, WSDOT will employ construction BMPs to prevent and/or minimize erosion and sedimentation.

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

In addition to the BMPs mentioned above, WSDOT will develop a TESC plan and will implement a Spill Prevention, Control, and Countermeasures Plan to control accidental spills of materials and prevent impacts to surface water or groundwater during construction.

4. Plants

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

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

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

Approximately six to eight of the deciduous trees along the building to be demolished along Third Avenue will likely need to be removed.

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

No threatened or endangered plant species are known to be on or near the site.

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

The project will comply with City code, and no landscaping is proposed at this time.

5. Animals

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

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other: small urban mammals, such as rats and squirrels.

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

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

No threatened or endangered species are known to be on or near the site.

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

The project area is within the general area of the Pacific Flyway migration route used by various waterfowl and songbirds. However, due to the lack of vegetation or other suitable habitat within the immediate vicinity of the proposed Tunnel improvements, no impacts are anticipated.

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

None are proposed at this highly urbanized paved project site.

6. Energy and natural resources

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

Petroleum products would be used to power construction equipment. Electricity would be used for construction lighting and miscellaneous equipment needs. The completed Tunnel and equipment room will also require electricity for lighting and to operate other Tunnel facility systems.

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

No, the project would not affect the potential use of solar energy by adjacent properties.

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

No energy conservation features or other proposed measures to reduce or control energy impacts are proposed.

7. Environmental health

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

Over time, exhaust from vehicle use within the Tunnel has left a coating of soot on Tunnel walls and ceiling surfaces. The WSDOT Hazardous Materials and Solid Waste Program evaluated the soot to determine potential health and safety risks associated with disturbance of that soot during construction activities. As part of the evaluation, WSDOT collected composite soot samples from the Tunnel surfaces. Sampling results indicated that the following constituents are present on the Tunnel walls in high enough concentrations to warrant special handling: metals (arsenic, cadmium, and lead), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and total petroleum hydrocarbons as oil (TPH-O).

As stated in the project description above (Item A.11), transite (asbestos) pipe conduit will also be removed, and lead-based paint.

1) Describe special emergency services that might be required.

No special emergency services are anticipated to be needed with regard to environmental health. Traffic control and detours will be coordinated with the City of Seattle Traffic Engineer to maintain the ability of emergency vehicles to move through the area. See also Item B.15 below.

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

Soot removed from the Tunnel will be handled and disposed of as a dangerous waste. Workers will be provided with all applicable sampling results to determine proper health and safety needs for worker exposure. The soot will be properly contained within the Tunnel environment and properly disposed of at a Resource Conservation and Recovery Act (RCRA) Subtitle C facility under a WSDOT RCRA Site ID.

In addition to the measures noted above to control health hazards associated with possible exposure to the soot, project design, contract specifications, and construction practices will specify public and worker safety measures and control any other environmental health hazards that could be encountered.

Hazardous materials that may be present in the existing commercial building for which demolition is proposed, including any asbestos or lead-based paint, will be removed or abated prior to construction. A Phase I Environmental Site Assessment (see Item A.8) has been completed.

WSDOT will be required to follow applicable safety requirements of PSCAA, the Occupational Safety and Health Administration (OSHA), Washington Industrial Safety and Health Act (WISHA), WSDOT, and the industry at all times. WSDOT will also implement appropriate detours to allow for emergency vehicle movement through the general area and emergency service vehicle and personnel access to the Tunnel if needed.

b. Noise

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

No noises in this highly urbanized area would affect the project.

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

During project activities, equipment at the site would generate noise, and traffic detours would transfer noise associated with Tunnel-related traffic to different streets in this vicinity. Construction equipment that would be used on this project (e.g., backhoes, trucks, compressors) typically has noise levels as high as 95 A-weighted decibels (dBA) at 50 feet from the source. Jackhammers and other pavement breakers may be slightly louder, around 98 dBA.

However, much of the construction noise would occur within the Tunnel and would have little effect on the surrounding area. General construction noise in the area would be short-term.

To ensure worker and public safety, all work within the Tunnel and some work on SR 99 at each end of the Tunnel, along with some work on Battery Street, would require the complete closure of SR 99. To minimize impacts to traffic and businesses, all SR 99 closures will be required to occur between 8 p.m. and 6:00 a.m. or during weekends. For the purposes of fully evaluating and disclosing potential noise impacts in this checklist, it is assumed that some weekend work is likely to occur. In particular, soot cleaning operations are likely to occur on a number of weekends during the construction period.

Noise is currently generated by traffic and operation of ventilation fans. There would be no new noise associated with operation of the facility after construction is complete.

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

WSDOT will employ noise minimization measures to include but not be limited to the following:

- Minimizing Tunnel ventilation fan noise at locations where modeling indicates the most likely chance of noise impacts to nearby residents.
- Using ambient-sensitive backup alarms or backup observers, rather than noisier types of backup alarms.
- Fitting of all trucks exporting materials with bed liners.
- Placing stationary equipment, such as light plants or generators, within the Tunnel at a location to minimize the amount of noise conducted to the surface street via Tunnel vents.
- Employing noise shielding during use of the noisiest construction equipment, such as concrete saws, drills, sandblasting equipment, generators, compressors, and jackhammers or other impact tools.
- During pavement removal, all materials spilled on the roadway shall be removed by hand methods or sweeping. No scraping type equipment will be used.
- Providing notification to all residents within 500 feet of nighttime construction activities, including the phone number of the 24-hour WSDOT construction office complaint line.

- Monitoring noise levels during construction to help ensure appropriate noise levels are maintained.

The nighttime noise levels for this work may exceed the City of Seattle’s “Maximum Permissible Noise Levels.” An application has been submitted for a noise variance during construction, and appropriate noise minimization measures will be employed.

8. Land and shoreline use

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

The existing Tunnel occupies a highly urbanized area adjacent to Seattle’s waterfront and upland shores. A variety of urban land uses and zones are located along the corridor. There is also an existing commercial building at 2400 Third Avenue.

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

The site has not been used for agriculture.

c. Describe any structures on the site.

The Tunnel structure is a cut-and-cover box structure built in 1953, with a center wall separating the northbound and southbound lanes. The Tunnel’s exterior walls consist of steel piles cast in concrete and reinforced concrete slabs, and the roof structure was constructed of precast concrete roof beams with a cast-in-place concrete slab, which also acts as the Battery Street surface street. Also on SR 99 in the vicinity of Western Avenue and Virginia Street is one of the existing sign bridges. Two other existing sign bridges are on SR 99 in the vicinity of Thomas Street and on Valley Street. The signs themselves are made of steel, and the structural posts are typically made of galvanized steel.

The description of the existing commercial building to be demolished on the site adjacent to the Tunnel at 2400 Third Avenue was given above in Item A.11 (Project description).

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

Yes, the existing commercial building will be demolished as part of this proposal, as described in Item A.11 (Project description). Only the southeast portion of the site will be needed to construct the new equipment room and Tunnel egress facility. The proposed footprint for the egress/equipment room structure would be approximately 1,800 square feet.

The existing sign bridges on SR 99 near the intersection of Western Avenue and Virginia Street near the south portal and on SR 99 near Thomas Street, just north of Denny Way, would be removed. These signs would be replaced with electronic variable message display signs, and an additional sign would be added on SR 99 near Ward Street and Sixth Avenue North.

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

The Tunnel alignment and associated structures run primarily through Downtown Mixed Residential, with some Downtown Mixed Commercial in the north portion of the Tunnel alignment.

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

This area is designated “Downtown” on the Seattle Comprehensive Plan Future Land Use map.

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

Not applicable.

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

No part of the site has been classified as an “environmentally sensitive” area.

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

None—the proposed action would make improvements to an existing transportation facility.

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

No residences would be displaced by the proposed action. The building at 2400 Third Avenue currently has no tenants.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No relocations are needed.

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

No measures are anticipated to be needed, other than compliance with City codes during construction to minimize any potential impacts to other users of the area.

9. Housing

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

No housing units would be provided as part of the proposal.

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

No housing units would be eliminated as part of the proposal.

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

No measures would be needed.

10. Aesthetics

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

One element of the proposed action that would result in a change in height would be the replacement of the sign bridges at the north and south portals of the Tunnel. The sign bridge to be

installed near Western Avenue and Virginia Street would have a 20-foot clearance with a total height of 28 feet from street level, the replacement sign bridge at Thomas Street would have a 20-foot clearance with a total height of 28.5 feet from street level, and the new sign bridge at Ward Street would have a 20-foot clearance with a total height of 30.5 feet from street level. These heights are unlikely to result in any views being altered or obstructed.

The headhouse at Fourth Avenue and Battery Street, which is being restored with new glass blocks, a new exit door, and new paint, would be 4 feet higher than the existing structure, which is approximately 10 feet in height. This slight extension in height is necessary to accommodate a new 4-foot-high ventilation fan and other new equipment. This 4-foot extension from the existing roof will be covered with metal mesh screening to obscure the equipment within. The improvements to the headhouse at Fourth Avenue and Battery Street are unlikely to result in any views being altered or obstructed.

Similar in size to the headhouse at Fourth Avenue and Battery Street, the new southbound equipment room/egress structure would be approximately 10 feet in height.

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

Views would not be substantially changed with the demolition of the existing commercial building and the construction of the equipment room and egress facility.

With the replacement of the sign bridges near the north and south portals of the Tunnel in slightly different locations, views would be altered only minimally, and no views would be obstructed. The sign bridge replacements near Western Avenue at Virginia Street and at Thomas Street, as well as the new sign to be installed at Ward Street, would all have clearances in a similar range. The approximate heights of the existing signs are 17.5 feet at the south portal and 19.5 feet near the north portal. The signs to be installed would range in height from approximately 28 feet at Western Avenue to approximately 30.5 feet at Ward Street.

The proposed action would not change the height of the existing Tunnel.

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

The proposed action would not cause aesthetic impacts; therefore, no measures are proposed.

11. Light and glare

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

The proposed improvements for the Tunnel facility would not produce any light or glare effects, as lighting improvements for the interior roadways would be made inside the existing Tunnel.

Three new variable message display sign bridges would be installed at Western Avenue, Thomas Street, and Ward Street. These electronic signs would have automatic as well as manual control of the light levels.

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

There would be no light or glare effects from the proposed action.

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

No existing off-site sources of light or glare would affect the proposed improvements.

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

External lighting for the Tunnel itself would not be modified by the project.

Four new variable message display signs would be installed (two of which would replace existing sign bridges). These signs would have automatic as well as manual control of the light levels, based on ambient light, thus reducing the amount of light emitted from these signs at nighttime, as needed. Currently, no additional lighting is proposed for the fixed message signs that would be placed with the variable message signs. Glare should not be an impact because the sign lighting, while not specifically selected yet, will be using uplighting or downlighting to illuminate the signs effectively while minimizing or eliminating glare effects on residential uses.

12. Recreation

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

The following is a list of the designated and informal recreational and park areas near the proposed alignment:

- The Pike Place Market is bounded roughly between Pike Street on the south and Virginia Street on the north, Western Avenue on the west, and First Avenue on the east.
- Victor Steinbrueck Park, within the Pike Place Market, is located at 2001 Western Avenue at the foot of Virginia Street.
- Regrade Park is located at 2251 Third Avenue, just off Bell Street. This is a small park in Belltown located a block west from the Tunnel.
- Denny Park, located at 100 Dexter Avenue, is also about a block west of the Tunnel's north portal.

These facilities are not expected to be affected by the Tunnel construction, proposed primarily for weeknight evenings between 8 p.m. and 6 a.m. Some weekend work will be necessary, particularly for the soot removal; however, this work should not have any effect on the recreational opportunities or facilities in the area.

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

No existing recreational uses would be displaced.

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

Construction limits will be established to control work locations and activities and help ensure no impact on recreational activities.

13. Historic and cultural preservation

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

Both the Tunnel and Alaskan Way Viaduct have been determined eligible for listing in the National Register of Historic Places. The two existing sign bridges for the Tunnel, which would be removed as part of this project, are contributing features to the Tunnel's status; their removal would constitute an impact to the status of the Viaduct and the Tunnel. The project is several blocks distant from the Pike Place Public Market Historic District, although the new sign bridge on Western Avenue will be adjacent to the Historic District. No adverse effects are anticipated.

The sign bridges are being removed because they are deteriorating and are rapidly approaching the end of their design life. Engineering inspections and evaluations have determined that the existing sign bridges are highly corroded, with structurally inadequate supports, and do not meet current vertical clearance standards. Replacement sign bridges would be necessary to implement the proposed updated traffic control system and ITS.

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

Geotechnical information, historical records, and previous archaeological work indicate that all ground disturbance planned for this project would take place in areas heavily disturbed by regrading and filling in the historic and modern eras. In general, archaeological sites in the project vicinity are historic era sites from the late nineteenth and early twentieth centuries that are buried under regrade fill. Prehistoric archaeological materials were likely present, but in many areas were probably obliterated by regrading and other historic-era construction. The project would not affect any recorded archaeological sites. Traditional Cultural Properties (TCPs) have not been previously recorded in the vicinity of the project impact area. Tribal consultation to date for this project has not identified any previously unknown TCPs.

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

It is anticipated that no archaeological resources would be directly affected by the construction of the proposed alignment. Contract specifications will include an Unanticipated Discovery Plan negotiated with the tribes and State Historic Preservation Officer and will follow WSDOT Standard Specifications, which include the cessation of activity and notification of appropriate agencies and/or tribes if any unknown historic or archaeological resources are discovered during construction.

To mitigate the impact to historical resources that would occur with removal of the sign bridges, those sign bridges will be recorded as part of the Level II Historic American Engineering Record (HAER) documentation of the Viaduct and Tunnel. As part of that effort, large-format pictures were taken of both sign bridges. Descriptions of the historic context and physical attributes of the structures are being prepared by a qualified historian. WSDOT will be adding the HAER documentation to the AWV Program website, and will offer opportunities for the public to view the HAER photos and narrative on display at public forums associated with the AWV Program.

No further archaeological work is recommended. Archaeological finds during construction will be treated as described in the Unanticipated Discovery Plan prepared for the project.

14. Transportation

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

The Tunnel is approximately a one-half mile segment of SR 99, carrying two lanes of traffic northbound and southbound. The northbound on-ramp and southbound off-ramp currently connect to SR 99 at the south Tunnel portal on Western Avenue; however, these ramps would be converted to emergency access and maintenance use only as part of this proposed action. A Transportation Discipline Report was prepared as an appendix to this SEPA Checklist. This report describes the local street network and the potential effects of the proposed Tunnel improvements on the surrounding transportation network.

Exhibit 1 (attached) displays the Tunnel location within the context of the local streets and arterials between Stewart Street on the south and Ward Street on the north.

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

All bus transit serving north Seattle by way of SR 99 enters or exits the downtown area at the Denny Way ramps at the north end of the Tunnel. From Denny Way, several surface streets provide access into the downtown area. However, transit does not use the Tunnel at all. The five bus routes that use SR 99 north of the Tunnel are listed in Exhibit 4-2 and shown in Exhibit 4-3 in Section 4.2.3 of the Transportation Discipline Report.

- c. **How many parking spaces would the completed project have? How many would the project eliminate?**

No new parking spaces are associated with this project. However, about 12 on-site parking spaces would be eliminated with the demolition of the building at 2400 Third Avenue.

During construction, 6 on-street parking spaces would be temporarily eliminated, along with 12 off-street spaces, and 75 off-street monthly parking permit spaces. All but 12 of these (private, leased) spaces would be replaced or restored after construction is complete.

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

The proposal would not require any new roads or streets, nor would any improvements to existing roads or streets be needed. However, a portion of the existing alley between Third and Fourth Avenues may be paved.

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

The project would not use or affect any of the above-mentioned transportation modes.

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

The proposed safety improvements to the Tunnel would not generate any new trips. With the closure of the northbound on-ramp and southbound off-ramp at Western Avenue, lower volumes are expected in the Tunnel in both directions. SR 99 mainline and ramp volumes projected for year 2030 AM and PM peak hours are shown for the Baseline Scenario (No Build) in Exhibit 5-1 and for the Build Alternative in Exhibit 5-2 in Chapter 5 of the Transportation Discipline Report. These volumes are also shown for surrounding area arterials such as Elliott and Western Avenues.

The traffic links and intersections on arterials and local streets in the surrounding area that were selected for study are shown in Exhibit 2-2 in Chapter 2 of the Transportation Discipline Report.

Exhibits 5-5 and 5-6 in Chapter 5 of the Transportation Discipline Report show the SR 99 mainline LOS by segment for the Build Alternative. As a whole, mainline traffic operations for the Build Alternative would be comparable to the 2030 Baseline Scenario. Changes in LOS are forecasted along several segments under the Build Alternative. During the 2030 AM peak hour, the segment in the Tunnel in the southbound direction is forecasted to improve from LOS F with the Baseline Scenario to LOS D with the Build Alternative. Traffic volumes are forecasted to decrease through the Tunnel (due to the closure of the ramps just south of the Tunnel at Western Avenue) and speeds are expected to increase, causing LOS to improve in the southbound direction.

The findings show that the project would provide a benefit for portions of both northbound and southbound SR 99 overall, by reducing traffic volumes and improving LOS and speeds. An exception is that during the PM peak hour, changes in traffic patterns are expected to worsen congested conditions at some area intersections. For the Tunnel itself, LOS is expected to improve from Baseline LOS E to Year of Opening LOS D for southbound traffic. Detailed discussion and analysis of these findings can be found in Chapter 5 (Section 5.4.2 Traffic Operations) of the Transportation Discipline Report.

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

As part of the overall AWV Program, a suite of improvements has been planned to reduce and control transportation impacts of any of the Moving Forward projects associated with the AWV Program. These enhancements and improvements were developed and coordinated by a multi-agency team composed of WSDOT, the City of Seattle, and King County Metro. The goal of the SR 99/Viaduct Project Initial Transit Enhancements and Other Improvements is to provide investment funding to develop and deliver projects and strategies within areas potentially affected by construction of the Moving Forward projects. These improvements are independent of the SR 99: Battery Street Tunnel Fire and Safety Improvements Project. A summary of these Initial Transit Enhancements and Other Improvements is shown in Exhibit 6-5 in Section 6.3.1 of the Transportation Discipline Report.

With regard to minimizing traffic effects during special events, contract provisions specify that no closures will occur during major event weekends (Bumbershoot, FolkLife, etc.) and for all Seahawks home games. Coordination between WSDOT and the Seattle Department of Transportation (SDOT) is ongoing to seek ways to avoid or minimize closures for other critical periods (Mariners games, games and concerts at Seattle Center, etc.).

During construction, 6 on-street parking spaces, 12 private off-street spaces, and 75 off-street monthly permit spaces would be unavailable. After construction is complete, the affected parking, both on-street and off-street, would be replaced or restored, except for the 12 private off-street spaces. Parking restrictions may be necessary along Battery Street due to intermittent construction work on the surface. Battery Street surface work would take one or two lanes and would not close the street. In addition, the streets onto which SR 99 traffic is being detoured (Wall Street and Battery Street) may experience parking restrictions.

15. Public services

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

Because this project is making improvements to an existing transportation facility, there would be no increased need for public services associated with this project.

WSDOT will coordinate with the Seattle Fire Department to ensure continuous emergency access to and from Fire Station No. 2, located at 2334 Fourth Avenue, during construction.

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

None would be required.

16. Utilities

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

All of the circled utilities above are currently available at the project site. Electrical service is provided to the Tunnel for its operation. 'Other' refers to City of Seattle combined sewer system lines in the site vicinity. (Note: natural gas lines are in the area, but do not serve the tunnel systems, nor will natural gas service be used for the new southbound egress/equipment room.)

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

The proposed improvements to Tunnel utilities include:

- Upgrade of water supply pipes and valves for the Tunnel's fire suppression system (SPU).
- The upgrade and replacement of electrical conduits, feeders, and wiring (SCL).
- New fan controls.
- New uninterruptible power supply to power the Tunnel's systems control computer and the fire control panel.
- Emergency lighting.
- New Tunnel lighting.
- ITS.

New detector check valve pits for the fire suppression system are to be installed at each of the intersections along Battery Street between First and Sixth Avenues with one valve pit to be installed at Battery Street where it crosses Denny Way. A total of seven new detector check valve pits would be installed. Near each of the seven existing sprinkler pits, SPU will be installing a detector check valve pit containing a new water meter and replacing or installing new pipe to connect each service to existing water mains. Similar detector check valve pits and connections will also be installed by SPU for the new standpipe system and the equipment room in the southbound tunnel bore. This SPU work will need to be completed prior to project work on the related systems. SPU will also provide connections to existing sanitary sewer lines for new side sewers from the standpipe system and equipment room.

C. SIGNATURE

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

Signature: Amigan Hansen

Date Submitted: 10/7/08

SR 99: Battery Street Tunnel Fire & Safety Improvements Project

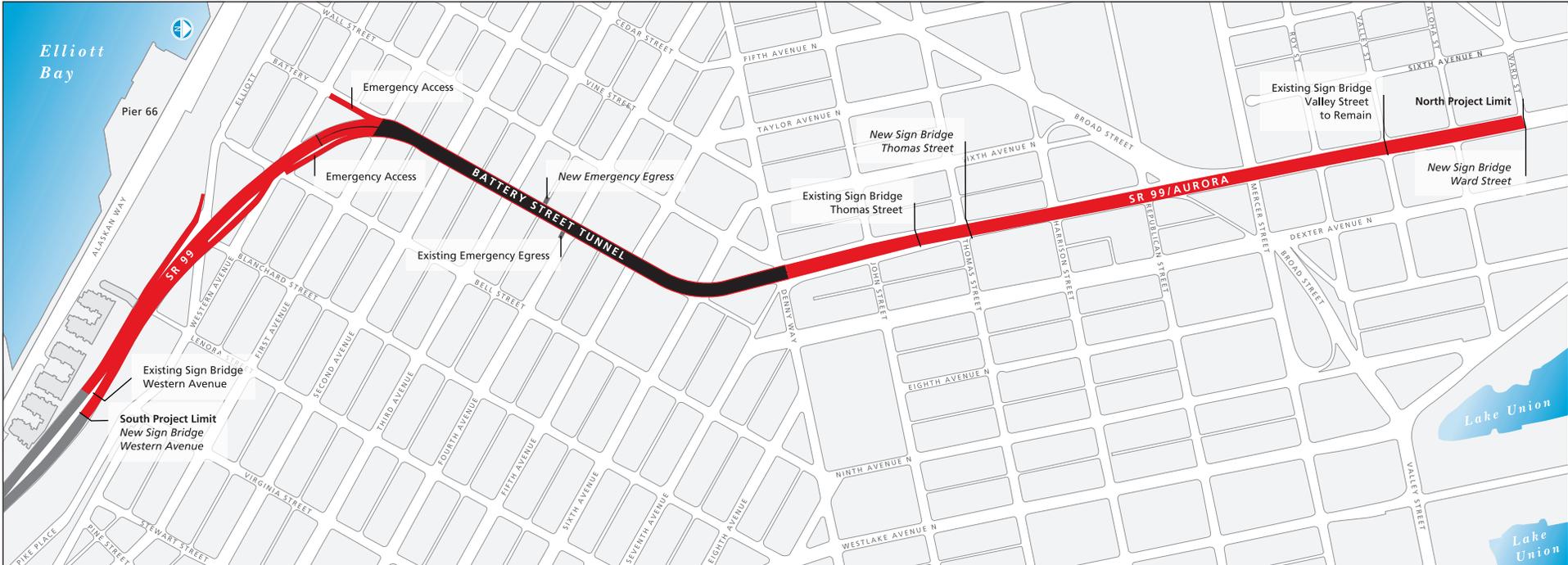


Exhibit 1
Project Limits