6-Lane Footprint
WHR Eligible
Not NRHP Eligible
NRHP Eligible

N

0 50 100 Feet

Exhibit 44. **Effects of the 6-Lane Alternative on Historic Resources in the Eastside Project Area**

SR 520 Bridge Replacement and HOV Project

File Path: P:\Parametrix\168395\180171 SR 520 Bridge Replacement\GIS\Layouts\CulturalResources\APE_Effects_Eastside.mxd

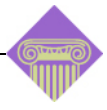
Portage Bay Bridge, including pile driving for new piers, and it may experience temporary periods of restricted access. The temporary bridges built for construction of the Portage Bay Bridge may also affect the Mason House.

The four houses on East Montlake Place East may experience restricted access during widening of East Montlake Place East, and 2209 Lake Washington Boulevard may experience restricted access during expansion of the adjacent intersection of East Montlake Place East and Lake Washington Boulevard East.

Houses near the 24th Avenue East bridge may experience vibrations during demolition and reconstruction of the 24th Avenue East bridge. Houses on the south side of the bridge on Lake Washington Boulevard East may experience temporary restricted access related to demolition and reconstruction of the 24th Avenue East bridge. Houses near the west approach of the Evergreen Point Bridge may experience vibration from demolition of the R.H. Thompson Expressway ramps and from pile driving for the temporary detour bridge and the new Evergreen Point Bridge.

Construction of the highway improvements on Foster Island would require the periodic closure of the section of the Arboretum Waterfront Trail currently located under SR 520. The project would require construction of a 60-foot-wide detour bridge along the south side of the existing SR 520 mainline to allow traffic to operate while the new structures are being constructed. The detour bridge would be located predominantly within the existing WSDOT right-of-way, except for a small 0.25-acre strip directly south of the right-of-way. All of the vegetation within the footprint of the detour bridge would be removed (roughly 1.19 acres of vegetation loss). The affected area would return to park use upon completion of construction.

The 4-Lane and 6-Lane Alternatives would not affect any known archaeological or ethnographic sites. There is currently ongoing additional ethnographic and archaeological work being conducted. Please see the *What are the recommendations for additional study?* section.



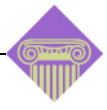
How would project construction temporarily affect eligible cultural resources in the Lake Washington project area?

With the exception of the above effects common to all project areas, the 4-Lane and 6-Lane Alternatives would not have any construction-related effects on the eligible cultural resources in the Lake Washington project area. Construction in archaeological high probability areas, if not mitigated through scientific data recovery or other suitable measures, could result in adverse effects if eligible archaeological sites are discovered prior to or during construction.

How would project construction temporarily affect eligible cultural resources in the Eastside project area?

The 4-Lane and 6-Lane Alternatives would affect the historic resources located at 2851 and 2891 Evergreen Point Road and 2857 Evergreen Point Road. These properties may experience vibrations specifically associated with demolition of the existing fixed section of the Evergreen Point Bridge, construction of new piers for the new bridge, and construction of the new lid for the 6-Lane Alternative. Access to 2851 Evergreen Point Road may be temporarily restricted during construction of the new bicycle/pedestrian path access ramp located across Evergreen Point Road. The site at 2857 Evergreen Point Road may experience vibrations, dust, and short-term noise associated with construction of the bridge operations facility, dock, and access road. In addition, the staging area for the bridge construction is expected to be near the bridge, which may affect these three properties.

Noise and dust generated during construction may affect the Bellevue Christian School grounds because the school has exterior circulation walkways, which must be used by the students and faculty throughout the school day. In addition, the physical education/outdoor play area located next to SR 520 may be affected by construction dust and noise during the school day. Noise from construction may also affect the academic environment at the school.



The 4-Lane and 6-Lane Alternatives would not affect any known archaeological or ethnographic sites. Construction in archaeological high probability areas, if not mitigated through scientific data recovery or other suitable measures, could result in adverse effects if eligible archaeological sites are discovered prior to or during construction.

How do the effects of the alternatives on eligible cultural resources differ?

Archaeological Resources

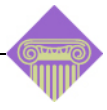
If a currently undetected or unrecorded archaeological site is present, depending on its horizontal and vertical dimensions, the 6-Lane Alternative (with its larger ground-disturbance footprint) would likely disturb more archaeological deposits compared to the 4-Lane Alternative.

Traditional Cultural Resources

If an ethnographic site is revealed through tribal consultations, construction of the 6-Lane Alternative might be assumed to have a greater effect than would the 4-Lane Alternative.

Historic Buildings and Structures

In most instances, the 4-Lane Alternative would be less disruptive to historic structures than the 6-Lane Alternative. The major exception to this is the effect on 2851 Evergreen Point Road. Under the 4-Lane Alternative, this site would experience a property loss, but would experience only beneficial effects under the 6-Lane Alternative. The 6-Lane Alternative would introduce substantially higher HOV ramps in the Arboretum area, while the 4-Lane Alternative would not. However, the 6-Lane Alternative would enhance historic districts and structures by providing five large landscaped lids where bridges currently exist. These lids would introduce landscaped green space and would enhance pedestrian access and reduce visual intrusion, greatly improving the existing conditions and partially reuniting neighborhoods currently separated by SR 520. The 4-Lane Alternative does not provide these lids.



Mitigation

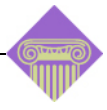
Mitigation is required when project activities directly or indirectly cause harmful effects to cultural resources listed or eligible for listing in the NRHP or WHR. The Section 106 process provides a procedure to seek ways to avoid, minimize, or mitigate adverse effects on historic properties. Participants in the Section 106 process include agency officials; the Advisory Council; consulting parties such as the SHPO, Indian tribes and local government representatives; and the public. "The views of the public are essential to informed federal decisionmaking in the Section 106 process" (36 CFR Part 800, subpart A, 800.2).

During the Section 106 consultation, the public must be involved in the resolution of adverse effects to historic properties. Agency officials must provide the public with information about the project and its effects on historic properties, and seek public comment and input. Agency officials may follow NEPA procedures for public involvement in order to comply with this aspect of Section 106. At the conclusion of the process, a Memorandum of Agreement (MOA) is executed. This document records the terms and conditions agreed upon to resolve the adverse effects of the project on historic properties, and is signed by the agency, SHPO, and other consulting parties as appropriate.

Required or potential mitigation measures for anticipated effects on historic resources include, but are not limited to:

- Modification of project design to avoid or limit physical alteration, visual, atmospheric, or long-term noise effects
- Relocation of historic resource to appropriate new site
- Modification of construction methods to avoid or limit construction-related effects
- Documentation of resource according to HABS/HAER standards

When an avoidance alternative is not feasible, and it is necessary to acquire and remove an historic resource, in some cases the resource may be moved to another site, or the resource may be demolished. The relocation or demolition of an historic resource requires consultation with the SHPO. Issues to be considered include methods of documentation, site selection, relocation methods, and rehabilitation design.



What has been done to avoid or minimize adverse effects on archaeological resources?

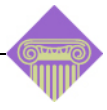
Although no archaeological resources have been identified in the project area APEs, there are measures that the project can take to avoid or minimize properties that have not been discovered. One of these measures is to conduct subsurface exploration (borings) in archaeological high probability areas that are planned for significant ground disturbance prior to construction to check for the presence or absence of subsurface archaeological deposits.

In addition, the interested tribes will be invited to monitor any archaeological testing conducted. If archaeological sites are found, and if they are determined to be eligible for listing in the NRHP, appropriate mitigation measures will be developed in consultation with affected tribes and the SHPO. Mitigation measures could include avoidance through redesign, conducting scientific excavation and analysis (data recovery) if avoidance through redesign is not feasible, and monitoring construction in high probability areas by both archaeologists and tribal monitors.

What has been done to avoid or minimize adverse effects on traditional cultural resources?

A measure to minimize or avoid effects on traditional cultural resources is to conduct oral history interviews with tribes that have Lakes Duwamish descendants to determine whether or not Foster Island or other properties might qualify as TCPs. If oral history interviews confirm the presence and eligibility of a TCP on Foster Island, appropriate mitigation measures will be developed in consultation with affected tribes and the SHPO.

WSDOT will continue to consult with tribes to identify ethnographic resources. If any ethnographic resources are present in the selected build alternative, WSDOT will consult with the tribes and the SHPO to arrange either avoidance or if avoidance is not feasible, suitable compensatory mitigation measures. Mitigation measures could include field studies to ensure that no human remains are present in the areas to be disturbed by construction; preparation and publication of a report



that addresses the cultural history of Foster Island and the Lakes Duwamish people who lived in the project area; commemoration through public displays the cultural importance of the area; or sponsorship or support of other off-site environmental restoration projects of importance to the tribes.

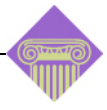
What has been done to avoid or minimize adverse effects on historic buildings and structures?

Sound walls have been incorporated into the design of the project to reduce noise along the proposed roadway. The sound walls have a beneficial effect on the adjacent historic resources by reducing current and anticipated noise to below existing levels.

In the NRHP-eligible proposed Montlake historic district area, the SR 520 roadway would be lowered up to 10 feet, depending on the alternative, which would minimize both visual and audible effects on the surrounding structures in the historic district.

New and improved 14-foot-wide bicycle/pedestrian paths would be built from Montlake Boulevard in Seattle to 96th Avenue Northeast in Kirkland. These paths would help to reconnect neighborhoods and enhance pedestrian access in areas like the NRHP-eligible proposed Montlake historic district, which were divided when SR 520 was built in the 1960s.

Under the 6-Lane Alternative, 500-foot-long lids have been designed to cover SR 520 at 10th Avenue East and Delmar Drive East, Montlake Boulevard, Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast. These lids would be landscaped, providing a new green space in each area and reuniting the communities on either side of SR 520, allowing enhanced pedestrian access across SR 520. The landscaped lids would also help to minimize the visual effect of the increased size of SR 520 under the 6-Lane Alternative.



How could the project compensate for adverse effects on cultural resources?

Archaeological Resources

Unavoidable adverse effects on archaeological sites are often mitigated by implementing data recovery programs. Other off-site mitigation might also be needed to compensate the Tribes for loss of cultural values associated with the archaeological site.

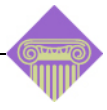
Traditional Cultural Resources

Unavoidable adverse effects on ethnographic sites are often mitigated by implementing off-site compensatory mitigation measures that would be negotiated among the Tribes, the SHPO, and the agency (WSDOT).

Historic Buildings and Structures

There are historic resources that would be adversely affected by the project. These effects can be compensated for through mitigation. General mitigation measures could include the following:

- Monitor and ensure compliance with local noise regulations for construction and equipment operation. See Appendix M, *Noise Discipline Report,* for additional construction noise mitigation recommendations.
- Install landscaping or landscaped buffers to compensate in those areas where buffer zones are being removed or reduced, and where new or relocated traffic lanes or widened intersections and bridges over SR 520 intrude on the character of historic districts or the settings of individual historic resources.
- Protect facades of affected historic buildings from an accumulation of excessive dirt and dust during construction, or clean in an appropriate manner at the conclusion of construction. WSDOT would consult with the SHPO and/or the appropriate local Historic Preservation Officer before implementing any protection or cleaning methods.
- Maintain access to historic properties, except for unavoidable short periods during construction.



- Locate any temporary construction sheds, barricades, or material storage away from historic properties, and avoid obscuring views of historic properties.
- Document historic properties that will be affected by the project utilizing HABS/HAER documentation methods.
- Record and interpret local history that is associated with historic and cultural resources that may be affected by the project, and provide this documentation to a local repository for public education.

Adverse effects on specific properties could be mitigated as follows:

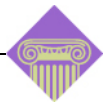
Museum of History and Industry

The removal of MOHAI in the NRHP-eligible proposed Montlake historic district is an adverse effect under both the 4-Lane and 6-Lane Alternatives. If complete demolition is necessary, consultation with the SHPO would occur. As compensation, established standards for documentation would be met before removal. The cultural artifacts of the museum would be relocated to an appropriate repository. Additional mitigation could be accomplished through the funding of an exhibit on the history of MOHAI and its original structure. Consultation with the Seattle Parks Department would ensure that any future use for the remaining land outside the required right-of-way would be compatible with the NRHP-eligible proposed Montlake historic district. Additional compensation could include funding for the redevelopment of the site.

If partial removal of MOHAI is determined feasible by a qualified engineer or architect, consultation with the SHPO would occur to devise an appropriate design solution for the remaining portions of the building. Landscaping and screening could mitigate the effect of the partial demolition on the setting, as well as mitigation of the effects of the new Evergreen Point Bridge, the 24th Avenue East bridge, and the stormwater treatment wetland. Alternative parking would have to be provided on the site for the building to remain viable as a public space. Compensation could include funding for the new design of the building and for the surrounding landscaping and screening.

NOAA Northwest Fisheries Science Center

Under both the 4-Lane and 6-Lane Alternatives, the NOAA Northwest Fisheries Science Center would be adversely affected by the partial loss



of its surrounding property and greater proximity of the new Portage Bay Bridge and SR 520 roadway. This property loss includes a number of accessory buildings, a parking lot, and green space, all of which help to buffer the historic building from the highway, as well as contribute to the viability of the structure to fulfill its mission of education and research. The planned installation of a sound wall would mitigate noise levels and lessen the visual effects of the project. Additional compensation could be achieved through landscaping improvements (for example, replacing perimeter trees that are removed during the expansion of SR 520). Consultation with the SHPO would occur before any changes are made to the setting of the NRHP-eligible Fisheries building to ensure that possible mitigation measures for the property do not negatively affect the setting or feeling of the building or the site. For example, accessory buildings slated for demolition could be relocated or rebuilt elsewhere on the site; smaller landscaped parking lots at various locations around the site could be replace the existing large parking lot.

Proposed Montlake Historic District

The houses that face north on East Hamlin Street in the NRHP-eligible proposed Montlake historic district would be adversely affected because of the loss of the landscaped buffer zone at the rear of these properties. Although the buffer zone is not a part of these lots, it physically separates them from the highway, forming a visual buffer. Both the 4-Lane and the 6-Lane Alternatives would remove part of the buffer, move the roadway closer to these houses, and increase the visual effects on these residences. The adverse effects on these houses would be reduced because the 4-Lane Alternative would lower the SR 520 roadway and install a sound wall, and the 6-Lane Alternative would lower the road and install a sound wall and a lid. Additional landscaping, such as replacing the mature trees that currently exist on the buffer property, would help mitigate the adverse visual effect.

Evergreen Point Bridge

Another historic resource that would be adversely affected is the Evergreen Point Bridge. Removal of the bridge could be compensated for by providing Level 1 HABS/HAER documentation for the bridge, which would include photographs, measured drawings, and a written history component. Additional compensation for the loss of the bridge could include funding of a bridge- or transportation-related community project, such as a survey of historic transportation elements in the area;

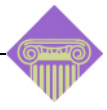
funding of an educational display at a local museum on historic bridges of the Puget Sound region; or funding of an educational publication or development of a Web site featuring historic bridges and/or transportation facilities in the region.

2851 Evergreen Point Road

Under the 4-Lane Alternative, the 2851 Evergreen Point Road site in Medina would be adversely affected through the loss of property to accommodate the new bicycle/pedestrian path and bridge operations facility access road. The loss of property could involve complete removal or partial removal of the garage and removal of a small section of the house. Installing a sound wall would lessen the visual and audible effects from SR 520, and installing landscaping would lessen the visual effects from the new path and access road. Changing the project design to move the new bicycle/pedestrian path to the north side of SR 520 would reduce or eliminate the property loss. If this is not possible, then relocating or rebuilding the garage could contribute toward compensation for the property loss, especially since the garage does not appear to be original to the design of the house. If removal of a portion of the residence is necessary, consultation with the SHPO would occur. Working with the SHPO, a qualified architect could be engaged to redesign the section of the house where the partial demolition would take place to ensure that the house retains its original design as closely as possible. Consultation with the SHPO is necessary so that no changes are made to the property that would impair its NRHP eligibility.

Bellevue Christian School

At the Bellevue Christian School in Medina, installation of landscaping could compensate for the acquisition of a narrow strip of land fronting on SR 520 that would be used for the new bicycle/pedestrian path.



References and Bibliography

Archaeological Research Services, Inc. 1981. Cultural Resource Survey at Mortimer Property, Yarrow Point, King County, Washington. National Archaeological Database Document No. 1331030 on file, Department of Archaeology and Historic Preservation, Olympia, WA.

Ballard, A. 1929. Mythology of Southern Puget Sound Salish. *University of Washington Publications in Anthropology* 3(2):31-150.

Blukis Onat, A.R., R.A. Kiers, and P.D. LeTourneau. [BOAS]. 2005. Preliminary Ethnographic and Geoarchaeological Study of the SR 520 Bridge Replacement and HOV Project. Report on file, Washington Department of Transportation, Seattle, WA.

BOLA Architecture and Planning with Karen Kiest/Landscape Architects. 2003. *Washington Park Arboretum Historic Review, September 2003.* Report on file, Seattle Parks and Recreation, Seattle, WA.

Buerge, D. 1984. Indian Lake Washington. *The Weekly.* August 1, 1984.

CH2M HILL. 2003. *Sunken Vessel Summary Report*. Prepared for Washington State Department of Transportation, Urban Corridors Office and Sound Transit. SR 520 Bridge Replacement and HOV Project Team, Parametrix, Inc., CH2M HILL, and Parsons Brinckerhoff.

Chrzastowski, M. 1981. *Historical Changes to Lake Washington and Route of the Lake Washington Ship Canal, King County, Washington*. Department of the Interior, United States Geological Survey, Open File Report 81-1182. U.S. Government Printing Office, Washington, D.C.

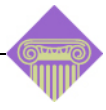
Courtois, S., K. Krafft, C. Wickwire, J. Bard and R. McClintock. 1999. *Central Link Light Rail Transit Project Seattle, Tukwila and SeaTac, Washington. Final Technical Report: Historic and Prehistoric Archaeological Sites, Historic Resources, Native American Traditional Cultural Properties, and Paleontological Sites*. Central Puget Sound Regional Transit Authority, Seattle, WA.

Denny, E.I. 1909. *Blazing the Way: True Stories, Songs and Sketches of Puget Sound and other Pioneers*. Rainier Printing Company, Seattle, WA.

Dorpat, Paul. 1984. *Seattle Now & Then*. Tartu Publications, Seattle.

Dorpat, Paul. Seattle's History - A 10-Minute Slide Show. n.d. http://www.historylink.org/essays/output.cfm?file_id=7085 Accessed June 3, 2005.

Elridge, V. 1984. 45KI266. *Washington State Archaeological Site Inventory Form*. On file at Washington State Department of Archaeology and Historic Preservation, Lacey, WA.



Forsman, L.A., D.E. Lewarch, and L.L. Larson. 1997. *Denny Way/Lake Union Combined Sewer Overflow Control Project, Seattle, King County, Cultural Resources Assessment*. Report on file, Department of Archaeology and Historic Preservation, Lacey, WA.

Galster, R.W. and W.T. Laprade. 1991. Geology of Seattle, Washington, United States of America. *Bulletin of the Association of Engineering Geologists* 28(2):235-302.

Gessel, S.P. 1966. Soils of the Arboretum. *Arboretum Bulletin* 69-72, 82-83, Seattle.

Gibbs, G. 1855. *Report of Mr. George Gibbs to Captain Mc'Clellan, on the Indian Tribes of the Territory of Washington.* Olympia, Washington Territory, March 4, 854. Pg. 402-434 in Report of Explorations for a Route for the Pacific Railroad, near the Forty-seventh and Forty-ninth Parallels of North Latitude, from St. Paul to Puget Sound; by I.I. Stevens, Governor of Washington Territory. In Vol. 1 of Reports of Explorations an Surveys … from the Mississippi River to the Pacific Ocean … 1853-1854, 33d Congress. 2d Edition. Senate Executive Document 78. (Serial No. 758). Reprinted Ye Galleon Press, Fairfield, WA.

Gould, James W. 2000. Montlake History. http://montlake.net/mcc/mcc_history_Jim_Gould.htm. Last updated January 21, 2000.

Haeberlin, H. and E. Gunther. 1930. The Indians of Puget Sound. *University of Washington Publications in Anthropology* 4(1):1-83.

Haeberlin, H.K. 1918. ***SbeTeTDA'Q,*** a Shamanistic Performance of the Coast Salish. *American Anthropologist* 20(3):248-257.

Harding, Brian. 2004. Bellevue Public School System, internal file on Three Points Elementary School, aka Bellevue Christian Elementary School.

Harrington, J.P. Ca. 1909. John P. Harrington Papers. *National Anthropological Archives, Smithsonian Institution. Reel* 15, 1907-1957, on microfilm at Suzzallo Library, University of Washington, Seattle, WA.

Hart Crowser, Inc. 1998. *Football/Soccer Stadium and Exhibition Center Project: Appendix K, Cultural and Archaeological Resources Technical Report*. Report on file, Historical Research Associates, Inc., Seattle, Washington.

Havighurst, Walter. 1961. As cited in Rains, Albert, Chairman and Laurance G. Henderson, Director - Special Committee on Historic Preservation, United States Conference of Mayors. 1983. *With Heritage So Rich – National Trust for Historic Preservation*. Washington, D.C.: The Preservation Press.

Herkelrath, John. Facilities Maintenance Manager, NOAA Northwest Fisheries Science Center, Seattle, WA. June 12, 2004—personal communication.

Hilbert, V., J. Miller and Z. Zahir (eds.). 2001. ***sdaʔdaʔ gʷəɬdibəɬk 1əsucidʔacaci ɬtalbixʷ*** Puget Sound Geography, Original Manuscript from T.T. Waterman. Lushootseed Press, Federal Way, WA.

Historic Preservation Program, Seattle Department of Neighborhoods. nd. Historic Preservation in Seattle – a guide to incentives and procedures.

Hobbs, Richard S. and Craig E. Holstine. 2004. Spanning Washington: Historic Highway Bridges of the Evergreen State. Our Amazing Floating Bridges. Publication pending, January 2004.

Kennedy, H. and L.L. Larson. 1984. Historical and Archaeological Resources Overview for the City of Bellevue North Fork Snoqualmie River, Municipal Water Supply Project and Field Reconnaissance of the Reservoir, Penstock, Pipeline, and Powerhouse Locations. B.O.A.S., Seattle, WA.

King County Historic Preservation Program. 1999. What are Landmark Designation Criteria? *Technical Paper No. 9. King County Historic Preservation Program Landmark Assistance.* http://www.metrokc.gov/exec/bred/hpp/assist/pubs.htm, revised 6/99. Accessed April 28, 2004.

Knauss, S. (ed.). 2002. *A Point in Time: A History of Yarrow Point, Washington*. Belgate Printing, the Town of Yarrow Point, Washington.

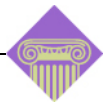
Kreisman, L. 1999. *Made to Last: Historic Preservation in Seattle and King County*. University of Washington Press, Seattle, WA.

Lane, B. 1987. Indian Fisheries in Elliott Bay in the mid-Nineteenth Century. Preliminary Report. On file, Muckleshoot Indian Tribe, Auburn, WA.

Larson, L.L. 1993. Muckleshoot Indian Tribe Traditional Shellfish Use Report and Direct Testimony. Report prepared for the Muckleshoot Indian Tribe, Auburn, WA. On file at Larson Anthropological/ Archaeological Services, Seattle, WA.

Larson, L.L. and D.E. Lewarch. 1995. The Archaeology of West Point, Seattle, Washington: 4,000 Years of Hunter-Fisher-Gatherer Landuse in Southern Puget Sound. Report on file, Office of Archaeology and Historic Preservation, Lacey, WA.

Lyons, K.J. 1992. A Cultural Resource Overview of the Proposed Modifications to SR 520 Between 104th Avenue Northeast and SR 901, King County, Washington. Short Report 92-31, Archaeological and Historical Services, Eastern Washington University.



Mauldin, D. B. nd. Washington's Wondrous Highways That Float, newspaper clipping in DOT Environmental Affairs Office.

National Park Service. 1991a. *National Register Bulletin 15 – How to Apply the National Register Criteria for Evaluation*. U.S. Department of the Interior, National Park Service, Interagency Resources Division. 1990; revised 1991.

National Park Service. 1991b. *National Register Bulletin 16 - Guidelines for Completing National Register of Historic Places Forms, Part A - How to Complete the National Register Registration Form*. National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior.

NBBJ. 1995. Seattle Commons/South Lake Union Plan Final Environmental Impact Statement, Technical Appendix 15: Historic and Cultural Resources. Prepared for Office of Management and Planning, City of Seattle, Washington. May 1995.

Nyberg, F. and V. Steinbrueck. 1975. *A Visual Inventory of Building and Urban Design Resources for Seattle, Washington.* Historic Seattle Preservation and Development Authority.

Ochsner, Jeffrey Karl, ed. 1998. *Shaping Seattle Architecture, A Historical Guide to the Architects.* University of Washington Press, Seattle and London.

Parker, P.L. and T.F. King. 1990. *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. U.S. Department of the Interior, National Park Service, Interagency Resources Division, National Register Bulletin 38. Washington, D.C.

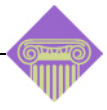
Payton, Charles. 2004. Landmark and Historic Site Information. *Technical Paper No. 2, King County Historic Preservation Program Information Resources*. http://www.metrokc.gov/exec/bred/hpp/info/index.htm, revised 6/99. Accessed April 28, 2004.

Peacock, Jim. Librarian, NOAA Northwest Fisheries Science Center, Seattle, WA. June 14, 2004—personal communication.

Plummer, C. 1991. Foster Island – History, Visitor Use and Management. Unpublished Masters Thesis. University of Washington, Seattle, WA.

Rains, Albert, Chairman and Laurance G. Henderson, Director - Special Committee on Historic Preservation, United States Conference of Mayors. 1983. *With Heritage So Rich – National Trust for Historic Preservation*. Washington, D.C.: The Preservation Press.

Robinson, J. 1983. A Preliminary Archaeological Reconnaissance of SR 520: 108th Avenue N.E. Transit Access Ramp, King County. National



Archaeological Database Document No. 1330674 on file at Department of Archaeology and Historic Preservation, Olympia, WA.

Robinson, J. 1981. An Archaeological Reconnaissance of L-6520, SR 202: SR 520 to N.E. 124th Street. National Archaeological Database Document No. 1332811 on file at Department of Archaeology and Historic Preservation, Olympia, WA.

Rochester, Junius. 1998. Medina -- Thumbnail History. HistoryLink.org. http://www.historylink.org/essays/output.cfm?file_id=1059 Accessed December 2005.

Roedel, K.W., L.A. Forsman, D.E. Lewarch, and L.L. Larson. 2004. Burke-Gilman Trail Extension Archaeological Resources and Traditional Cultural Places Assessment, City of Seattle, King County, Washington. National Archaeological Data Base Report NADB OAHP 1343092 on file, Department of Archaeology and Historic Preservation, Olympia. Seattle Fire Department. 2004. www.cityofseattle.net/fire/home.htm. Accessed April 28, 2004.

Sherwood, Donald N. July 3, 1974. History: Roanoke Park. Sherwood History Files of Seattle Parks and Recreation. http://www.ci.seattle.wa.us/parks/history/sherwood.htm

Sherwood, Donald N. August 15, 1974. History: Montlake Boulevard Center Strip. Sherwood History Files of Seattle Parks and Recreation. http://www.ci.seattle.wa.us/parks/history/sherwood.htm

Sherwood, Donald N. July 31, 1974. Museum of History and Industry - McCurdy Park. Sherwood History Files of Seattle Parks and Recreation. http://www.cityofseattle.net/parks/history/McCurdyPk.pdf

Smith, E. No date. *Montlake: One of Seattle's Treasures.* http://montlake.net/mcc/mcc_history_Eugene_Smith.htm. Accessed April 28, 2004.

Smith, M.W. 1940. *The Puyallup-Nisqually.* Columbia University Contributions to Anthropology. Vol. 32. Columbia University Press, New York, NY.

Sortun-Vos Architects. 2004. *Queen City Yacht Club.* http://www.sortun-vos.com/projects/commercial/commercial_queencity.htm. Accessed April 28, 2004.

Speer, Tom. February 14, 2004—personal communication.

Stein, Alan J. 1998. Bellevue -- Thumbnail History. HistoryLink.org http://www.historylink.org/essays/output.cfm?file_id=313 Accessed December 2005.

Tobin, C. and Hart Crowser. 1995. Historic and Cultural Resources. Seattle Commons/South Lake Union Plan, Final Environmental Impact Statement, Volume 3A Technical Appendices. City of Seattle, Office of Management and Planning.

Tobin, C. and L. Pendergrass. 1993. *Bellevue Historic and Cultural Resources Survey*. City of Bellevue, WA.

Tobin, C. and L. Pendergrass. 1993. *Bellevue Historic and Cultural Resources Survey, Updated July 1997*. City of Bellevue, WA.

Turner, H. 1976. Ethnozoology of the Snoqualmie. Unpublished manuscript, Northwest Collection, Suzzallo Library, University of Washington, Seattle, WA.

Wandrey, M.I. 1975. *Four Bridges to Seattle: Old Ballard.* Ballard Printing and Publishing, Seattle, WA.

"Washington Heritage Register." http://www.DAHP.wa.gov/. January 23, 2002.

Waterman, T.T. 1992. The Geographical Names Used by the Indians of the Pacific Coast. *The Geographical Review* 12:175-194. The American Geographical Society, New York, NY.

Waterman, T.T. Ca. 1920. Puget Sound Geography. Unpublished manuscript on file Pacific Northwest Collection, Allen Library, University of Washington, Seattle, WA.

Williams, R.W., R. M. Laramie and J.J. Ames. 1975. *A Catalog of Washington Streams and Salmon Utilization, Volume 1, Puget Sound.* Washington State Department of Fisheries, Olympia, WA.

Wolin, E. 2003. Technical Memorandum – Sunken Vessels Potentially Located Near the Proposed SR 520 Alignment. SR 520 Bridge Replacement and HOV Project Team, Parametrix, Inc., CH2M HILL, and Parsons Brinckerhoff for the Washington State Department of Transportation, SoundTransit and the U.S. Federal Highway Administration.

Woodbridge, Sally B. and Roger Montgomery. 1980. *A Guide to Architecture of Washington State: An Environmental Perspective.* University of Washington Press, Seattle and London.

Attachment 1

Summary of the Geological and Geomorphological Study

Attachment 1

Summary of the Geological and Geomorphological Report

The geological history and geomorphic setting of the SR 520 project area was examined in detail by BOAS (2005) to identify areas of archaeological potential. Their study made use of geological, geomorphological, and geotechnical studies about Lake Washington and vicinity, and the Area of Potential Affect (APE) specifically. They identified post-glacial landforms that were available to prehistoric people within the project area, and considered how changing environmental and geomorphic conditions (isostasy, tectonic events, drainage development) modified that availability throughout the Holocene Epoch (referred to as the Holocene; the geologic period extending from the present to approximately 10,000 years ago). They also examined how modern human modifications (e.g., construction of Montlake Cut and Montlake Bridge, road construction including SR 520, landfills, and grading and excavation for residential development) affected potential archaeological site locations. The following summary deletes specific source citations to enhance readability (the interested reader can find full references at References Cited in BOAS 2005:102-112).

Glaciation

The most recent glacial advance responsible for most of the today's geologic and topographic conditions was the southward expansion of the Cordilleran Ice Sheet into northwestern Washington. The Juan de Fuca lobe moved west through the Strait of Juan de Fuca while the Puget Lobe flowed south into the Puget Lowland between the Olympic Mountains and the Cascade Range. The deposits of this most recent advance are known as the Vashon Stade of the Fraser Glaciation and blanket the Puget Sound Lowland. The Puget Lobe reached the northern limit of the Puget Lowland about 18,000 years ago. As it advanced, it blocked northward-flowing streams, dammed major valleys, formed proglacial lakes, and deposited lacustrine clay and outwash sand. The glacial margin arrived near Seattle about 17,500 years ago, depositing the Vashon till, and reached near Centralia about 17,000 years ago. The glacier was about 1,000 meters (3,280 feet) thick and covered Seattle for about 1,000 years.

As the ice sheet retreated, meltwater drained into the lowland, creating proglacial lakes that could not follow the modern drainage path north and west out the Strait of Juan de Fuca because the strait was still filled with ice. Instead, meltwater was diverted south along the margins of the ice sheet, creating channels and locally broad plains of Vashon recessional outwash, emptying through the spillway through the valley of Black Lake near Olympia, and then along the valley of the modern Chehalis River to the Pacific Ocean. In northern and central Puget Sound,

extensive deposits of glaciomarine drift are found, representing the first opening of Puget Sound to marine waters after deglaciation. Below the 1,000 meter (about 3,300 feet) elevation , nearly the entire land surface was created or modified by glacial processes that left visible north-trending elongated ridges or drift uplands (separated by deep troughs now occupied by marine waters, freshwater lakes, or streams). The largest troughs are now occupied by Puget Sound, the Duwamish-Green River Valley, Lake Washington, and Lake Sammamish. Other landscape features of the Puget Lowland include numerous surface depressions created during glacial recession that are now occupied by small lakes and bogs.

The Holocene Epoch includes the past 10,000 years that the Puget Lowland has been ice-free. During this time, the shorelines, deltas, and intertidal zones of Puget Sound were shaped as sea levels rose and the land adjusted to the removal of glacial ice. Erosion leveled some of the irregular topography left behind by the last glaciation, while sedimentation filled in valleys and buried other topographic features.

Seattle lies close to an active volcanic zone that periodically deposits distinct stratigraphic markers, or tephras (ash), which can be used as chronological (time) markers. One of the most widespread and useful markers is the Mazama ashfall, which was deposited about 7,600 calendar (cal) years before present (BP) following the eruption of Mount Mazama (forming Oregon's Crater Lake). Mazama ashfall is usually preserved where it was deposited in low energy aquatic environments such as lakes and marshes, where it settled to the bottom and was buried. It is present in Lake Washington sediment cores and provides chronological control to understand lake deposition events.

Tectonics and Seismicity

Seattle is also subject to large, destructive earthquakes. The tectonics and seismicity of western Washington are largely affected by the interaction of the Juan de Fuca tectonic plate (off the Washington coast) with the adjacent North American plate which underlies the continental United States. One set of tectonic forces is driving the Juan de Fuca plate to the east such that it collides with and dives below (subducts) the North American plate. Other tectonic forces create tectonic stresses in the Pacific Northwest through a complex interaction of tectonic blocks between California and Canada. The combination of these regional stresses results in conditions where earthquakes are found within three seismogenic source zones: Crustal, Benioff (intraplate), and Interplate (subduction).

Most seismic events in the Puget Sound region are related to shallow crustal faults and folds that are located within about 25 kilometers (km) (15.5 miles) of the surface (the Tacoma structure, the Seattle fault, the Kingston arch, and the southern Whidbey Island fault). Generally, crustal earthquakes have magnitudes less than 5 on the Richter scale, and are not associated with known fault structures. The Seattle fault is the only crustal structure in the region with documented Holocene displacement; it extends from Bainbridge Island to Issaquah. The Seattle fault zone in the Puget Sound region is at least 4 km (2.48 miles) to 6 km (3.72 miles) wide, with

at least four fault strands crossing Lake Washington in the vicinity of Mercer Island. The SR 520 project area lies north of all mapped interpretations of the Seattle fault zone. Damaging earthquakes have occurred within the subducting Juan de Fuca plate and, as such, occur within the Benioff zone and are commonly called intraplate events. These earthquakes typically occur at depths between 40 km (24.8 miles) and 60 (37.2 miles) km. The largest historic earthquakes have all occurred within the Benioff zone, which can produce earthquakes with a maximum magnitude of about 7.5. The Cascadia Subduction Zone can produce the largest earthquakes with maximum magnitudes between 8 and 9. Earthquakes on the Cascadia Subduction Zone have been inferred from historical tsunami records in Japan and the U. S., as well as dating regional coastal uplifts. The Cascadia Subduction Zone has repeatedly ruptured at about 500-year intervals over the past 3,000 years, with the last occurring about 300 years ago. However, its distance from Seattle would significantly reduce the level of ground shaking experienced locally and would be much lower than from a rupture of the Seattle Fault.

Lake Washington is an important target for earthquake research due to its proximity to major population centers, its location on the Seattle fault, and its depositional environment. Numerous coastal and underwater landslides are found around the lake. Radiocarbon dating and downcore magnetic profiles from these landslides establish a sediment record in which sedimentary disturbances occurred seven times in the last 3,500 years. If these deposits are seismically induced, then large earthquakes have possibly occurred as frequently as about every 300 to 500 years.

The best-documented prehistoric earthquake occurred about 1,100 years ago on the Seattle fault and triggered 5 meters (16.4 feet) to 7 meters (26.6 feet) of ground uplift at Restoration Point on Bainbridge Island. The shaking caused a tsunami in Puget Sound and landslides and associated depositions in Lake Washington. The age of this earthquake is based on dendrochronology of submerged trees on a large block slide off southeastern Mercer Island, and a log found in tsunami deposits at West Point, suggesting that the trees died in the same year and same season. Highly precise radiocarbon dates indicate the earthquake occurred between 900 to 930 A.D. This earthquake caused “sloshing,” or seiches, in Lake Washington and Lake Sammamish. The lake seiches eroded shorelines and caused large blocks of earth to slip from bluffs along the lake shorelines. Portions of the Lake Sammamish basin north of the Seattle fault dropped in elevation during the earthquake. Portions of Lake Washington may also have dropped in elevation.

Analysis of seismic activity can help archaeologists infer changes to hunter-gatherer land use patterns and estimate the location of archaeological sites. Landforms that were exposed prior to seismic events may be inundated and preserved below more recent lacustrine sediments. Archaeological deposits on beaches that subsided during earthquakes may have been eroded by waves when the sediments were lowered into the active beach zone.

Landslides and Mudflows

Seattle is built on and around the north-south oriented elongate hills left behind by the last glaciation. Since the withdrawal of the last ice sheet, the slopes have been constantly changing and landslides are common along the hill flanks. Bluffs have developed along many miles of Puget Sound and Lake Washington shorelines, and gullies and ravines have been eroded in the glacial drift uplands. Landslides can occur on these near-vertical faces by calving or sloughing, or on gentler slopes composed of loose colluvium. Landslide types common in the Seattle area include slumps, debris avalanches, earth flows, debris falls, and mudflows.

Landslides in the Seattle area are a function of slope angle and the geologic conditions at a specific site. Landslides generally occur where surficial debris (including slope wash, artificial fill, and vegetational debris) or permeable deposits rest on relatively impermeable deposits. The tops of the hills in Seattle are commonly capped by dense till, but "windows" in the till allow water to locally infiltrate and percolate downward through the sand until it encounters the impermeable clay/silt. If water infiltrates at a greater rate than it can be transmitted out the ridge sides, the material becomes saturated and slope failure occurs.

The Osceola mudflow (off the flanks of Mount Rainier) occurred between 5,800 and 5,600 years ago and was the largest mass wasting event in the Puget Lowland within the past 15,000 years. Although Osceola mudflow deposits do not extend as far north as the project area, the event affected alluviation in the Duwamish River-Green River Valley and, ultimately, Lake Washington water levels. The mud flowed down the White River Valley and across the Enumclaw plateau. It flowed over and down the bluffs on the north end of the plateau, covered the ancestral delta of the Green River at the mouth of the Green River Valley, and flowed along the bottom of the Duwamish Embayment approximately 11 km (7 miles) north, directly north of Kent. The Duwamish Embayment, an arm of Puget Sound that extended from what is now Elliot Bay in Seattle to Commencement Bay in Tacoma, was a marine fjord that existed from the post-glacial period until a few hundred years ago.

Over the past 5,700 years, the White River eroded mudflow sediments and gradually filled the Duwamish Embayment, to form the contemporary Duwamish River-Green River Valley floodplain. The ancient shoreline of the Duwamish Embayment 5,700 years ago advanced to the present shoreline in Elliot Bay at a rate of about 29 feet (9 meters) per year; the delta of the ancestral Duwamish River would have reached the Black River confluence by about 2,000 years ago. The aggradation of the Duwamish Valley likely would have affected the outlet of Lake Washington, as described later.

Sea Level Changes

During major periods of glaciation, ocean volume decreases as an increasing amount of water is stored on the continents as ice. For this reason, eustatic (worldwide) sea level in the immediate post-glacial period was almost 125 meters (400 feet) lower than today. Isostatic rebound, or

uplift of landforms in the Puget Lowland after the weight of the glacial ice was removed, caused land surfaces to rise rapidly by 60 meters (196.8 feet) to 80 meters (262.5 feet) relative to the surface of Puget Sound. Although eustatic sea levels also rose, land surfaces increased in elevation from isostatic rebound more rapidly than eustatic sea level from 15,000 to 10,000 years ago. Terrestrial landforms in and adjacent to marine embayments in much of the Puget Lowland were raised above sea level. Isostatic rebound in Puget Sound ceased by 10,000 to 9,000 years ago, but the sea level continued to rise. By 8,500 years ago, the elevation of Puget Sound rose relative to the land, including a period of very rapid sea level rise through 5,000 years ago. Sea level was within about 5 meters (16.4 feet) of the contemporary surface elevation of Puget Sound by 5,700 years ago and has been gradually rising to the contemporary elevation during the past 5,000 years. The amount and rate of sea level rise can vary throughout Puget Sound due to local differences in seismicity, weight of glacial ice, deformation of bedrock, and other geological processes.

Sea level elevation would have determined the gradient of streams and rivers that flowed into Puget Sound, or into lakes with outlets controlled by the elevation of Puget Sound. Consequently, sea level would have caused fluctuations in the surface elevation of Lake Washington. During the immediate post-glacial period, when sea level elevation was much lower than today, streams and rivers would have rapidly incised into the unconsolidated glacial outwash drift plains and developed steep gradients as they adjusted to a lower outlet. As sea level rose and the surface elevation of Puget Sound stabilized, streams and rivers would develop channels and floodplains with lower gradients, reducing the rates of channel incision and increasing channel stability. These processes and the possible effects on Lake Washington are described next.

Throughout the Holocene, the shorelines, deltas, and intertidal zones of Puget Sound acquired their shape as sea levels rose and the land adjusted to the removal of glacial ice. Erosion leveled some of the irregular topography left behind by the last glaciation, while sediments filled the valleys and buried other topographic features. Most of the surface of the Vashon drift has been little modified by post-glacial erosion, except where streams have carved steep-sided ravines along the margins of the drift plains.

Drainage

Early in the post-glacial period, ancestral channels of the Green, Cedar and Sammamish rivers and larger tributaries rapidly incised into the unconsolidated glacial outwash deposits to form floodplains and valleys. The larger rivers formed level valley bottoms with steep sidewalls. Smaller tributaries had floodplains of varying widths and depths, depending on substrate characteristics and elevation. Rivers and streams probably continued to incise floodplains between approximately 12,000 and 8,500 years ago, when sea level was much lower than today. Erosion and sedimentation of Holocene alluvium continued to occur in the troughs between the drift uplands, through which the major drainages in the Seattle area flow (Exhibit 1). The

Sammamish River flowed from the north end of Lake Sammamish to the north end of Lake Washington, and during most of the Holocene was the major tributary of Lake Washington.

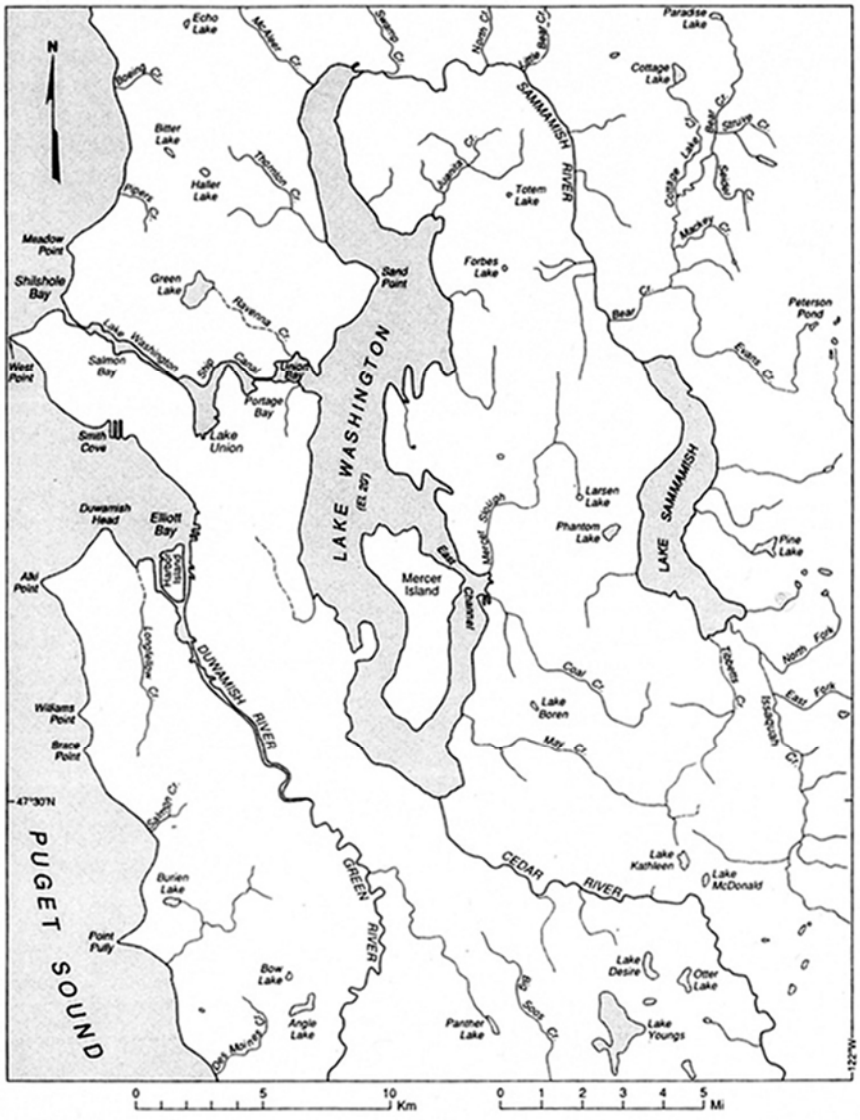


Exhibit 1. Map Showing Major Drainages and Water Bodies of the Seattle Area (Galster and Laprade 1991:245).

Lake Washington originally discharged at its southern end through the Black River, which flowed southward and then westward a total distance of 3.3 miles. The river ranged in width from 50 to 150 feet and had an average depth of 4 feet. The Black River joined what was then the White River to form the Duwamish River, which meandered northward and discharged into Elliot Bay. By 1906, the White River was permanently diverted from the channel that joined the Black River, and since then its former major tributary, the Green River, has occupied the channel upstream from the Black-Duwamish confluence.

The Cedar River, which originates in the Cascade Mountains and now flows into the south end of Lake Washington, formerly flowed into the Duwamish River via the Black River. Prehistorically, the Cedar River may have been a major tributary to Lake Washington, as it now is; however, historical accounts indicate that, prior to 1912, the main channel of the Cedar River did not enter the lake but instead joined the Black River 0.5 mile downstream from the lake outlet. When the Cedar was at flood stage, its flow branched into several channels near its mouth, part flowing westward to the Black River, but part also northward across then extensive wetlands and into Lake Washington. Cedar River floodwaters commonly reversed the flow

direction in the upper segment of the Black River, discharging Cedar River floodwaters into Lake Washington.

Lake Washington Hydrology

The post-glacial history of Lake Washington is not well documented, and is the result of the complex interaction of a series of geologic processes. The trough now occupied by Lake Washington was a marine embayment during deglaciation, as evidenced by blue clay glaciomarine sediments that underlie much of the basin. After about 13,400 years ago the embayment was converted to a freshwater lake when a delta built by the Cedar River created a freshwater outlet above the contemporaneous sea level at its southern margin. Holocene deposits are predominantly organic, represented by thick deposits of peat. A layer of the 7,600-year-old Mazama ashfall is found at mid-depth in the limnic peat sequence.

Fluctuations in the surface elevation of Lake Washington may have been caused by large-scale shifts in the position of the Cedar River channel and, later, the Duwamish River-Green River channel. As noted above, the Cedar River channel and Duwamish River-Green River channel often changed position through avulsion (an abrupt change in the course of a stream resulting in the loss of land on one side of a stream with a consequent increase in the land on the other side), rather than through gradual migration across the floodplain. Geologists estimate that the location of the Cedar River channel rapidly moved positions many times on the river delta in what is now Renton.

Several processes affected Lake Washington shoreline changes, including the stabilization of eustatic sea level, which indirectly controlled the outlet to the lake through the Duwamish Embayment; aggradation of the Duwamish Valley in response to the Osceola mudflow, which directly influenced the lake outlet after about 2,000 years ago; the avulsion and growth of the Cedar River delta; and changes in the rate of vertical strain associated with the Seattle fault zone. Scientists have tried to create a Holocene submergence curve for Lake Washington, but a detailed chronologically controlled shoreline history has not been published. Some general patterns in shoreline history have, however, been identified.

There has been a general rise in lake level since the early Holocene. Aggradation of the Cedar River delta fan at Renton caused a net transgression of the shoreline, especially after the Osceola mudflow and the Mazama ash. The Cedar River delta (now an alluvial fan) aggraded intermittently at a rate of 1 meter (3.28 feet) to 4 meters (13.12 feet) per 103 years after the Mazama ashfall, raising the lake by about 20 meters (65.6 feet) since 7,600 years ago. Each episode of aggradation was likely caused by an avulsion event on the Cedar River, which was ultimately controlled by the rate of marine transgression in the Duwamish Valley, and the supply of sediments from the White River, which flows from Mount Rainier. With the exception of a unique late-Holocene episode of dramatic submergence, the marsh stratigraphy obtained from cores throughout the lake follows a pulse-recovery pattern of inundation that is consistent with the fan avulsion model.

In the north end of the lake, cores taken from the Sammamish River delta suggest that the delta was prograding outward into a stable Lake Washington during the early Holocene. When the Mazama ash fell, the surface of Lake Washington was at least 10.5 meters (34.44 feet) below its present level. Sometime shortly after the Mazama ashfall was deposited, the delta was rapidly drowned. The causes of this rapid submergence are not yet known, but are probably some combination of the factors listed above.

A large net aggradation of the southern outlet since Mazama deposition is also suggested by the thick peat sequences in Union Bay and Mercer Slough, and by a variety of drowned landforms. Near shore, a wave cut terrace ringing the lake 40 feet below its present surface is evidence of earlier water levels. When the Lake Washington water level was artificially lowered in 1916, it apparently was being lowered from its highest recent elevation. The position of the ancient shoreline relative to today is not well documented, particularly in the project area. At the time of the Mazama ashfall 7,600 years ago, the surface of the north end of the lake was at least 10.5 meters (33.6 feet) below its present level and the south end was about 20 meters (65.6 feet) below its present level. Thick peat deposits near the center of the Lake Washington basin, including Union Bay, also indicate a rise in lake levels since that time. In Lake Union, the Mazama ash has been found in the lower few feet of a 45-foot-thick peat sequence.

Shoreline exposure in Union Bay would also have been controlled by the topography of the glacial till underlying the bay. The topography appears to be irregular, with the till surface occurring at varying depths in different parts of the bay. Areas where the till occurs at higher elevations, such as Foster Island, are more likely to have been exposed when lake levels were lower. An example of this can be found along the outer lip of Union Bay, which was evidently exposed sometime during the late Pleistocene (the geologic period between 1.6 to 1.9 million to about 10,000 years before present) or early Holocene. Unfortunately, the elevation of the contact between the till and the overlying lake deposits is not well defined throughout the bay, although available data seem to indicate that the till drops off relatively steeply from the modern shoreline.

The overall lack of data precludes a detailed reconstruction of Holocene shorelines in Union Bay. This includes a lack of relevant information on the minimal water depth associated with the peat deposits, an absence of detailed chronological control on peat deposition in the bay, and little detailed information on the effects of seismic events within the project area. Although temporal changes in Union Bay shorelines cannot be reliably mapped, general trends in the bay can be assumed from the available data. During the late Pleistocene/early Holocene, Union Bay was apparently smaller than today. After about 7,600 years ago, water levels in the bay rose at an unknown rate, perhaps by as much as 10 meters (32.8 feet). Periods of rapid emergence or submergence have not yet been documented in Union Bay. On the east side of the project area, where SR 520 meets the Lake Washington shoreline, changes in lake level would have been less significant in terms of shoreline area exposed due to the steeper slope of the depression. Vertical changes in lake level would have had less impact on horizontal exposure than in the shallower Union Bay.

Geoarchaeology

As noted earlier, BOAS (2005) identified post-glacial landforms that were available to prehistoric people within the project area, and considered how changing environmental and geomorphic conditions (isostasy, tectonic events, drainage development) modified that availability throughout the Holocene. They also examined how modern human modifications (e.g., construction of Montlake Cut and Montlake Bridge, road construction including SR 520, landfills, and grading and excavation for residential development) affected potential archaeological site locations.

Paleoenvironments and Soils

Sediment cores from Lake Washington indicate that initial post-glacial vegetation was open parkland of lodgepole pine and spruce, grasses, and bracken fern, with scattered hazel and cedar. Between approximately 11,700 years ago and 7,800 years ago, vegetation included open forest with a mosaic of grasses, bracken fern, and scattered Douglas fir, alder, lodgepole pine, and hemlock trees. Cedar, alder, and willow were on wetter landforms, such as lake margins and alluvial floodplains. Increases in charcoal, bracken fern, alder, and Douglas fir indicated higher temperatures and more frequent forest and grass fires. An increase in Western red cedar pollen indicated the beginning of a cooler, moister climate regime around 7,800 years ago in the Lake Washington basin. A closed canopy forest with western red cedar, western hemlock, and Douglas fir is inferred in the Lake Washington vicinity by 6,500 years ago. When the first settlers arrived at Seattle in 1851, the region was thickly forested with tall, large -diameter Douglas fir, red cedar, and western hemlock. Red alder and cottonwood grew on river floodplains and as pioneering trees on other disturbed land.

The development of soil indicates the presence of a stabilized landscape surface, and therefore represents an area where human occupation and artifact accumulation may have occurred. Soil characteristics, such as drainage characteristics, provide insights into formation processes that contributed to soil development, a tendency for a soil to have ponded water on the ground surface during some seasons, and native vegetation types commonly associated with a particular soil. Archaeologists use this information to identify landforms and their associated vegetation that may have been used by people prehistorically. Soils can also offer insight into the potential for preservation of archaeological remains in particular locales. Factors affecting the preservation of bone or wood, such as soil acidity, groundwater, and biological activity, can be directly evaluated by understanding soil characteristics and formation processes.

Soils in the Seattle project area consist primarily of Alderwood, Bellingham, Norma, and Kitsap series soils. Alderwood soils are typically gravelly, sandy loam soils that form on uplands in glacial till deposits. Bellingham soils form in alluvium and are mostly found in depressions on the upland glacial till plain. Norma soils formed in alluvium in basins on the glaciated uplands and in areas along the stream bottoms. Kitsap soils formed in glacial lake deposits, and are found on terraces and strongly dissected terrace fronts. “Urban land” represents soils that have

been modified by disturbance of the natural layers with additions of several feet of fill material to accommodate large industrial and housing developments.

Much of the area under and adjacent to SR 520 is mapped as Urban land. Areas not mapped as Urban land along SR 520 do not necessarily indicate that those soils areas are undisturbed. Topsoil is typically removed from beneath roadway embankments and foundations prior to construction.

Soils have been mapped in a portion of the Seattle project area within the Washington Park Arboretum by several University of Washington students and faculty.

The soil forming the core of Foster Island is Bellingham silty clay, which occupies glacial basins and depressions that have been modified by erosion and deposition. Fine silt and clay sediments probably laid down in temporarily arrested lake waters have contributed to its development. The areas along the western edges of Foster Island are mapped as Rifle peat, which was exposed when construction of the Ship Canal lowered the level of Lake Washington in 1916. Rifle peat is usually found in swampy areas of stream bottoms, and, less commonly, along the edges of large lakes. The top 16 inches or so of a typical Rifle bog is composed of granular, decomposed, dark reddish-brown woody peat. Below this the peat becomes increasingly decomposed with depth, consisting of matted fibrous woody fragments and some remnants of sedge, reed, and roots imbedded in colloidal organic material.

The remaining Arboretum soils in the project area are mapped as Anthromorphic soils (Exhibit 2), meaning that they are the result of human activity. The Anthromorphic soils on the south side of SR 520 were formed when the area was used as a garbage dump in the first third of the twentieth century (see below), and are composed of ashes, rubbish, and other fill material that has been covered with a layer of silt loam and silty clay loam to depths of from 1 to 2 feet. The Anthromorphic soils on the north side of SR 520 represent Marsh Island, which is an artificial island created for the Arboretum waterfront trail, which opened in 1968. The Anthromorphic series soils would probably be designated Urban land by the Soil Conservation Service.

Historic Changes to Lake Washington

Early efforts to improve navigation through the Black and Duwamish Rivers between Elliott Bay and Lake Washington included dredging out bars and removing other obstructions. This enhanced the channel capacity and decreased the backwater at the lake outlet during periods of flooding and reduced the highest water levels of Lake Washington. The last time that backwater flooding occurred in the Cedar, Black, and Duwamish river valleys was in December 1867 and was probably the final time that the lake reached a "natural" extreme high water level.

Major lake level changes would occur with the excavation of a canal between Lakes Washington and Union. Navigation was the principal objective to aid the transport of logs, coal, and farm produce; flood control was an additional advantage. In 1885, a shallow, 16-foot-wide excavation

was made to meet the need of the bustling timber and sawmill operations to pass logs between Union Bay on Lake Washington and Portage Bay on Lake Union. Known locally as the Portage Canal, this narrow canal took advantage of the natural difference in the lake-water levels, which produced a current to transport logs down the chute from the higher Lake Washington to Portage Bay. The effects of this shallow canal on water levels in Lake Washington are not known but were probably negligible.

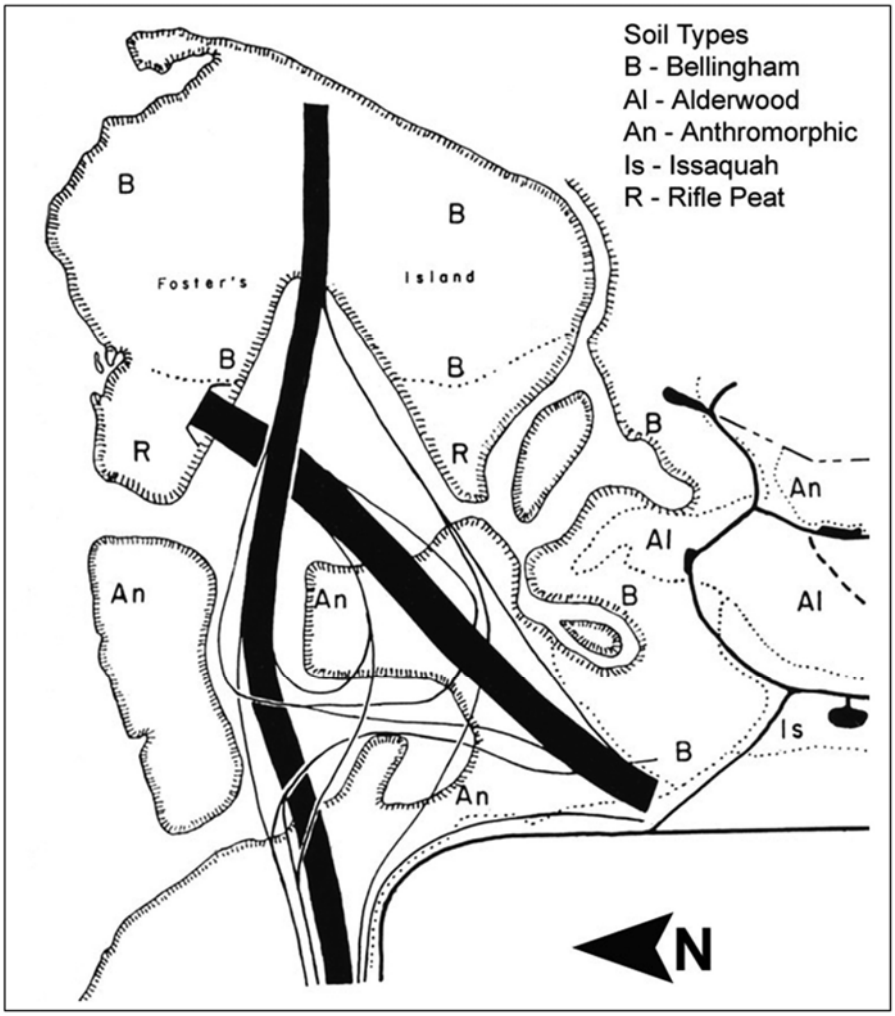


Exhibit 2. Soil of the Washington Park Arboretum (modified from Gessel 1966:70). The east-west bold line represents SR 520. The northeast-trending bold line represents the proposed expressway that was never built.

Before the Lake Washington Ship Canal was built, the nominal elevation of Lake Washington was 30 feet (9.1 meters) and fluctuated considerably—as much as 7 feet between wet and dry seasons at the time of earliest pioneer settlement, then decreasing to 3 to 4 feet as human intervention improved the lake's flood-stage discharge. Before the Ship Canal was built, the mean seasonal elevation of Lake Union was about as it is now—21 feet above mean lower low water (MLLW, which is a tidal datum that represents the average of the lower low water height of each tidal day). Seasonal variation in Lake Union was about 0.5 feet. No rivers entered Lake Union, and the small natural inflow was limited to springs, small streams, and intermittent runoff from surrounding hills. Limited inflow undoubtedly contributed to dry-season stagnation and degradation of the lake. The lake's outlet was at its northwest corner, through a small, non-navigable stream, which descended westward to Salmon Bay along a route generally corresponding to the present-day Fremont Cut.

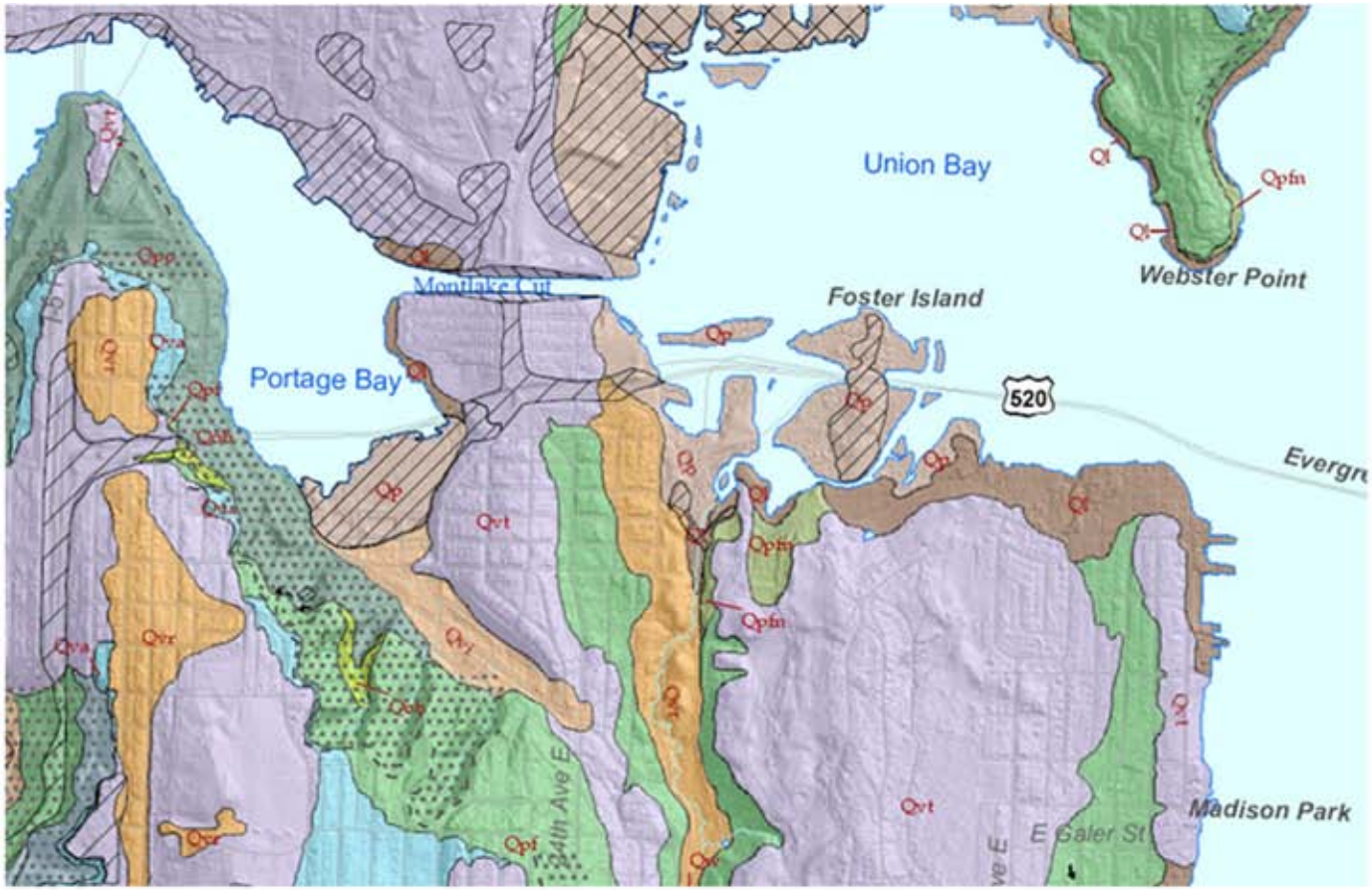
Construction began on a navigable Ship Canal in 1910. The Montlake Cut was excavated between Union Bay on Lake Washington and Portage Bay on Lake Union and was completed in 1916. Lake Washington was gradually lowered a nominal 10 feet (3 meters) to the level of Lake Union between August and October 1916. The lowering of Lake Washington eliminated the drainage via the Black River, and the Cedar River was diverted into Lake Washington. The lowering of the lake also exposed a broad wave-cut terrace around the perimeter of the lake, most of which is now the site of waterfront homes.

Lake level elevation data help estimate the relationship between contemporary shoreline environments and the position of former shorelines. Inundated archaeological sites may occur on old, inundated shorelines of Lake Washington. Late prehistoric or historic sites may occur on the pre-1916, exposed shoreline. Information regarding lake level elevation can also be used to estimate possible effects on hunter-gatherer land use patterns in the past and to evaluate the probability of lacustrine landforms to have intact archaeological deposits. Changes in lake level elevations would have affected the resource productivity and locations of lacustrine habitats.

Seattle Project Area Landform Features

A newly released geologic map of Seattle (Troost et al. 2005) provided BOAS (2005: Figure 18) with more detailed information on the geology of Seattle project area than was previously available (Exhibit 3). The western end of the APE begins at the I-5/SR 520 Interchange and stretches east. Except for where it ascends Capitol Hill, the western portion of the APE follows a west-northwest-trending topographic low that is now occupied by Salmon Bay, Lake Union, and Portage Bay. To the east-southeast, this trend coincides with the southward widening of Lake Washington in line with the north side of the Newcastle Hills bedrock promontory. The western end of the APE at I-5 lies on the western flank of the northern end of Capitol Hill, one of several elongate north-trending glacial drift ridges in Seattle left over from the most recent glaciation. Capitol Hill is capped by Vashon subglacial till and recessional outwash deposits, resting on Vashon advance outwash deposits. Older pre-Vashon Pleistocene deposits are exposed along the lower eastern flank of the hill.

The APE is elevated above the steep eastern flank of Capitol Hill, which has experienced significant mass wasting events as evidenced by landslide deposits. Below Capitol Hill, the APE crosses the southern portion of Portage Bay, before bisecting the isthmus of land that formerly separated Portage Bay and Union Bay. This 0.4-mile-wide ridge of land formerly reached an elevation of about 80 feet and consists of sandy, gravelly Vashon till and associated intra-till fluvial sediments. This ridge historically had a depression where a small stream reportedly crossed from Union Bay into Portage Bay. The reported “stream” may have been the flow through a small ditch shoveled across the ridge in 1860 by Harvey L. Pike in the unsuccessful early attempt to make a canal between the two lakes, or a seasonal spring-fed stream.



The map base consists of a hillshade applied to a DEM derived from King County LIDAR data. Cultural data shown on the map are from City of Seattle GIS files.

Map Units

Nonglacial Deposits (Holocene)

- water
- Qp - Peat
- Ql - Lake deposits

Younger Glacial Deposits (Fraser Glaciation, Pleistocene)

- Qvr - Vashon recessional outwash deposits
- Qvi - Vashon ice-contact deposits
- Qvt - Vashon subglacial till
- Qva - Vashon advance outwash deposits

Older Glacial and Nonglacial Deposits (Pleistocene)

- Qpf - Pre-Fraser glaciation age deposits
- Qpfn - Pre-Fraser nonglacial deposits
- Qob - Olympia beds
- Qpo - Pre-Olympia deposits

Overprints

- Landslide deposits
- Modified land
- af - artificial fill
- afl - landfill debris
- Scarps
- Till bed

N

SOURCE:
Troost et al. (2005)

Exhibit 3. **Geologic Map of the Seattle Project Area**

East of the ridge, the APE continues across and north of the northern end of the East Madison Low, which is the north-south trending lowland trough between Capitol Hill to the west and the Mount Baker Ridge to the east. The Arboretum now largely occupies this lowland trough, which opens onto Union Bay, a shallow embayment of approximately 0.8 square mile of water and marsh located midway along the western shore of Lake Washington. A small stream (Arboretum Creek) flows through the East Madison Low and enters Union Bay just south of the APE. The APE crosses Foster Island, on the Arboretum property in Union Bay, before crossing into the open waters of Lake Washington.

Thick Vashon till deposits underlie Portage and Union bays, and forms the ridge between the bays and the core of Foster Island. Borings drilled in 1911 showed that the till surface beneath the Portage Bay section of the Ship Canal varied from MLLW to -10 feet. On the Union Bay side, the till surface drops off sharply to well below MLLW, and consists largely of mud and soft clay, an ooze that extends to considerable depths. Exceptions to this are just north of Foster Island, where a narrow rib of till rises to elevation 25 feet, a mere 5 feet below the nominal level of the lake, Foster Island, and a ridge that forms the outer lip of the bay.

Based on core samples collected in 1961 by the Washington State Highway Commission in advance of SR 520 construction, a sediment profile running from Foster Island to the eastern edge of Union Bay revealed a sequence of four major sediment units: a friable to consolidated, poorly sorted silty sand at the base of the sequence; a heterogeneous sand, silt, and clay unit; a dense, mottled clay unit; and fibrous and sedimentary peat. The sand at the base of the sequence was penetrated only near the eastern margin of the bay and near Foster Island, whereas in the intervening area the borings were terminated in the heterogeneous sand, silt, and clay unit.

After the clay unit was deposited, Union Bay (except possibly Foster Island) was covered with water, and in much of the area sedimentary peat began to form on the bottom. After only a few inches to a few feet of peat had been deposited, a layer of Mazama ash was laid down. Since then, about 40 feet of fibrous peat has been deposited in the bay.

Eastside Landform Features

After crossing Lake Washington, the APE ascends east onto the Interlake Drift Upland in Medina. The eastern shore of the lake is now a 150-foot-wide, wave-cut terrace exposed when the level of Lake Washington was lowered 10 feet in 1916.

During the early Holocene, when lake levels were lower, this terrace probably extended west into the lake. A 100-foot-high bluff rises above the shoreline terrace to the upland.

The APE route crosses the drift upland, which is composed of several north-south trending ridges and intervening outwash channels. The proposed project route crosses three Vashon glacial till ridges, which extend north into Lake Washington to form Evergreen, Hunts, and Yarrow points. The ridges are separated by shallow troughs containing Vashon recessional outwash deposits. These troughs open to the north to form Fairweather Bay and Cozy Cove.

Small, incised streams flow north into these bays, diverted into culverts below SR 520. Extensive marshlands formed in the bays when the lake level was lowered in 1916.

The route then passes along the northern slope of another north-south trending upland ridge, crossing small, incised streams that bisect the ridge and drain into Yarrow Bay to the north. The route descends into the Larsen Channel, a former outwash channel composed of Vashon recessional outwash deposits, which now drains north into a large wetland in Yarrow Bay. Although much of the project area within this channel has received significant artificial fill, geotechnical data indicate the presence of Holocene alluvium beneath the fill and above the recessional outwash deposits. At least 13 feet of Holocene alluvium was encountered beneath the fill in the vicinity of 108th Avenue Northeast, near the eastern end of the project area.

Site Formation Processes

Three primary types of geomorphic features have been identified in the project area: elevated landforms typically composed of Vashon till, depressions or troughs underlain by Vashon outwash and Holocene alluvium and colluvium, and lowland marshes. Vashon till is typically found covering the upland features and forming the core of other elevated topographic landforms, such as Foster Island and the Montlake isthmus. Post-glacial deposition on most of these landforms has been minimal, so that cultural deposits are likely to remain at or near the surface. On the slopes flanking such landforms, cultural deposits may have been buried by colluvium. Soils on till surfaces typically consist of Alderwood series and the formation of such soils may have caused cultural remains to become buried shallow beneath the ground surface by natural soil-forming processes, particularly biological activity within the upper meter of the soil profile. The growth of coniferous vegetation on such landforms has probably made the soil slightly acidic, and preservation of older cultural remains would probably be limited to lithic materials.

The Eastside project area contains several depressions or troughs underlain by outwash deposits. Alluvial and colluvial deposition have occurred on such landforms features during the Holocene. Subsurface data are generally not available for the troughs draining into Fairweather Bay and Cozy Cove. Small streams running through these valleys today are generally incised into the outwash deposits, although some alluvial deposition of reworked till has probably occurred as well. Colluvium from the till uplands may be found along the edges of these depressions. Although sufficient data are lacking, cultural deposits on these landforms would probably not be deeply buried, and preservation would be highly dependent on local conditions.

Significant alluvium deposits do occur further east within the Northup Creek drainage. Norma series soils are mapped in the vicinity of 108th Avenue Northeast and geotechnical data indicate the presence of several meters of Holocene alluvium. Such alluvium could potentially preserve stratified archaeological deposits. Preservation conditions would largely depend on the age of the deposits, the degree of water saturation and soil drainage, and soil acidity.

Significant peat deposits have formed in the marshes of Portage and Union Bay. Given the wet environment in which peat forms, it has the potential to preserve cultural materials not expected to be found elsewhere in the project area. Water content is the most important determinant of the decay processes of wood, which generally survives under water. Wooden artifacts, such as weirs, could be preserved in these marshes. Since peat deposits are acidic, bone preservation is less likely in the marshes, unless the peat is completely devoid of air. Deeper peat deposits could, therefore, preserve bone. Bone preservation is not expected in the peat that emerged with the 1916 lowering of Lake Washington, since these peats are no longer saturated and have been exposed subaerially.

Historic Modifications of the Seattle Project Area

Early Historic Land Use

Loggers were the earliest Euroamerican settlers who came to Seattle in 1852. Logging was limited by transportation, given the sheer size of the logs. The forests were first cut along the waterways where trees could be felled directly into the water and floated to sawmills. Cutting around Lake Washington proceeded slowly at first because of these transportation difficulties, but cutting accelerated with the opening of the log chute from Union Bay on Lake Washington to Lake Union in 1885, which allowed logs to be floated to the sawmills. In 1887, a railroad was built, and in 1890 a saw mill was established on Union Bay. The Puget Mill Company logged much of the present-day Seattle project area during the 1890s. By 1900, all of the timber had been cut around the Lake Washington shoreline. In other areas, particularly on the east side of Lake Washington, the land had been logged but was regenerating forest.

Portage Canal

Ethnographically and historically, the divide between Union Bay in Lake Washington and Portage Bay on Lake Union was an important portage route for canoes traveling between Puget Sound and Lake Washington. Envisioning the eventual construction of a navigable passage between the fresh waters of Lake Washington and the saltwater of Puget Sound, in 1854, Seattle pioneer Thomas Mercer proposed the name Union for the lake lying between Salmon Bay on the west and Lake Washington on the east. Although Mercer was confident that a canal would eventually connect these waters, official completion of such a canal would not occur for another 80 years.

In 1861, Harvey L. Pike acquired the land at the portage between Lakes Washington and Union. Shortly after acquiring the land, Pike ambitiously began digging a shallow ditch in a low spot of the divide south of the present Montlake Cut in the vicinity of SR 520. Pike soon found the task to be greater than he originally conceived, probably due in part to the dense glacial till through which he was digging, and he abandoned the ditch.

The Lake Washington Improvement Company (LWIC) acquired the land in 1871, and constructed a narrow gauge rail tram over which coal was transferred to and from barges. The next attempt to dig a portage canal began in 1883, when the LWIC hired a contractor to start digging in the vicinity of Pike's ditch. The work soon ended when the contractor asked for more

money, due to the difficulty of digging. A canal was finally completed in 1885, but was only large enough for moving logs and canoes. The mid-1880s construction resulted in a narrow, near-vertical cut through the till, which withstood serious erosion for a quarter of a century. Known locally as the Portage Canal, it contained two locks to raise and lower vessels. Operators soon added an adjacent log raceway because of damage done to the locks by rafts of timber.

Even after the Montlake Cut was officially opened in 1917 and the old portage canal was abandoned, the portage canal remained on the landscape for many years. A portion of the canal was filled in for construction of the Montlake Boulevard crossing. By 1955, more of the canal had been filled in and overgrown, but the western end and a small section south of the Museum of History and Industry (MOHAI) still survived. When MOHAI was constructed within the old canal right-of-way in 1952, the last remaining portion of the old canal was used to "daylight" the lower floor of the museum.

Lake Washington Ship Canal

Construction of a proper navigable ship canal between Puget Sound and Lake Washington finally began in 1910, after many years of debate and discussion over funding and location. Construction of the Ship Canal required construction of locks and a spillway dam between Shilshole Bay and Salmon Bay, the Fremont Cut between Salmon Bay and Lake Union, and the Montlake Cut between Portage Bay (Lake Union) and Union Bay (Lake Washington). The final cut at Montlake was made in August 1916. On August 25, the cofferdam on the Portage Bay end of the cut was breached, and the water from Lake Union filled the cut in about an hour. Three days later, gates at the temporary wooden control works on the Union Bay end were opened. The level of Lake Washington gradually dropped in 4 to 5 weeks. Lake Washington was gradually lowered a nominal 10 feet (3 meters) to the level of Lake Union with the opening of the Montlake Cut. The lowering of Lake Washington eliminated the drainage via the Black River, and the Cedar River was diverted into Lake Washington.

The largest impact of the Montlake Cut on the project area was the lowering of lake elevation and the resultant exposure of marsh in the southern portion of Union Bay. One of the major questions surrounding the historic lowering of Lake Washington water levels revolves around the effects this had on Foster Island, which significantly increased in size. Historic maps have been used to provide information on pre-1916 Foster Island (Exhibits 4a through 4g and 5).

Foster Island

The 1856 General Land Office map (Exhibit 4a) shows the southern portion of Foster Island, evidently as dry land about 400 feet in the east-west dimension by 700 feet in the north-south dimension. It also shows an apparent marsh about 200 feet north of this island, about 300 feet in the east-west dimension and 400 feet in the north-south dimension. This marshy island roughly corresponds with the northern portion of contemporary Foster Island. An 1874 map and an 1890 map (Exhibits 4b and 4c) both show only a single Foster Island, corresponding with the southern island on the 1856 map noted above. The 1900 U.S. Geological Survey (USGS) Land Classification Sheet shows two islands, and does not map either island as marshlands (Exhibit 6). The

1905 U.S. Coast Survey map also shows two islands, and although they are drawn with distinct boundaries, they are also drawn as marshlands (Exhibit 7). This 1905 map also includes bathymetric data for Union Bay, and indicates a water depth of 3 feet between the two islands. A 1910 photograph shows what appear to be two islands, possibly connected by a shallow marsh.

Maps and aerial photos after the opening of the Ship Canal show that with the lowering of Lake Washington in 1916, the two islands became one and were joined to the mainland by intervening marshland. Not until dredging in the Arboretum in the 1930s would Foster Island again become separated from the mainland by a narrow channel.

BOAS (2005: Appendix E and F) provides a chronological sequence of pertinent historic maps that illustrate the shoreline changes to Foster Island and vicinity over the past century (Exhibits 4a through 4g and 5). The earlier maps seem to most often show a single island, corresponding with the southern portion of contemporary Foster Island, although even the earliest map (1856) shows a northern marsh. Beginning with the 1897 USGS map, two islands are consistently shown. There are several possible explanations for this mapping discrepancy. Given the significant seasonal fluctuation in Lake Washington water levels, it is possible that the maps represent different survey seasons, and that maps showing single islands represent wet season surveys. It is also possible that the original portage canal completed in 1885 had a small lowering effect on Lake Washington water levels, which is why the later maps show two islands (but does not explain why the 1890 map shows one island). The actual effects of the original portage canal on Lake Washington water levels are not known. It is also possible that map differences represent differences in the level of detail by the surveyors, and that some of the surveyors considered the northern marsh island too inconsequential to map. A fourth explanation is that dredging in the Black and Duwamish rivers in the late 1800s, as discussed above, slightly lowered the level of Lake Washington so that two islands were more consistently visible. As stated earlier, the last time that backwater flooding occurred in the Cedar, Black, and Duwamish river valleys was in December 1867. This was probably the final time that the lake reached a natural extreme high water level.

Regardless of these historic effects on the size of Foster Island, prehistoric Foster Island would have been larger than the immediately pre-1916 Foster Island, given the steady Holocene rise in Lake Washington water levels discussed above.

Early Dredging and Filling

Completion of the Lake Washington Ship Canal required significant dredging operations in Union Bay. Union Bay had already been a shallow embayment prior to completion of the Montlake Cut, and the lowering of the lake elevation did not improve matters. After the water level in Lake Washington was lowered, significant areas in the northern and southern portions of Union Bay became marshland, including approximately 30 acres of land at the north end of the Arboretum. This marsh extended ¼ mile to the new shoreline. Such marshes were typically dredged or filled to create accessible shorelines.

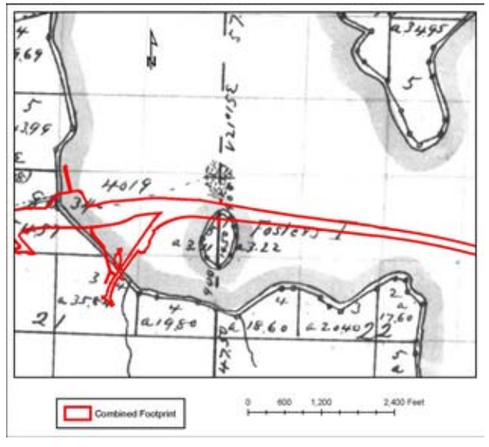


Exhibit 4a. West of Lake Washington – Foster Island, modified from U.S. Department of the Interior, General Land Office (1856).

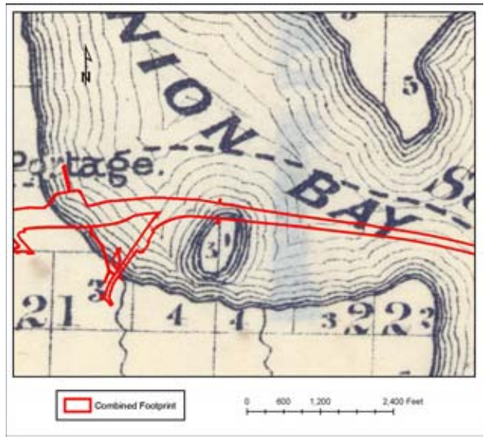


Exhibit 4b. Appendix E2. West of Lake Washington – Foster Island, modified from Mackintosh (1874).

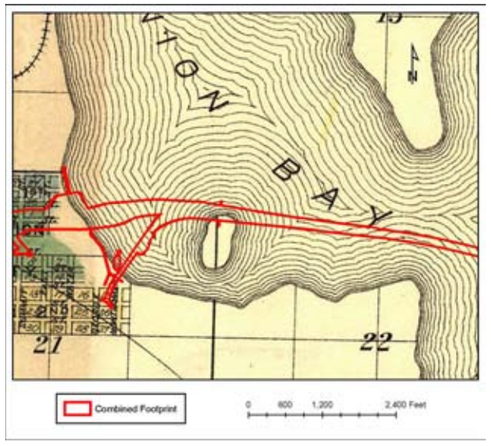


Exhibit 4c. West of Lake Washington – Foster Island, modified from O.P. Anderson and Co. (1890).

Exhibit 4d. West of Lake Washington – Foster Island, modified from U.S. Geological Survey (1900), as surveyed in 1897.

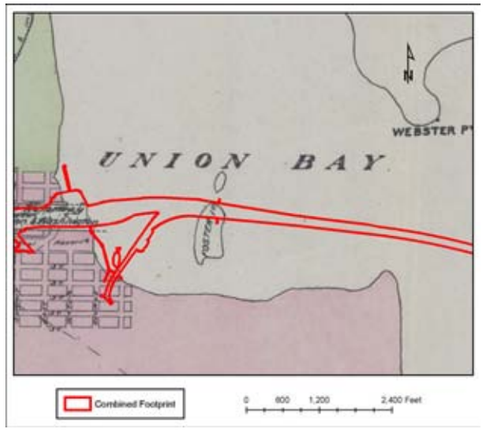


Exhibit 4e. West of Lake Washington – Foster Island, modified from Polk's Seattle Directory Company (1899).

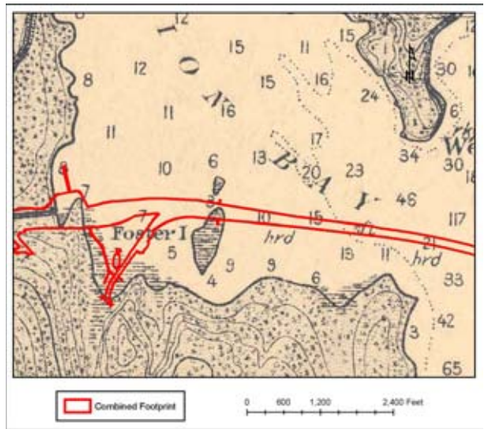


Exhibit 4f. West of Lake Washington – Foster Island, modified from Coast and Geodetic Survey (1905).

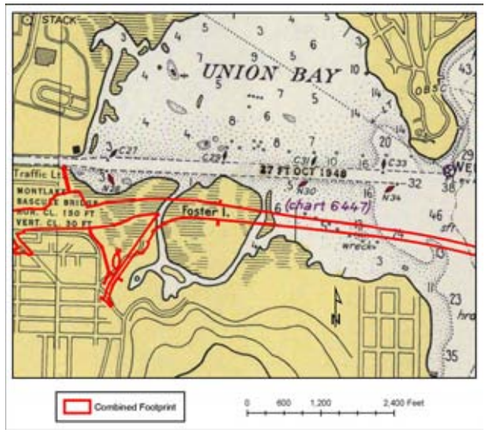
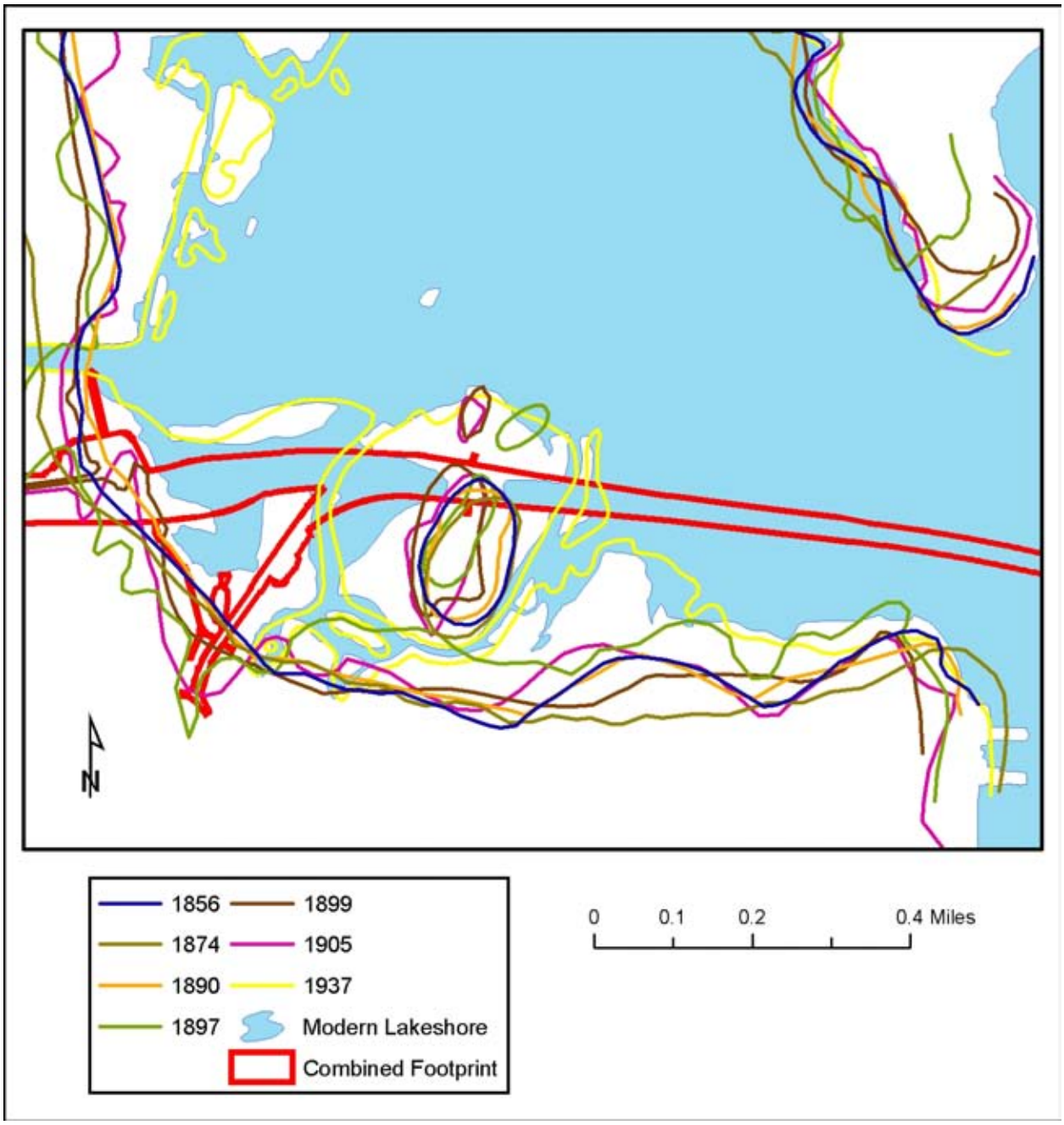


Exhibit 4g. West of Lake Washington – Foster Island, modified from U.S. Coast and Geodetic Survey (1937, updated 1948).

Source: U.S. Department of the Interior, General Land Office 1856; Mackintosh 1874; O.P. Anderson and Co. 1890; Polk's Seattle Directory Company 1899; U.S. Geological Survey 1900; Coast and Geodetic Survey 1905; U.S. Coast and Geodetic Survey 1937.

Exhibit 4. **Chronological Map Sequence of Historic Period Changes to Foster Island and Union Bay**



Source: U.S. Department of the Interior, General Land Office 1856; Mackintosh 1874; O.P. Anderson and Co. 1890; Polk's Seattle Directory Company 1899; U.S. Geological Survey 1900; Coast and Geodetic Survey 1905; U.S. Coast and Geodetic Survey 1937.

Exhibit 5. **West of Lake Washington – Lake Washington Shorelines Compiled from Historic Map Information**

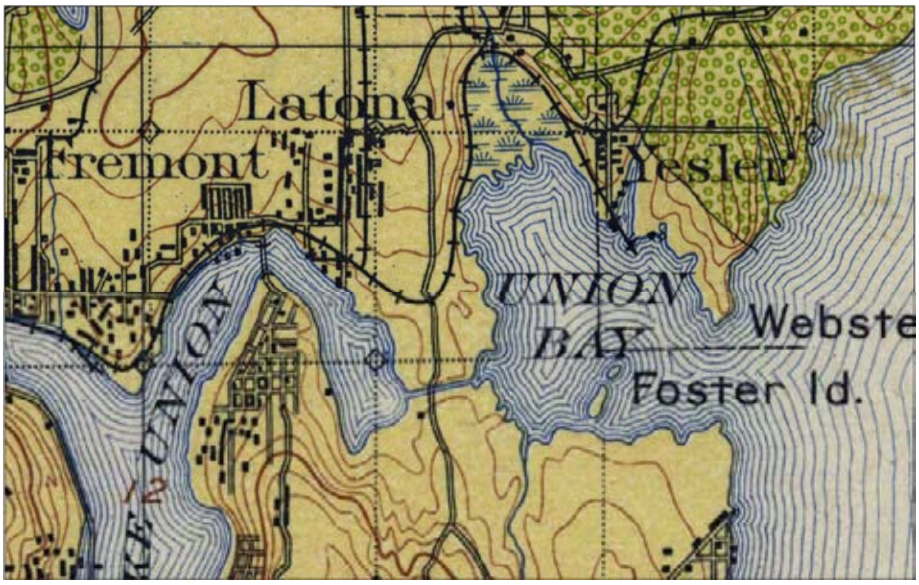


Exhibit 6. Portion of U.S. Geological Survey Land Classification Sheet, Surveyed in 1897 (U.S. Geological Survey 1900).

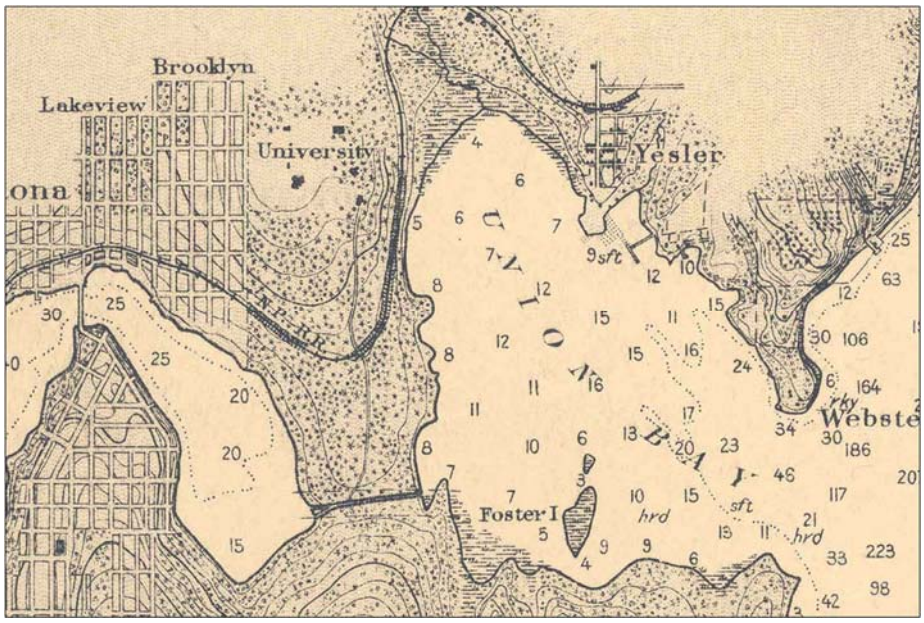


Exhibit 7. 1905 Geodetic Survey Map Showing Location of the 1885 Portage Cut and Lake Depth in Feet (Coast and Geodetic Survey 1905; University of Washington Libraries Map Collection).

The U. S. Army Corps of Engineers (USACE) dredged a straight channel between the Montlake Cut and the eastern edge of Union Bay, and dredging in Union Bay continued many years after completion of the Montlake Cut, largely in soft mud and sand by hydraulic dredging and nearby land disposal. USACE records indicate that during cleanup of the channel, dredged material was to be deposited in shallow water about 75 feet beyond channel lines. Some of this dredged

material was presumably placed in shallow water north of the Arboretum or in the marshes that emerged in 1916 around Foster Island.

Exhibit 8. Footbridge over Recently Dredged Arboretum Lagoons, 1939 (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.15734.1).

The 1936 Washington Park Arboretum master plan called for dredging of lagoons in the northern portion of the park, including dredging of a channel around Foster Island. Sometime between 1937 and 1939, the Puget Sound Bridge and Dredging Company dredged out over 1.25 miles of lagoons, placing dredged peat material on the low areas adjacent to the lagoons (Exhibit 8). During the spring of 1939, some of this material was graded off by bulldozer, and Works Progress Administration (WPA) crews undertook some hand grading of the lagoon banks.

On the western side of Montlake, the southern edge of the APE is adjacent to the Montlake Playfield area, which lies along the southern shore of contemporary Portage Bay. Filling in the 1930s created some of the original playfield area, and the playfield was again filled and expanded northward beginning in 1960. Fill spreading continued until the late 1960s, as material was brought into the park from projects around the Seattle area, including the original SR 520 project.

Foster Island Historic Land Use

Arboretum files contain a photo of a sawmill on Foster Island, but other sources do not indicate anything about a sawmill. A small sawmill was possibly erected there for a short time during the 1890s, but probably would have had little effect on the landscape. For most of the first half of the twentieth century, human impacts to Foster Island have been primarily related to park use. In 1934, the City of Seattle and University of Washington came to a joint agreement on use of Washington Park as an arboretum. The 1934 Olmsted master plan for the Arboretum showed Foster Island as an alpine collection, but later maps dating from 1942 show the island as a pine garden which partially occurred. Some of the plantings from the pine collection remain on the island.

WPA plans from the late 1930s show an extensive system of trails crossing the island, but they were apparently never constructed. There was a service road on the island at this time, which can be seen in aerial photos from the 1930s. According to plans, the service road extended to a lighthouse on the northern end of the island. During most of the 1930s to 1950s, the island was used for relatively low impact recreational uses, including bird watching and other nature pursuits.

The major impact to Foster Island came in the 1960s during construction of SR 520 (discussed below). Since then, the island has continued to be used for low impact pursuits and a waterfront walking trail opened in 1968, connecting Foster Island with a boardwalk and pontoons over Marsh Island, which had been created by dredging for the freeway.

Landfills

After extensive marshes were exposed along the fringes of Union Bay with the opening of the Ship Canal, much of the area along the southern end of Union Bay received dredge spoils from the construction of the ship canal and maintenance of the channel between the canal and Lake Washington (Exhibit 9). Additional marsh reclamation was accomplished through sanitary fill, a popular way to reclaim swampy areas. Prior to the late 1960s, refuse disposal for Seattle was handled in a series of "burning dumps" scattered throughout the city. Dump sites were mainly steep ravines, low-lying swampy areas, former borrow pits, and tidal areas. The largest was the Montlake dump that occupied a 200-acre swampy area on the north side of Union Bay. This land, now part of the University of Washington campus, was filled between 1926 and 1966 and is now used for parking and athletic playfields. A smaller dump was in operation on the south side of Union Bay in the Washington Park Arboretum.

The 1914/15 City Park Commissioner's Report mentions the establishment of landfills in the valley near Madison Street in the south part of Washington Park, and in the marsh near Union Bay in the north part of the park. This Washington Park north site is noted in records as 26th Avenue North and East Miller Street, and in some sources is referred to as the Miller Street dump or the Montlake garbage dump (not to be confused with the later Montlake dump on the north side of Union Bay on University of Washington property). The precise date for the establishment of the Washington Park north site is not clear, although the south site near Madison Street was started in 1909.

Although the Park Commissioner was quite pleased to have a source of fill for the otherwise useless northern portion of the Arboretum, local residents eventually complained. In addition, the Park Commissioner hoped to put the reclaimed land to use and proceed with plans developed for the Arboretum in 1935. A letter from the Commissioner of Health for the City of Seattle, dated September 6, 1935, stated that the city would have to abandon the dump, which had become one of the largest in the city, despite the extra cost of hauling garbage to another fill; the landfill was abandoned in 1936.

Exhibit 9a. Geologic map of the west Lake Washington project area (modified from Troost et al. 2005).

Exhibit 9b. West of Lake Washington – Landfill areas according to Don Sherwood, Seattle Parks Department, modified from copy of map provided by Phil Woodhouse, personal communication.

Exhibit 9c. West of Lake Washington – Disturbance within the SR 520 APE.

Exhibit 9d. East of Lake Washington – Disturbance within the SR 520 APE.

Exhibit 9. **Maps Showing Geology, Recent Landfills, and Disturbed Areas**

There is relatively little information available about the history of the Miller Street dump. Some of the available information on the location and extent of the landfill is conflicting, particularly for Foster Island. Don Sherwood, a longtime Parks Department employee who assembled historical files for the City parks in the 1970s (now archived by the Seattle Municipal Archives), created an outline map labeled as the Washington Park north site (Blukis Onat, et al. 2005: Appendix E). The Sherwood map shows only the modern extent of the dump, excluding areas that were subsequently dredged for the creation of the lagoons, but the fill most likely extended into these areas as well. The map also shows the landfill encompassing Foster Island.

It is not clear from Sherwood's map exactly what he was intending to represent with the black outline on the map. It has been interpreted as indicating the total extent of garbage fill in the northern portion of Arboretum. The written history that Sherwood compiled for Washington Park describes the sanitary fill as having been done in the marsh area near Union Bay. He goes on to say, "when dredging operations began for the new Ship Canal, more fill was placed in the marsh, reeds, and cattails around Foster Island." It is possible that Sherwood's map is meant to indicate the extent of fill placed around Foster Island by the dredging operations, rather than the extent of sanitary fill.

Further confusing the issue is a 1984 study by the Seattle-King County Department of Public Health on abandoned landfills in the City of Seattle. One of the 12 sites included in the study is Washington Park, in which both the Madison Street and Miller Street dumps are included. There is very little discussion of the Miller Street dump in the report, but the only two sampling sites for the northern landfill were placed on the southwest corner of Foster Island. The report provides no justification for the placement of these sampling locations. Both sampling sites contained trace amounts of methane, but it seems likely that the substantial peat deposits in this area could be producing the methane.

Other sources, particularly aerial photos, seem to clarify the issue of whether or not the sanitary fill extended onto Foster Island. A 1934 sketch map of the "Montlake Garbage Dump" obtained from the Solid Waste Department shows the boundaries of the landfill extending northeast from Miller Street in approximately the same area as indicated by Sherwood, but does not show the landfill extending onto Foster Island. Aerial photographs of the area from January 1937 better define the boundaries of this dump at the end of its use. Aerial photos taken one year later show how quickly the dump was covered by dirt and peat and reclaimed for park use. The 1938 aerial photo shows the early lagoon excavation adjacent to the landfill, with peat being overlain on the banks.

It is not clear exactly what kinds of materials were dumped in the Miller Street landfill. The 1984 study suggests that the putrescible (decomposing and foul-smelling) portion of the refuse may not have been as great as the non-putrescible portion; a distinction made between garbage and rubbish in these early landfills. Garbage, or putrescibles, was not burned. Rubbish, which includes things like yard waste and construction debris, was burned. A panoramic 1935 photo of

this landfill seems to show active burning or dust, as well as stacked crates, suggesting that the landfill primarily received non-putrescibles.

Subsequent activities in the Arboretum have turned up remains of the Miller Street landfill and have removed large portions of the dump altogether. The contract history of the Arboretum Interchange for the Roanoke Expressway (an early name for SR 520 in Seattle) mentions the dredging excavation of garbage fill and underlying peat, which was disposed of at the University of Washington garbage dump across Union Bay. Another source indicates that in 1971, looters were still finding bottles in old dump areas near the pilings for the unused ramps of SR 520. Geotechnical drilling in the area of the Miller Street dump records the presence of 3 to 8 feet of landfill deposits.

Kiest has suggested that a separate dump was exposed by excavations for SR 520 in 1961, when a bottle dump dating from 1904 was revealed on the knoll east of where Arboretum Creek would have entered Lake Washington before the lake was lowered, and at the informal terminus of the Boulevard before its extension to the University. It is possible that this was an eastern extension of the Miller Street dump, rather than an isolated bottle dump.

Other Construction

Most of the building construction in the Seattle project area has been residential. Given the proximity of two larger building projects to SR 520 and the old portage canal in the Seattle project area, these projects are discussed in the following paragraph.

Five acres of land held formerly for use in the Montlake Cut along the old canal right-of-way were acquired by the Seattle Park Board from the federal government in 1946. On part of this property, later known as McCurdy Park, the Seattle Historical Society constructed the MOHAI. Completed in 1952, the museum was originally approached directly from the south off Lake Washington Boulevard. When SR 520 was constructed, a new bridge over SR 520 provided access to the museum's new entry on Hamlin Street. Construction photos of MOHAI show significant excavation and grading for the building and adjacent parking lot. Additional excavation and grading occurred at the eastern end of the old portage canal in 1930 during construction of the Montlake Fisheries Laboratory, now part of the NOAA Northwest Fisheries Science Center research complex.

SR 520 Construction, Seattle, and R.H. Thomson Expressway

In the Seattle project area, significant cutting and filling occurred during the original construction of SR 520. Cut and fill areas were observed during field reconnaissance in the project area, in engineering drawings from the original SR 520 construction plans, and in the available Light Detection and Ranging (LIDAR) images (see BOAS 2005: Appendix F).

Major areas of cutting for SR 520 construction in Seattle occurred on north Capitol Hill and through the Montlake neighborhood. On Capitol Hill, excavation for SR 520 cut through Vashon till deposits and into the Vashon glaciolacustrine silt and clay deposits below. Major cutting also occurred along the route of the old portage canal across Montlake (Exhibit 10). The old portage

canal land has mostly been removed, except for a portion that runs along the south side of the NOAA Northwest Fisheries Science Center, the rear of the houses on East Hamlin Street, and MOHAI.

The Arboretum lost approximately 60 acres of lagoon area to the SR 520 project (Exhibits 11, 12, and 13). Great expanses of the marshes surrounding Foster Island were dredged out prior to construction of the bridge footings to allow access for a pile driver. According to contract histories, dredged material was placed onto barges and hauled to Puget Sound and dumped in deep water. At least some of the dredged peat was cast to the side adjacent to the dredged areas. Dredging operations also removed some of the garbage fill material and underlying peat from the Miller Street dump site. This garbage fill was disposed of at the University of Washington garbage dump on the north side of Union Bay.

Exhibit 10. Excavation for SR 520 Across Montlake, Looking East. MOHAI is in background on the left (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7590.2).

Exhibit 11. Dredging for SR 520, on East Side of Foster Island (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7575.2).

Dredging extended right up to the western and eastern edges of Foster Island. Construction across Foster Island seems to have been generally restricted to the roadway footprint, with some additional grading or filling occurring 10 meters (32.8 feet) to 20 meters (65.6 feet) north and south of the roadway edge (Exhibit 12).

In addition to the dredging and cutting, several blocks of houses were demolished west of 26th Avenue where the Department of Highways proposed a cloverleaf interchange with the never-built R. H. Thomson Expressway. So much soil was dug out of the east side of 26th Avenue that it created "The Pit," which filled with water. The area was later rededicated as the Arboretum's Pinetum.

SR 520 Construction, Eastside

Aside from residential construction, the primary historic modifications to the Eastside project area resulted from the original SR 520 construction (Exhibits 14 and 15). The general construction pattern involved cutting through the till uplands and filling in the intervening channels; areas of cut and fill are depicted in BOAS (2005: Appendix F).

Exhibit 12. Aerial View West of SR 520 Construction Across Foster Island, in Foreground (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7596).

Exhibit 13. Western End of Evergreen Point Bridge Under Construction, 1961. Foster Island is in the foreground, view to the east (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7588.2).

Summary

The geologic, geomorphic, and soils data were used to identify landscape conditions likely to have been attractive to humans in prehistory. This same data, along with the historic information on human modifications, provided insight into the likelihood of preservation of archaeological materials, if deposited on these landforms.

Generally speaking, the project area landforms have been relatively stable throughout the Holocene, with the exception of the steeper slopes along the eastern side of Capitol Hill and the bluff along the eastern shore of Lake Washington. Surface deposits consist primarily of Vashon outwash and till, with the exception of the Holocene peat deposits around Foster Island and alluvium in the eastern part of the project area. There seems to have been minimal Holocene alluviation in the outwash troughs between the till uplands, so that deeply buried sites are not expected in most of the project area. The thickest Holocene deposits in the project area consist of the peat deposits in Portage and Union bays. Other Holocene deposits are at the eastern end of the project area in the old outwash valley that is now drained by Northup Creek.

Historic modifications have been quite extensive throughout the project area, particularly the effects from SR 520 construction. The Montlake Cut lowered Lake Washington by 10 feet, enlarging

Exhibit 14. Construction of SR 520, Looking East, with Evergreen Point Road Overpass Visible in Distance (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7590.3).

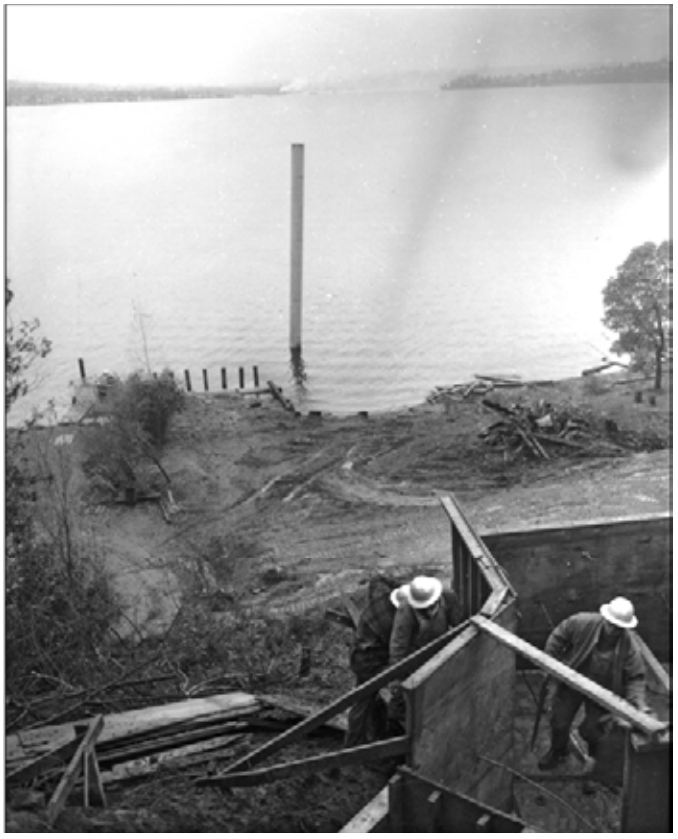


Exhibit 15. Construction of SR 520, on the Eastern Shore of Lake Washington. A support for the bridge can be seen in the lake. View is to west (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7580.1).

Foster Island and the marshlands in Union Bay, and exposing a wave cut terrace around the lake perimeter. Subsequent dredging and filling has significantly altered the marshlands around Portage and Union Bays. Timber harvesting, agriculture, and later residential development have all affected the modern landscape. These modifications were graphically summarized by BOAS (2005:Appendix F) and can be seen in Exhibit 9.

References Cited

Blukis Onat, A.R., R.A. Kiers, and P.D. LeTourneau. [BOAS]. 2005. Preliminary Ethnographic and Geoarchaeological Study of the SR 520 Bridge Replacement and HOV Project. Report on file, Washington Department of Transportation, Seattle, WA.

Attachment 2
Tribal Consultations

U.S. Department
of Transportation

**Federal Highway
Administration**

Washington Division

Suite 501 Evergreen Plaza
711 South Capitol Way
Olympia, Washington 98501-1284
(360) 753-9480
(360) 753-9889 (FAX)
http://www.fhwa.dot.gov/wadiv

July 19, 2000

HFO-WA.3/597.1

The Honorable Douglas Paul Lavan, Chief
Kikiallus Tribe
3933 Bagley Avenue N.
Seattle, WA 98103

**SR 520 Trans-Lake Washington Project
EIS Agreement Y-5070 Request for
Tribal Consultation**

Dear Chief Lavan:

The Federal Highway Administration and the Washington State Department of Transportation are proposing to develop an undertaking to address an identified transportation need in King County. The purpose of the proposed project is to improve mobility across Lake Washington, generally within the SR520 corridor from Seattle to Redmond in a manner that is efficient, safe, reliable, cost effective, and sensitive to neighborhoods and the environment. Further information regarding the Trans-Lake Washington Study including documents and reports, is available at the following WSDOT web site: **http://www.wsdot.wa.gov/translake**, or by contacting the project hotline at (206) 448-6611. The tentative EIS schedule is to circulate a Notice of Intent (NOI) in Summer 2000, and a Draft Environmental Impact Statement (DEIS) for comment in Fall 2002. In Summer 2003, the final EIS (FEIS) is proposed for issue, and in Fall 2003 the Record of Decision (ROD) would be issued. Enclosed for your information is a copy of the Purpose and Scope of Consultation.

In order to ensure that we take into account the effects of this undertaking on properties listed in or eligible for listing in the National Register of Historic Places, the FHWA is initiating formal Section 106 consultation pursuant to 36 CFR 800.2(a)(4). Recognizing the government-to-government relationship which we have with the tribe, the Federal Highway Administration will continue to play a key role in this undertaking as the responsible Federal agency. You may contact us at anytime for assistance with the process and/or the undertaking. Also, since the Washington State Department of Transportation will be directly managing the cultural resources studies and will be carrying out this undertaking, we encourage you to participate in direct consultation with the WSDOT and their consultants.

Your response to this letter, acknowledging your interest in participating in this undertaking as a consulting party and identifying key tribal contacts, is greatly appreciated. Please provide a response by **August 18, 2000** so that we may set up a meeting to discuss this undertaking and the area of potential effects. Should you have any questions about this matter, you may contact our Section 106 specialist, Dave Leighow, by phone at (360) 753-9486 or by e-mail at **dave.leighow@fhwa.dot.gov.** You may also contact Sandie Turner, WSDOT Cultural Resources Manager, by phone at (360) 705-7493 or by e-mail at **turners@wsdot.wa.gov.**

Sincerely,

GENE K. FONG
Division Administrator

Enclosure

cc: Dr. Allyson Brooks, SHPO
Sandie Turner, OSC
Ben Brown, WSDOT
James Irish, Sound Transit
Dave Leighow

JALeonard:MS 07-19-00 JAL0719MS07.WPD

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

January 8, 2001

Honorable Douglas Paul Lavan, Chief
Kikiallus Tribe
3933 Bagley Ave. N.
Seattle, WA 98103

RE: Opportunity to Provide Input to the I-405 Corridor Study and Trans-Lake Washington Study – Project Updates

Dear Chief Lavan:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Sound Transit, and King County, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of each of the projects, describe where we are in the processes, and provide a timeline for each of the projects. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background for each of the two projects.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Mike Cummings
I-405 Project Manager, WSDOT

Les Rubstello
Trans-Lake Project Manger, WSDOT

BACKGROUND

I-405 Corridor Program

The goal of the I-405 Corridor Program is to select, from the array of viable alternatives identified, a set of solutions that will meet the objectives of the purpose and need statement and can be implemented over the next 20 to 30 years. The Corridor Study will look at transportation improvements from SR 167 to the I-405 connection to I-5. The environmental impact study process is underway, guided by the input from the three project committees. The co-lead agencies include FHWA, FTA, WSDOT, King County, and Sound Transit. It is also important to note that this is one of three Re-Inventing NEPA pilot projects being tested in Washington State and though it is following the classic NEPA process in many ways, we are being challenged to "think outside the box".

Where the I-405 EIS is in the Process

Three committees, consisting of elected officials, citizens, and representatives of jurisdictions in the I-405 corridor have developed four alternative solution sets to address the challenges of I-405. These four alternatives, along with a "no action" alternative, will be analyzed in a programmatic environmental impact statement (EIS). The I-405 Corridor Program is envisioned as a blueprint for a system that will be a mix of different transportation solutions that work together for decades into the future. The committees are currently deciding on a Preliminary Preferred Alternative and we would like your input in the process. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/I-405/.

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

January 8, 2001

Honorable Bennie J. Armstrong
Suquamish Tribe
PO Box 498
Suquamish, WA 98392

RE: Opportunity to Provide Input to the Trans-Lake Washington Project – Project Update

Dear Mr. Armstrong:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and Sound Transit, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of the project, describe where we are in the process, and provide a timeline for the project. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background describing the project.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline, and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Les Rubstello
Trans-Lake Project Manger, WSDOT

Cc: Charlie Sigo/ Cultural Resources
Cherrie Crowell/Environmental Programs

BACKGROUND

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

January 8, 2001

Honorable Joseph Mullen
Snoqualmie Tribe
100 Ridge Lane
Granite, WA 98252

RE: Opportunity to Provide Input to the I-405 Corridor Study and Trans-Lake Washington Study – Project Updates

Dear Mr. Mullen:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Sound Transit, and King County, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of each of the projects, describe where we are in the processes, and provide a timeline for each of the projects. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background for each of the two projects.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Mike Cummings
I-405 Project Manager, WSDOT

Les Rubstello
Trans-Lake Project Manger, WSDOT

Cc: Arlene Venture/Cultural Resources
Andy De los Angeles/ Environmental Programs

BACKGROUND

I-405 Corridor Program

The goal of the I-405 Corridor Program is to select, from the array of viable alternatives identified, a set of solutions that will meet the objectives of the purpose and need statement and can be implemented over the next 20 to 30 years. The Corridor Study will look at transportation improvements from SR 167 to the I-405 connection to I-5. The environmental impact study process is underway, guided by the input from the three project committees. The co-lead agencies include FHWA, FTA, WSDOT, King County, and Sound Transit. It is also important to note that this is one of three Re-Inventing NEPA pilot projects being tested in Washington State and though it is following the classic NEPA process in many ways, we are being challenged to "think outside the box".

Where the I-405 EIS is in the Process

Three committees, consisting of elected officials, citizens, and representatives of jurisdictions in the I-405 corridor have developed four alternative solution sets to address the challenges of I-405. These four alternatives, along with a "no action" alternative, will be analyzed in a programmatic environmental impact statement (EIS). The I-405 Corridor Program is envisioned as a blueprint for a system that will be a mix of different transportation solutions that work together for decades into the future. The committees are currently deciding on a Preliminary Preferred Alternative and we would like your input in the process. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/I-405/.

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

Honorable William Yallup, Sr.
Yakama Tribe
PO Box 151
Toppenish, WA 98055-2000

RE: Opportunity to Provide Input to the I-405 Corridor Study and Trans-Lake Washington Study – Project Updates

Dear Mr. Yallup:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Sound Transit, and King County, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of each of the projects, describe where we are in the processes, and provide a timeline for each of the projects. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background for each of the two projects.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Mike Cummings
I-405 Project Manager, WSDOT

Les Rubstello
Trans-Lake Project Manger, WSDOT

Cc: Johnson Meninick/Cultural Resources
Moses Dick Squeochs/Environmental Programs

BACKGROUND

I-405 Corridor Program

The goal of the I-405 Corridor Program is to select, from the array of viable alternatives identified, a package of solutions that (Note - purpose isn't to id a package of solutions but to fix a problem – see their purpose & need statement).can be implemented over the next 20 to 30 years. The Corridor Study will look at transportation improvements from SR 167 to the I-405 connection to I-5. The environmental impact study process is underway, guided by the input of the three project committees. The co-lead agencies include FHWA, FTA, WSDOT, King County, and Sound Transit. It is also important to note that this is one of three Re-Inventing NEPA pilot projects being tested in Washington State and though it is following the classic NEPA process in many ways, we are being challenged to "think outside the box".

Where the I-405 EIS is in the Process

Three committees, consisting of elected officials, citizens, and representatives of jurisdictions in the I-405 corridor have developed four alternative solution sets to address the challenges of I-405. These four alternatives, along with a "no action" alternative, will be analyzed in a programmatic environmental impact statement (EIS). The I-405 Corridor Program is envisioned as a blueprint for a system that will be a mix of different transportation solutions that work together for decades into the future. The committees are currently deciding on a Preliminary Preferred Alternative and we would like your input in the process. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/I-405/.

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor... The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS.. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

January 8, 2001

Honorable Herman A. Williams, Jr.
Tulalip Tribe
6700 Totem Beach Road
Marysville, WA 98270-9694

RE: Opportunity to Provide Input to the Trans-Lake Washington Project – Project Updates

Dear Mr. Williams:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and Sound Transit, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of the project, describe where we are in the process, and provide a timeline for the project. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background describing the project.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline, and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Les Rubstello
Trans-Lake Project Manger, WSDOT

Cc: Hank Gobin/Cultural Resources
Francis Sheldon/Fisheries
Terry Williams/Natural Resources

BACKGROUND

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

February 21, 2001

Barrett Schmanska
Tulalip Tribe Community Development
6700 Totem Beach Road
Marysville, WA 98270-9694

RE: Opportunity to Provide Input to the Trans-Lake Washington Project – Project Updates

Dear Mr. Schmanska:

As we discussed, attached is some information regarding the Trans-Lake Washington Project. We were hoping to set up a session to discuss aspects of the EIS we are getting ready to begin. We envisioned that the project team would provide a general description of the project, describe where we are in the process, and provide a timeline for the project. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter are a brief overview and other materials describing the project.

We were hoping to have your staff representatives from Natural Resources, Fisheries, and Cultural Resources hear and comment on this project. We thought there might be important information the Tribe has that we should be aware of as we work toward an EIS.

WSDOT has several conference rooms in their facility located in Shoreline, and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact me at the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov if you would like to set up a meeting. If you are not interested in a meeting, but would like to continue to receive materials as they become available, let me know and I will have you put on our mailing list.

Sincerely,

Kimberly Farley

Kimberly Farley
Environmental Planner, WSDOT, OUM

BACKGROUND

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

Trans-Lake Washington Project

Washington State Department of Transportation
Sound Transit

Facts

2001.02

Project Overview

The Project

The purpose of the Trans-Lake project is **to increase mobility across Lake Washington while minimizing negative impacts to neighborhoods and the environment.**

Toward that end, in 1998 a 47-member Study Committee took a comprehensive look at improving the way people move across and around the lake. The Study Committee's recommendations are being evaluated by three committees, which are supported by a technical team. The committees will recommend alternative projects for increasing mobility to evaluated in an environmental impact statement (EIS). The EIS will help the project's lead agencies and committees select a preferred alternative for implementation.

The Participants

The Lead Agencies. The Washington State Department of Transportation (WSDOT), Sound Transit, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA) are the lead agencies for the project. Because the alternatives being considered are multi-modal—meaning they consider cars, buses, trucks, bicycles, and pedestrians together—all these agencies must cooperate and support the preferred alternative to achieve project success.

The Committees. The three committees guiding the project will recommend to the lead agencies which alternatives to include in the EIS and which should be the preferred alternative. The committees also oversee the public outreach process. The committees include:

- The Executive Committee, whose members are elected officials from communities along the SR 520 corridor and agency officials, will make recommendations to the lead agencies.
- The Technical Committee provides the Executive Committee with a technical perspective on the proposed alternatives. Its members include technical staff from local jurisdictions, tribes, transportation and regulatory agencies.
- The Advisory Committee provides the Executive Committee with input representing the interests of the community, businesses, and other groups.

The Public. Public participation is essential to the success of the project. Many opportunities are available for you get involved with this project. Voicing your opinion about the project at its various stages is the best way to ensure that you help shape the future of SR 520. As further work takes place during the coming months, input from you and your neighbors will be especially important. All committee meetings are open to the public and public meetings are held at key decision points.

Find out more by visiting the website at **http://www.wsdot.wa.gov/translake**, or receive project information by contacting the project dialogue center at (206) 448-6611 or at 401 Second Avenue South, #300, Seattle, WA, 98104.

The Alternatives

The following alternatives are currently being considered:

- "No action"—Preserve the bridge "as-is" and replace the floating portion when necessary.
- "Minimum Footprint"—Maintain four lanes, with improvements to transit and HOV access.
- Add one HOV lane in each direction.
- Add one general purpose and one HOV lane in each direction.
- Add one bus/vanpool-only lane in each direction.
- Add high-capacity transit in the SR 520 corridor.
- Add high-capacity transit in the I-90 corridor.
- Add high-capacity transit in a mid-lake corridor (between SR 520 and I-90).
- Implement strategies to reduce transportation demands.
- Implement land use strategies.

Next Steps

Now that an initial set of alternatives has been identified, the next step is to narrow them down to a few for evaluation in an EIS. The purpose of the EIS is to analyze the benefits, impacts, and costs of the alternatives. Engineers, traffic specialists, bridge experts, urban designers, environmental planners, and other professionals are working jointly to begin identifying the location and design of the alternatives and how to avoid impacts on the communities and environment.

Project Timeline

Spring 1998
Study Committee begins to evaluate potential alternatives

Summer 1999
Study Committee agrees on potential alternatives

Summer 2000
Environmental review process begins

Fall 2000
Committees agree on reduced list of alternatives to evaluate

Summer 2001
Committees to recommend final alternatives to include in EIS

Spring 2002
Draft EIS issued for public comment

Winter 2002
Record of decision issued

2004
If funding is available, preferred alternative is implemented

A Commitment to Communities

The commitment of the Trans-Lake Washington Project is first, to avoid and then, to minimize community impacts. If eliminating or minimizing these impacts is not possible, the next step will be to mitigate any negative affects to the environment and the neighborhoods along the SR 520 corridor. In addition, all standards for noise, water, and air pollution will be met when a preferred alternative is chosen.

Maintaining the integrity of communities and the environment will be accomplished by designing mitigation and enhancements as an integral part of the alternatives. During the design process, the project is working with the communities along the corridor to understand what community characteristics should be preserved or enhanced and with freeway users to understand the problem spots and issues along the corridor.

Did You Know?

- When SR 520 was built in 1963, so many people took the new freeway that the project was paid for 20 years ahead of schedule.
- In 1999, 108,000 vehicles crossed over the Evergreen Point Floating Bridge daily.
- In 2000, the average travel time from Redmond to North Seattle is 31 minutes. In 2020, that same trip will take 47 minutes.

**Who's making the decisions about the future of SR 520?*, Fact Sheet #2001.01, describes the committees, their decision-making process, and their membership in more detail.

To comment, request information, or receive mailings, write to the **Trans-Lake Washington Project** at 401 Second Avenue South, #300, Seattle, WA 98104, call The Project Hotline at **206-448-6611**, or visit the Trans-Lake Study web site at **www.wsdot.wa.gov/translake**. Our e-mail address is **translake@wsdot.wa.gov**. Persons with disabilities may request this information in alternative forms by calling collect **(360) 664-8009** or for TTY or V devices call **1-800-486-8392**.

Trans-Lake Washington Project
Washington State Department of Transportation
Sound Transit

Facts

2001.01

Who's making decisions about the future of SR 520?

In 1998, a 47-member Study Committee took a broad look at improving how people get across and around Lake Washington. The result was a comprehensive set of alternatives for increasing mobility across the lake, particularly in the SR 520 corridor. These alternatives are now being evaluated by three committees, supported by a technical team, to select those alternatives that should be part of an environmental impact statement (EIS). The EIS will help the lead agencies — Washington State Department of Transportation, Sound Transit, Federal Highway Administration and Federal Transit Administration — select a preferred alternative for solving cross-lake congestion.

All three committees are committed to working with the public. The graphic illustrates the committee structure.

Committee Structure

Executive Committee

The Executive Committee makes recommendations to lead agencies on alternatives to evaluate in the EIS, including the preferred alternative, and oversees the public outreach process. Its recommendations are based on input from the Technical and Advisory Committees and the public. The Executive Committee is made up of elected officials and lead agency representatives authorized to make commitments. The goal of the Executive Committee is to reach consensus. If consensus is not possible, there is a voting process that ensures equal representation of interests on each side of the lake.

Technical Committee

The Technical Committee guides and reviews the technical progress of the EIS. Members of this committee are staff of the agencies and tribes with jurisdiction in the Lake Washington corridor, including resource agencies. The Technical Committee makes recommendations to the Executive Committee.

Advisory Committee

The Advisory Committee advises the Executive and Technical Committees about the interests and concerns of residents, businesses, and community groups in the corridor. Members provide input on all matters proposed to the Executive Committee. Advisory Committee membership is balanced between the east and west sides of the lake and among neighborhood, business, and advocacy interests.

You

Throughout the process you have the opportunity to comment on all aspects of the project through community groups, public meetings, workshops, and individual interaction.

Trans-Lake Washington Project
- What is the Future of High-Capacity Transit Across Lake Washington? –

The Trans-Lake Washington Project is considering high capacity transit (HCT) alternatives in three locations: SR 520, I-90, and a mid-lake crossing. HCT is defined as a public transit system on a separated guideway, such a light rail, which can accommodate large volumes of riders. The project is currently analyzing these alternatives, along with potential roadway and transit improvements to SR 520, and transportation demand management and land use strategies. The results of the alternatives analysis will be analyzed in an environmental impact statement (EIS) prepared in accordance with the National Environmental Policy Act.

The Trans-Lake Washington Project

The purpose of the Trans-Lake Washington Project is to improve mobility for people and goods in the SR 520 corridor while minimizing negative impacts to neighborhoods and the environment. The Washington State Department of Transportation (WSDOT), Sound Transit, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA) are the lead agencies for the project. Because the alternatives being considered are multi-modal—meaning they consider cars, buses, trucks, bicycles, and pedestrians together—these agencies must cooperate and support the preferred alternative to achieve project success.

Why Is HCT Across the Lake Being Considered?

In 1998, a 47-member study committee was assembled to take a broad look at improving the movement of people and goods across and around Lake Washington. The result of this study was a comprehensive set of alternatives for increasing mobility across the lake. In combination with potential roadway improvements on SR 520, the group's recommendations included evaluating HCT on SR 520 and I-90. During public scoping conducted in July 2000, a suggestion was made to consider a mid-lake crossing for HCT.

The Trans-Lake Washington Project is now considering all three crossings. The information that has been compiled, in addition to information being gathered this spring, will contribute to the project's Executive Committee recommendation in July 2001 for alternatives to consider in an EIS. A draft EIS will be available for public comment in Spring 2002. The alternative selected as part of the Trans-Lake Washington Project will become part of Sound Transit's Long Term Vision and Phase II planning effort. In order to be implemented, Phase II will require voter approval.

What Type of HCT Will Be Used?

This project is considering two categories of HCT technology: bus rapid transit and fixed guideway, such as a rail system. Currently Sound Transit is conducting an assessment of potential fixed guideway technologies for crossing Lake Washington. This includes an international search for potential technologies and a review by a committee of technical experts. The most promising HCT technologies will be selected for further study evaluation and demonstration. Examples of technologies under consideration include....

FAQ's

Q. What is the purpose of the Trans-Lake Washington Project?

A. The purpose of the Trans-Lake Washington Project is to improve mobility for people and goods within the SR 520 corridor from Seattle to Redmond in a manner that is safe, reliable, and cost-effective while avoiding, minimizing and/or mitigating impacts on affected neighborhoods and the environment.

Q. What alternatives are being considered?

A. The alternatives currently being evaluated include the following:

- Take no action—the only improvement made to the corridor would be replacing the floating portion of the Evergreen Point Bridge
- Build "minimum footprint," maintaining SR 520 as four lanes, with improving transit and high-occupancy vehicle (HOV) access
- Add one HOV lane in each direction
- Add one general purpose and one HOV lane in each direction
- Add one bus/vanpool-only lane in each direction
- Add high-capacity transit in the SR 520 corridor
- Add high-capacity transit in the I-90 corridor
- Add high-capacity transit in a mid-lake corridor (between SR 520 and I-90)
- Implement strategies to reduce transportation demand
- Implement land use strategies

Q. What kind of environmental analysis will be performed on this project?

A. An environmental impact statement (EIS), completed under the National Environmental Policy Act, is required. It will assist decision-makers and the public in identifying an alternative to improve mobility in the SR 520 corridor while avoiding, minimizing, or mitigating impacts on the surrounding communities and environment. In July 2000 scoping for the environmental review began. From August 2000 through July 2001, a detailed alternatives analysis is being completed by the project team and reviewed by the project's committees. The preparation of a draft EIS will begin in July 2001, with public review scheduled for publication in spring 2002. It is anticipated that a final alternative may be selected by winter 2002.

Q. Has the project looked at tunnels in the SR 520 corridor?

A. At the request of the committees, the project team evaluated potential options for tunnel across Lake Washington. The first option was a bored tunnel, which would be constructed under the lake bed using a shielded tunnel boring machine. The second option considered was a sunken submerged tunnel, which is usually constructed off site in sections and individually floated to the site. There, ballast is added and the section is lowered to its final position in a shallow bed excavated in the lake bottom. The last option evaluated was a floating submerged tunnel that is very similar to a floating bridge. The floating submerged tunnel can either be heavier than water and suspended beneath pontoons, or it can be lighter than water and tethered down. The committees recommended that the bored and sunken submerged tunnel concepts be dropped from further consideration due to questionable

A. During the course of this project, many agencies and groups are specifically participating to address potential project impacts to natural areas and endangered species along the SR 520 corridor, including the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Washington Department of Ecology, Washington State Department of Fish and Wildlife, and the Washington State Office of Archaeology and Historic Preservation (see "Committee" fact sheet for a full listing). In addition, an inventory and evaluation of sensitive environmental issues and resources will be conducted by reviewing existing documents, including local and regional comprehensive plans, critical areas ordinances, land use maps, and Geographic Information System (GIS) maps of sensitive resources.

Q. Who is using the SR 520 corridor?

A. According to a 1999 Trans-Lake Washington study entitled *"Origins and Destination,"* during the morning peak period, 44 percent of the trips from the west side originate in north Seattle and go to Redmond. On the east side during the morning peak period, more than 24 percent are headed into downtown from the Redmond and Overlake areas. During the evening peak periods, 28 percent of the trips originate from Kirkland and go to north Seattle; the same percentage is headed from downtown Seattle to Kirkland. To get the full picture of what this study covered, you can download the entire analysis from the project website's archives (address below).

Q. How do regional planning projects like the I-405 Corridor Program, I-90 Two-Way Transit Study, and Sound Transit's LINK Light Rail fit together?

A. Both the Washington Department of Transportation and Sound Transit are leading or co-leading these projects and many of the same individuals are working on a number of the projects. In addition, many of the same decision-makers are involved in all of the studies. The technical teams are sharing and coordinating resources and information. For example, modeling (traffic flow and numbers) and area studies (noise, local traffic) are being coordinated and shared and design teams are meeting together on issues affecting multiple projects.

Q. What is "high-capacity transit?"

A. High-capacity transit (HCT) is defined as a public transit system on a separated guideway, such as light rail, that can accommodate large volumes of riders. Sound Transit is in the process of conducting an international review of potential technologies and will select five or six that could potentially be used for crossing Lake Washington. These technologies will be part of the environmental review process if the decision is made to include HCT as part of the solution for improving mobility in the SR 520 corridor.

Q. What is "transportation demand management?"

A. Transportation demand management or TDM is defined as an effort to reduce the number of people traveling by single-occupant vehicles (SOV) by promoting non-SOV modes of transportation (e.g., carpools, vanpools, transit).

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

Office of Urban Mobility
401 Second Avenue South, Suite 300
Seattle, WA 98104-2887

(206) 464-5878
Fax (206) 464-6084

January 8, 2001

Honorable John Daniels, Jr.
Muckleshoot Tribe
39015 172nd Ave. SE
Auburn, WA 98092

RE: Opportunity to Provide Input to the I-405 Corridor Study and Trans-Lake Washington Study – Project Updates

Dear Mr. Daniels:

On behalf of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Sound Transit, and King County, the Washington State Department of Transportation (WSDOT) would like to present to you a project overview session.

During the session, members of the project teams, including Lead Agencies and their consultants, will provide a general description of each of the projects, describe where we are in the processes, and provide a timeline for each of the projects. At that time, we would like to verify whom our project staff should remain in contact with and provide a list of persons you can send comments or information to. Attached to this letter is a brief background for each of the two projects.

We encourage you to invite all persons that you think would be interested, including staff representatives from Natural Resources, Fisheries, and Cultural Resources.

Where and When

The project teams would like to meet with you at your earliest convenience and suggest early in February. WSDOT has several conference rooms in their facility located in Shoreline and Sound Transit and King County have conference rooms available in downtown Seattle. However, we would be happy to meet with you at your offices or at another facility of your choice.

Please contact Kimberly Farley with the Office of Urban Mobility, WSDOT at (206) 464-6211 or by email at farleyk@wsdot.wa.gov to set up this meeting.

Sincerely,

Mike Cummings
I-405 Project Manager, WSDOT

Les Rubstello
Trans-Lake Project Manger, WSDOT

Cc: Donna Hogerhuis/Cultural Resources
Isabel Tinco/Natural Resources

BACKGROUND

I-405 Corridor Program

The goal of the I-405 Corridor Program is to select, from the array of viable alternatives identified, a set of solutions that will meet the objectives of the purpose and need statement and can be implemented over the next 20 to 30 years. The Corridor Study will look at transportation improvements from SR 167 to the I-405 connection to I-5. The environmental impact study process is underway, guided by the input from the three project committees. The co-lead agencies include FHWA, FTA, WSDOT, King County, and Sound Transit. It is also important to note that this is one of three Re-Inventing NEPA pilot projects being tested in Washington State and though it is following the classic NEPA process in many ways, we are being challenged to "think outside the box".

Where the I-405 EIS is in the Process

Three committees, consisting of elected officials, citizens, and representatives of jurisdictions in the I-405 corridor have developed four alternative solution sets to address the challenges of I-405. These four alternatives, along with a "no action" alternative, will be analyzed in a programmatic environmental impact statement (EIS). The I-405 Corridor Program is envisioned as a blueprint for a system that will be a mix of different transportation solutions that work together for decades into the future. The committees are currently deciding on a Preliminary Preferred Alternative and we would like your input in the process. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/I-405/.

Trans-Lake Washington Project

The goal of the Trans-Lake Washington project is to increase mobility across Lake Washington in the SR 520 corridor. The study area approximately includes the SR 520 interchange with I-5 to the SR 520 into Redmond. The product of this process is anticipated to be a project specific EIS.

The project team has been formulated using the same structure as the I-405 team. There are the same types of committees that serve the same types of functions. The same co-leads are also involved, with the exception of King County.

Where the Trans-Lake Washington Project is in the EIS Process

During scoping, several alternatives were identified. The first screening of alternatives by the three committees has been completed. Agreement was reached on the alternatives that will be further developed and evaluated, prior to selection of the alternatives to be analyzed in an EIS. The alternatives currently being studied will be presented at this meeting. If you would like to obtain additional information regarding this project, please visit the project website at http://www.wsdot.wa.gov/translake/.

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable Cecile Hansen, Chair
Duwamish Tribe
14235 Ambaum Blvd. SW
Burien, WA 98166-1464

Subject: SR 520 Trans-Lake Washington Study

Dear Ms. Hansen:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

Mr. Charlie Sigo
Suquamish Tribe
P.O. Box 498
Suquamish, WA 98292

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Sigo:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable Douglas Paul Lavan, Chief
Kikiallus Indian Tribe
3933 Bagley Avenue North
Seattle, WA 98103

Subject: SR 520 Trans-Lake Washington Study

Dear Chief Lavan:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable Joseph O. Mullen, Chair
Snoqualmie Tribe
P.O. Box 670
Fall City, WA 98024

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Mullen:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable William Yallup, Sr.
Yakama Nation
P.O. Box 151
Toppenish, WA 98055-2000

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Yallup:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable Herman Williams, Jr., Chair
Tulalip Tribes
6700 Totem Beach Road
Marysville, WA 98271

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Williams:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

Mr. Hank Gobin, Cultural Resource Manager
Tulalip Tribes
6700 Totem Beach Road
Marysville, WA 98271

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Gobin:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

The Honorable John Daniels, Jr., Chair
Muckleshoot Tribe
39015 172nd Avenue SE
Auburn, WA 98092

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. Daniels:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

Mr. Glen St. Amant
Muckleshoot Tribe
39015 172nd Avenue SE
Auburn, WA 98092

Subject: SR 520 Trans-Lake Washington Study

Dear Mr. St. Amant:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

Ms. Melissa Calvert
Muckleshoot Tribe
39015 172nd Avenue SE
Auburn, WA 98092

Subject: SR 520 Trans-Lake Washington Study

Dear Ms. Calvert:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

CH2M HILL
2300 NW Walnut Blvd.
Corvallis, OR
97330-3538
P.O. Box 428
Corvallis, OR
97339-0428
Tel 541.752.4271
Fax 541.752.0276

CH2MHILL

September 17, 2002

168395.AA.15.02

Ms. Donna Hogerhuis
Muckleshoot Tribe
39015 172nd Avenue SE
Auburn, WA 98092

Subject: SR 520 Trans-Lake Washington Study

Dear Ms. Hogerhuis:

On behalf of Mr. Paul Krueger/Washington Department of Transportation, please find enclosed a copy of the cultural resources Methodology Report for the Trans-Lake Washington Project EIS. WSDOT seeks your review and comment on the Methodology Report and welcomes the opportunity to meet with you, or designated members of your cultural resources staff at a location of your convenience. Mr. Krueger can be reached at WSDOT Urban Corridors Office (206-464-1226) or by e-mail (krueger@wsdot.wa.gov).

This Methodology Report was prepared by Jim Bard and members of CH2M HILL's cultural resource staff and has been reviewed by WSDOT staff.

If you have any questions, please do not hesitate to contact either Mr. Krueger or myself (Jim Bard). I can be reached at the above address or by telephone (541-758-2035, ext. 3662) or e-mail (jbard@ch2m.com).

Sincerely,

CH2M HILL

James C. Bard, Ph.D.
Cultural Resources Specialist

CVO\Document2
Enclosures
c: Paul Krueger/WSDOT
Lorie Parker/CH2M HILL

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON DIVISION
SUITE 501, EVERGREEN PLAZA
711 SOUTH CAPITOL WAY
OLYMPIA, WA 98501

WSDOT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
310 MAPLE PARK AVENUE, SE
OLYMPIA, WA 98504

20 November 2003

The Honorable Cecile Hansen, Chair
Duwamish Tribe
14235 Ambaum Blvd SW
Burien, Washington
98166-1464

FHWA/WSDOT Tribal Outreach

Dear Chair Hansen:

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) are expanding their efforts to involve tribal governments in the Puget Sound region's large transportation projects. Through presentations and one-on-one meetings, our objective is to ensure each tribe is aware of the regional projects, identify what level of continued involvement is desired by each tribe, and build a better understanding of each tribe's history in the project areas.

The transportation projects that will be involved in this effort are the Alaskan Way Viaduct and Seawall Replacement Project, I-405 Congestion Relief and Bus Rapid Transit Projects, and SR 520 Bridge Replacement and HOV Project.

We envision this to be a two-part process, however, this approach is flexible to meet your individual interests and needs. We would first like to meet with you and other tribal representatives you deem appropriate to present information about the transportation projects. We would then like to hold a second meeting to learn from members about the Duwamish Tribe's history and current activities within the project study areas. This information will be included in each project's environmental documentation and other project materials.

Allison Ray, WSDOT environmental coordinator, will be contacting you soon to set up a time to meet with project staff. At that time we can determine the most appropriate manner to proceed. On behalf of FWHA and WSDOT, we thank you in advance for your time, and look forward to meeting with you.

Sincerely,

Allison Ray
AWVSRP Environmental Coordinator
WSDOT Urban Corridor Office
401 - 2nd Ave. S., Suite 560
Seattle, WA 98104
206.464.1279

Mary Gray
Environmental Program Specialist
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, WA 98501
360.753.9487

02-055

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON DIVISION
SUITE 501, EVERGREEN PLAZA
711 SOUTH CAPITOL WAY
OLYMPIA, WA 98501

WSDOT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
310 MAPLE PARK AVENUE, SE
OLYMPIA, WA 98504

19 November 2003

Honorable Bennie J. Armstrong, Chair
Suquamish Tribe
P.O. Box 498
Suquamish, Washington
98392-0498

FHWA/WSDOT Tribal Outreach

Dear Chair Armstrong:

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) are expanding their efforts to involve tribal governments in the Puget Sound region's large transportation projects. Through presentations and one-on-one meetings, our objective is to ensure each tribe is aware of the regional projects, identify what level of continued involvement is desired by each tribe, and build a better understanding of each tribe's history in the project areas.

The transportation projects that will be involved in this effort are the Alaskan Way Viaduct and Seawall Replacement Project, I-405 Congestion Relief and Bus Rapid Transit Projects, and SR 520 Bridge Replacement and HOV Project.

We envision this to be a two-part process, however, this approach is flexible to meet your individual interests and needs. We would first like to meet with you and other tribal representatives you deem appropriate to present information about the transportation projects. We would then like to hold a second meeting to learn from members about the Suquamish Tribe's history and current activities within the project study areas. This information will be included in each project's environmental documentation and other project materials.

Allison Ray, WSDOT environmental coordinator, will be contacting you soon to set up a time to meet with project staff. At that time we can determine the most appropriate manner to proceed. On behalf of FWHA and WSDOT, we thank you in advance for your time, and look forward to meeting with you.

Sincerely,

Allison Ray
AWVSRP Environmental Coordinator
WSDOT Urban Corridor Office
401 - 2nd Ave. S., Suite 560
Seattle, WA 98104
206.464.1279

Mary Gray
Environmental Program Specialist
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, WA 98501
360.753.9487

Cc: Charlie Sigo,
Cultural Resources Specialist

02-055

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON DIVISION
SUITE 501, EVERGREEN PLAZA
711 SOUTH CAPITOL WAY
OLYMPIA, WA 98501

WSDOT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
310 MAPLE PARK AVENUE, SE
OLYMPIA, WA 98504

19 November 2003

Honorable Douglas Paul Lavan, Chief
Kikiallus Nation
3933 Bagley Avenue N.
Seattle, Washington
98103

FHWA/WSDOT Tribal Outreach

Dear Chief Lavan:

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) are expanding their efforts to involve tribal governments in the Puget Sound region's large transportation projects. Through presentations and one-on-one meetings, our objective is to ensure each tribe is aware of the regional projects, identify what level of continued involvement is desired by each tribe, and build a better understanding of each tribe's history in the project areas.

The transportation projects that will be involved in this effort are the Alaskan Way Viaduct and Seawall Replacement Project, I-405 Congestion Relief and Bus Rapid Transit Projects, and SR 520 Bridge Replacement and HOV Project.

We envision this to be a two-part process, however, this approach is flexible to meet your individual interests and needs. We would first like to meet with you and other tribal representatives you deem appropriate to present information about the transportation projects. We would then like to hold a second meeting to learn from members about the Kikiallus Nation's history and current activities within the project study areas. This information will be included in each project's environmental documentation and other project materials.

Allison Ray, WSDOT environmental coordinator, will be contacting you soon to set up a time to meet with project staff. At that time we can determine the most appropriate manner to proceed. On behalf of FWHA and WSDOT, we thank you in advance for your time, and look forward to meeting with you.

Sincerely,

Allison Ray
AWVSRP Environmental Coordinator
WSDOT Urban Corridor Office
401 - 2nd Ave. S., Suite 560
Seattle, WA 98104
206.464.1279

Mary Gray
Environmental Program Specialist
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, WA 98501
360.753.9487

02-055

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON DIVISION
SUITE 501, EVERGREEN PLAZA
711 SOUTH CAPITOL WAY
OLYMPIA, WA 98501

WSDOT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
310 MAPLE PARK AVENUE, SE
OLYMPIA, WA 98504

19 November 2003

Honorable Joseph O. Mullen, Chair
Snoqualmie Tribe
P.O. Box 280
Carnation, Washington
98014

FHWA/WSDOT Tribal Outreach

Dear Chair Mullen:

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) are expanding their efforts to involve tribal governments in the Puget Sound region's large transportation projects. Through presentations and one-on-one meetings, our objective is to ensure each tribe is aware of the regional projects, identify what level of continued involvement is desired by each tribe, and build a better understanding of each tribe's history in the project areas.

The transportation projects that will be involved in this effort are the Alaskan Way Viaduct and Seawall Replacement Project, I-405 Congestion Relief and Bus Rapid Transit Projects, and SR 520 Bridge Replacement and HOV Project.

We envision this to be a two-part process, however, this approach is flexible to meet your individual interests and needs. We would first like to meet with you and other tribal representatives you deem appropriate to present information about the transportation projects. We would then like to hold a second meeting to learn from members about the Snoqualmie Tribe's history and current activities within the project study areas. This information will be included in each project's environmental documentation and other project materials.

Allison Ray, WSDOT environmental coordinator, will be contacting you soon to set up a time to meet with project staff. At that time we can determine the most appropriate manner to proceed. On behalf of FWHA and WSDOT, we thank you in advance for your time, and look forward to meeting with you.

Sincerely,

Allison Ray
AWVSRP Environmental Coordinator
WSDOT Urban Corridor Office
401 - 2nd Ave. S., Suite 560
Seattle, WA 98104
206.464.1279

Mary Gray
Environmental Program Specialist
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, WA 98501
360.753.9487

02-055

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON DIVISION
SUITE 501, EVERGREEN PLAZA
711 SOUTH CAPITOL WAY
OLYMPIA, WA 98501

WSDOT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
310 MAPLE PARK AVENUE, SE
OLYMPIA, WA 98504

19 November 2003

Honorable Herman A. Williams, Jr., Chair
The Tulalip Tribes
6700 Totem Beach Rd.
Tulalip, Washington
98271-9694

FHWA/WSDOT Tribal Outreach

Dear Chair Williams:

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) are expanding their efforts to involve tribal governments in the Puget Sound region's large transportation projects. Through presentations and one-on-one meetings, our objective is to ensure each tribe is aware of the regional projects, identify what level of continued involvement is desired by each tribe, and build a better understanding of each tribe's history in the project areas.

The transportation projects that will be involved in this effort are the Alaskan Way Viaduct and Seawall Replacement Project, I-405 Congestion Relief and Bus Rapid Transit Projects, and SR 520 Bridge Replacement and HOV Project.

We envision this to be a two-part process, however, this approach is flexible to meet your individual interests and needs. We would first like to meet with you and other tribal representatives you deem appropriate to present information about the transportation projects. We would then like to hold a second meeting to learn from members about the Tulalip Tribes' history and current activities within the project study areas. This information will be included in each project's environmental documentation and other project materials.

Allison Ray, WSDOT environmental coordinator, will be contacting you soon to set up a time to meet with project staff. At that time we can determine the most appropriate manner to proceed. On behalf of FWHA and WSDOT, we thank you in advance for your time, and look forward to meeting with you.

Sincerely,

Allison Ray
AWVSRP Environmental Coordinator
WSDOT Urban Corridor Office
401 - 2nd Ave. S., Suite 560
Seattle, WA 98104
206.464.1279

Mary Gray
Environmental Program Specialist
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, WA 98501
360.753.9487

Cc: Hank Gobin
Cultural Resources Manager

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

Johnson Meninick
Cultural Resources Director, Yakama Tribe
P.O. Box 151,
Toppenish, WA 98948

Dear Mr. Meninick:

This letter is to inform you that the Washington State Department of Transportation (WSDOT) will be contacting you in the near future to schedule an appointment in November/December 2005. We intend to discuss project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT would like to meet with you to further discuss these plans, and to seek your input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Yakama Tribe to learn more about the history and native use of the project area. We hope to discuss this further during the November meeting.

Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

Richard Brooks
Cultural Resources Specialist, Suquamish Tribe
P.O. Box 498,
Suquamish, WA 98292

Dear Mr. Brooks:

This letter is to inform you that the Washington State Department of Transportation (WSDOT) will be contacting you in the near future to schedule an appointment in November/December 2005. We intend to discuss project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT would like to meet with you to further discuss these plans, and to seek your input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Suquamish Tribe to learn more about the history and native use of the project area. We hope to discuss this further during the upcoming meeting.

Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

Mr. Kellie Kvasnikoff
Cultural Resources Manager, Snoqualmie Tribe
P.O. Box 280,
Carnation, WA, 98014-0280

Dear Mr. Kvasnikoff:

This letter is to inform you that the Washington State Department of Transportation (WSDOT) will be contacting you in the near future to schedule an appointment in November/December 2005. We intend to discuss project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT would like to meet with you to further discuss these plans, and to seek your input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Snoqualmie Tribe to learn more about the history and native use of the project area. We hope to discuss this further during the upcoming meeting.

Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

Ms. Laura Murphy
Archaeologist, Muckleshoot Tribe
39015 172nd Ave SE,
Auburn, WA 98092

Dear Ms. Murphy:

On behalf of the Washington State Department of Transportation (WSDOT), thank you for meeting with me, Paul Krueger, and Michelle Steinmetz on September 12, 2005 regarding project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

As we discussed, WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT respectfully seeks the Tribe's input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Muckleshoot Tribe to learn more about the history and native use of the project area. She will be contacting you in the near future.

As always, thank you for your interest and participation in this project. Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

Hank Gobin
Cultural Resources Manager, Tulalip Tribe
6410 23rd Avenue NE
Tulalip, WA 98271

Dear Mr. Gobin:

This letter is to inform you that the Washington State Department of Transportation (WSDOT) will be contacting you in the near future to schedule an appointment in November/December 2005. We intend to discuss project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT would like to meet with you to further discuss these plans, and to seek your input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Tulalip Tribe to learn more about the history and native use of the project area. We hope to discuss this further during the upcoming meeting.

Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Washington State Department of Transportation
Douglas B. MacDonald
Secretary of Transportation

Northwest Washington Division
Urban Corridors Office
401 Second Avenue South, Suite 560
Seattle, WA 98104-3850
206-464-1220 / Fax 206-464-1190
TTY: 1-800-833-6388
www.wsdot.wa.gov

October 10, 2005

The Honorable Cecile Hansen, Chair
Duwamish Tribe
4717 West Marginal Way
Seattle, WA 98106

Dear Chairperson Hansen:

This letter is to inform you that the Washington State Department of Transportation (WSDOT) will be contacting you in the near future to schedule an appointment in November/December 2005. We intend to discuss project updates and upcoming archaeological work associated with the SR 520 Bridge Replacement and HOV Project. All of our latest information about the SR 520 project can be found on our website at http://www.wsdot.wa.gov/projects/SR520Bridge/.

WSDOT has contracted BOAS, Inc. to complete archaeological investigations for the SR 520 Bridge Replacement and HOV Project. The purpose of this study is to identify significant historic properties and to inform WSDOT of the probability of encountering subsurface archaeological remains during construction of the project. The study will include thorough background research regarding the ethnography and geoarchaeology of the project area. Subsequent to the background research, limited field investigations will be conducted, as access to locations with high to moderate archaeological potential permits. The investigations will include specific information on the historic extent and ethnographic use of Portage Bay, Montlake Portage, Union Bay, Foster Island and the Eastside of Lake Washington (within the project boundaries) by Puget Sound Indian tribes.

WSDOT would like to meet with you to further discuss these plans, and to seek your input on the potential for discovering subsurface archaeological resources. Dr. Astrida R. Blukis Onat will conduct the ethnographic study, and would like interview members of the Duwamish Tribe to learn more about the history and native use of the project area. We hope to discuss this further during the upcoming meeting.

Please contact me at 206-464-1236 if you have any questions.

Sincerely,

Connie Walker Gray
WSDOT, Cultural Resources Specialist

Cc: Jim Leonard, FHWA
Paul Krueger, WSDOT
Colleen Jollie, WSDOT
Sandie Turner, WSDOT

Recent Presentations

Tribe	Date	Subject
Muckleshoot Tribe	February 4, 2004	Presentation of projects: SR 99 - Alaskan Way Viaduct, SR 520 - Bridge Replacement and HOV, and I-405 - Congestion Relief and Bus Rapid Transit Projects
Muckleshoot Tribe	September 12, 2005	Update the tribe about the SR 520 Bridge Replacement and HOV Project, describe the ongoing cultural resource investigations, and to solicit feedback as part of the government-to-government consultation process.
Snoqualmie Nation	December 5, 2005	
Duwamish Tribe	December 16, 2005	
Suquamish Tribe	WSDOT approached Tribe, but not yet scheduled	
Tulalip Tribes		
Confederated Tribes of the Yakama Nation		

Attachment 3

Letter of Concurrence on APE from DAHP

To be provided upon receipt of concurrence from DAHP.

Attachment 4

Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2601 Broadway Street East – Proposed Roanoke Park Historic District	Increased visual intrusion from widened shoulders	N/A
Roanoke Park – Proposed Roanoke Park Historic District	Increased visual intrusion to historic setting from widened 10th Avenue East bridge	N/A
1004 East Roanoke Street – Proposed Roanoke Park Historic District	Increased visual intrusion to historic setting from widened 10th Avenue East bridge and Delmar Drive East bridge and new sound wall	Decreased noise levels from installation of sound wall along Roanoke Street
1018 East Roanoke Street – Proposed Roanoke Park Historic District	Increased visual intrusion to historic setting from widened Delmar Drive East bridge	Decreased noise levels from installation of sound wall along Roanoke Street
2545 Boyer Avenue East **Mason House**	N/A	Decreased visual and audible intrusion from relocation of Portage Bay Bridge to the north, shifting it farther away from the historic property; decreased noise levels from installation of sound wall along SR 520
1891 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from sound walls and from lanes located closer to residence	Decreased noise levels from installation of sound wall; access to widened bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2725 Montlake Boulevard East – Proposed Montlake Historic District **NOAA Northwest Fisheries Science Center**	Increased visual intrusion to historic setting from widened bicycle/ pedestrian path, new sound walls, and from Portage Bay Bridge located closer to structure; partial loss of surrounding property. This effect is considered adverse.	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway

[a] 36 CFR Part 800 defines an "effect" as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." An adverse effect is one where the alteration is so severe that it "may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2734 Montlake Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and bicycle/pedestrian path, and from lanes located closer to residence; partial loss of landscaped buffer zone	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2740 Montlake Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from lanes located closer to residence; partial loss of landscaped buffer zone	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2111 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2117 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2121 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2127 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2133 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2137 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2141 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2147 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property; increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2151 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; decrease in buffer zone at rear of property; increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2161 East Hamlin Street – Proposed Montlake Historic District **MOHAI**	Increased visual intrusion to historic setting from new sound wall and bicycle/pedestrian path, and from lanes located closer to residence; increased visual intrusion from higher 24th Avenue East bridge and west Evergreen Point Bridge approach; taking of property – removal of existing parking areas and partial or complete demolition of building. This effect is considered adverse.	Decreased noise levels from installation of sound wall; Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2146 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2150 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2160 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path, and from lanes located closer to residence; increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased visual and audible intrusion from lowering of SR 520 roadway
2817 East Park Drive East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2158 East Shelby Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2159 East Shelby Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2209 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual and audible effects due to intersection enlargement; partial loss of surrounding right-of-way, decreasing buffer; increased visual effects from new sound wall	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2215 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2219 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2223 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2227 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new sound wall	Decreased noise levels from installation of sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2231 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2401 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2409 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2415 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2419 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2425 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2429 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2433 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2437 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; lowering of SR 520 roadway
2441 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall	Decreased noise levels from new sound wall; decreased visual and audible intrusion from lowering of SR 520 roadway
2445 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall and from higher roadway at west approach	Decreased noise levels from new sound wall

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
2449 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall and from higher roadway leading to west approach	Decreased noise levels from new sound wall
2455 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall and higher roadway leading to west approach	Decreased noise levels from new sound wall; decreased visual intrusion from removal of existing on- and off-ramps
2459 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall and from higher roadway leading to west approach	Decreased noise levels from new sound wall; decreased visual intrusion from removal of existing on- and off-ramps
2465 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion from new sound wall, higher roadway leading to west approach	Decreased noise levels from new sound wall; decreased visual intrusion from removal of existing on- and off-ramps
2616 East Montlake Place East – Proposed Montlake Historic District	Increased visual and audible effects from widened East Montlake Place East	Decreased noise levels from new sound wall at SR 520 on- and off-ramps across East Montlake Place East
2610 East Montlake Place East – Proposed Montlake Historic District	Increased visual and audible effects from widened East Montlake Place East	Decreased noise levels from new sound wall at SR 520 on- and off-ramps across East Montlake Place East
2604 East Montlake Place East – Proposed Montlake Historic District	Increased visual and audible effects from widened East Montlake Place East	Decreased noise levels from new sound wall at SR 520 on- and off-ramps across East Montlake Place East
2600 East Montlake Place East – Proposed Montlake Historic District	Increased visual and audible effects from widened East Montlake Place East	Decreased noise levels from new sound wall at SR 520 on- and off-ramps across East Montlake Place East

Attachment 4. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
Washington Park Arboretum	Loss of approximately 1.7 acres, or 5.5 percent of Foster Island; increased visual intrusion at the Arboretum Waterfront Trail due to the higher elevation of the highway mainline by approximately 43 feet; increased visual intrusion to northern Arboretum area due to new, higher west-to-south and north-to-east Lake Washington Boulevard ramps	Redevelopment and expansion of the waterfront trail system; increase of park land on Foster Island by approximately .04 acre due to shift of highway alignment; decreased noise levels in the northern part of the Arboretum from new sound walls on both sides of SR 520; reconstruction of waterfront trail at grade where it crosses under SR 520, replacing the existing tunnel, due to the increased elevation of the SR 520 structure; larger portions of WSDOT right-of-way available for park use due to the removal of existing ramps and the placement of the new ramps closer together

Note: Bolding indicates the name of the building located on the property; name is provided for reference only.

Attachment 5
Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2601 Broadway Street East – Proposed Roanoke Park Historic District	Increased visual intrusion from added lanes to SR 520	N/A
Roanoke Park - Proposed Roanoke Park Historic District	Increased visual intrusion from added lanes to SR 520	Decreased noise levels and visual intrusion from installation of 10th and Delmar lid and associated landscaping
1004 East Roanoke Street – Proposed Roanoke Park Historic District	N/A	Decreased noise levels and visual intrusion from installation of 10th and Delmar lid and associated landscaping
1018 East Roanoke Street – Proposed Roanoke Park Historic District	N/A	Decreased noise levels and visual intrusion from installation of 10th and Delmar lid and associated landscaping
2545 Boyer Avenue East **Mason House**	Increased visual intrusion from new sound walls and wider Portage Bay Bridge	Decreased noise levels from installation of sound wall along SR 520 and Portage Bay Bridge
1891 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and location of expanded SR 520 closer to residence	Decreased noise levels from installation of sound wall; access to wider bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2725 Montlake Boulevard East – Proposed Montlake Historic District **NOAA Northwest Fisheries Science Center**	Increased visual intrusion to historic setting from new sound walls and from Portage Bay Bridge and new traffic lanes relocated closer to structure; partial loss of surrounding property. This effect is considered adverse.	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway

[a] 36 CFR Part 800 defines an "effect" as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." An adverse effect is one where the alteration is so severe that it "may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2734 Montlake Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and bicycle/pedestrian path, and from SR 520 located closer to residence; partial loss of landscaped buffer zone	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2740 Montlake Boulevard East – Proposed Montlake Historic District	Increased visual and audible intrusion to historic setting from SR 520 located closer to residence; partial loss of landscaped buffer zone	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2111 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes and bicycle/pedestrian path, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2117 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes and bicycle/pedestrian path, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2121 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes and bicycle/pedestrian path, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2127 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes and bicycle/pedestrian path, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2133 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes and bicycle/pedestrian path, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2137 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path and new sound walls, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2141 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path and new sound walls, and from SR 520 located closer to residence; decrease in buffer zone at rear of property	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2147 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path and new sound walls, and from SR 520 located closer to residence; decrease in buffer zone at rear of property; Increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2151 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path and new sound walls, and from SR 520 located closer to residence; decrease in buffer zone at rear of property; Increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2161 East Hamlin Street – Proposed Montlake Historic District **MOHAI**	Increased visual intrusion to historic setting from new bicycle/pedestrian path and new sound walls, and from SR 520 located closer to building; Increased visual intrusion from higher 24th Avenue East bridge and west approach to Evergreen Point Bridge; Taking of property – removal of existing parking areas and partial or complete demolition of building. This effect is considered adverse.	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2146 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2150 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2160 East Hamlin Street – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new bicycle/pedestrian path and from SR 520 located closer to building; Increased visual intrusion from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2817 East Park Drive East – Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2158 East Shelby Street - Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2159 East Shelby Street - Proposed Montlake Historic District	Increased visual intrusion from higher 24th Avenue East bridge and new bicycle/pedestrian path	Access to new bicycle/pedestrian path that reconnects the two sides of the neighborhood divided by SR 520
2209 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual and audible intrusion from widened Montlake Boulevard and intersection enlargement	Decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2215 Lake Washington Boulevard East – Proposed Montlake Historic District	N/A	Decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2219 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2223 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2227 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2231 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2401 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2409 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2415 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2419 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and from higher 24th Avenue East bridge	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2425 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from lowering of SR 520 roadway
2429 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall
2433 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall
2437 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall
2441 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new traffic lanes on SR 520	Decreased noise levels from installation of sound wall
2445 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall
2449 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls	Decreased noise levels from installation of sound wall
2455 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and new elevated HOV lane	Decreased noise levels from installation of sound wall; Removal of existing on- and off-ramps

Attachment 5. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Seattle Project Area

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
2459 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and new elevated HOV lane	Decreased noise levels from installation of sound wall; Removal of existing on- and off-ramps
2465 Lake Washington Boulevard East – Proposed Montlake Historic District	Increased visual intrusion to historic setting from new sound walls and new elevated HOV lane	Decreased noise levels from installation of sound wall; Removal of existing on- and off-ramps
2616 East Montlake Place East – Proposed Montlake Historic District	Increased visual intrusion from widening of East Montlake Place East	Decreased noise levels from installation of sound wall at SR 520 on- and off-ramps; decreased noise levels and visual intrusion from installation of Montlake Boulevard lid and associated landscaping
2610 East Montlake Place East – Proposed Montlake Historic District	Increased visual intrusion from widening of East Montlake Place East	Decreased noise levels from installation of sound wall at SR 520 on- and off-ramps
2604 East Montlake Place East – Proposed Montlake Historic District	Increased visual intrusion from widening of East Montlake Place East	Decreased noise levels from installation of sound wall at SR 520 on- and off-ramps
2600 East Montlake Place East – Proposed Montlake Historic District	Increased visual intrusion from widening of East Montlake Place East	Decreased noise levels from installation of sound wall at SR 520 on- and off-ramps
Washington Park Arboretum	Loss of 1.80 acres, or 5.7 percent of Foster Island; net loss of 0.70 acres or 2.2 percent of the existing park area due to the northern shift of the highway alignment; increased visual intrusion at the Arboretum Waterfront Trail due to the higher elevation of the highway mainline by approximately 43 feet; increased visual intrusion to northern Arboretum area due to new, higher west-to-south and north-to-east Lake Washington Boulevard ramps	Redevelopment and expansion of the waterfront trail system; decreased noise levels in the northern part of the Arboretum from the new sound wall on both sides of SR 520; reconstruction of waterfront trail at grade where it crosses under SR 520, replacing the existing tunnel, due to the increased elevation of the SR 520 structure; larger portions of WSDOT right-of-way available for park use due to the removal of existing ramps and the placement of the new ramps closer together

Note: Bolding indicates the name of the building located on the property; name is provided for reference only.

Attachment 6

Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Lake Washington and Eastside Project Areas

Attachment 6. Summary of Long-Term Effects of the 4-Lane Alternative on Historic Resources—Lake Washington and Eastside Project Areas

Address Historic Name	4-Lane Alternative Detrimental Effects[a]	4-Lane Alternative Beneficial Effects
Evergreen Point Bridge	This resource would be demolished and replaced with a new bridge. This effect is considered adverse.	
2851 Evergreen Point Road	Increased visual intrusion on historic character of setting due to new sound walls, new bicycle/pedestrian path, and new bridge operations facility access road. Loss of property, including part or all of garage and part of main structure. This effect is considered adverse.	Decreased noise levels from installation of sound wall; access to new bicycle/ pedestrian path
2891 Evergreen Point Road	Increased visual intrusion on historic character of setting due to widening and relocation of Evergreen Point Bridge and SR520 to the north, closer to the structure, and removal of intervening structures and vegetation which currently serve as buffers and screening	Decreased noise levels from installation of sound wall
2857 Evergreen Point Road	Increased audible and visual intrusion from new bridge operations facility and its access road; Increased visual intrusion from new bicycle/pedestrian path and from wider, higher Evergreen Point Bridge	Reduced visual and audible intrusion from Evergreen Point Bridge because of relocation of the bridge and highway to the north, away from property
7800 Northeast 28th Street **Bellevue Christian School**	Taking small section of surrounding property to allow new bicycle/pedestrian path; Increased visual intrusion on historic character of setting due to new sound walls and new bicycle/pedestrian path	Decreased noise levels from installation of sound wall; access to new bicycle/pedestrian path and bridge

Note: Bolding indicates the name of the building located on the property, which is provided for reference only.

[a] 36 CFR Part 800 defines an "effect" as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." An adverse effect is one where the alteration is so severe that it "may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."

Attachment 7

Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Lake Washington and Eastside Project Areas

Attachment 7. Summary of Long-Term Effects of the 6-Lane Alternative on Historic Resources—Lake Washington and Eastside Project Areas

Address Historic Name	6-Lane Alternative Detrimental Effects[a]	6-Lane Alternative Beneficial Effects
Evergreen Point Bridge	This resource would be demolished and replaced with a new bridge. This affect is considered adverse.	
2851 Evergreen Point Road	N/A	Decreased noise levels and visual intrusion from installation of Evergreen Point Road lid; access to new bicycle/pedestrian lane
2891 Evergreen Point Road	Increased visual intrusion on historic character of setting due to widening and relocation of Evergreen Point Bridge to the north, closer to the structure, from new sound walls, and from removal of intervening structures and vegetation which currently serve as buffers and screening	Decreased noise levels from installation of sound wall; decreased noise levels and visual intrusion from installation of Evergreen Point Road lid
2857 Evergreen Point Road	Increased audible and visual intrusion from new bridge operations facility, its access road, and new sound walls; Increased visual intrusion from new bicycle/pedestrian path and from wider, higher new Evergreen Point Bridge	Decreased noise levels from installation of sound wall; reduced visual intrusion from new bridge due to relocation of bridge and highway to the north, away from property
7800 Northeast 28th Street **Bellevue Christian School**	Increased visual intrusion from new sound walls and new bicycle/pedestrian path; Taking small section of property to allow new bicycle/pedestrian path	Decreased noise levels from installation of sound wall; access to new/improved bicycle/pedestrian path and bridge

Note: Bolding indicates the name of the building located on the property, which is provided for reference only.

[a] 36 CFR Part 800 defines an "effect" as "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." An adverse effect is one where the alteration is so severe that it "may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."