



CHAPTER 10: CULTURAL RESOURCES

10.1 Introduction

This chapter describes cultural resources in the Missing Link study area. Cultural resources include both buried or archaeological resources and aboveground resources such as buildings and other structures.

The Cultural Resources Discipline Report (SWCA, 2016) describes in detail the methods used to identify and evaluate cultural resources in the study area as well as applicable regulations. These methods included review of the following local, state, and federal registers and databases for information about documented cultural resources:

- National Register of Historic Places (NRHP);
- Washington Heritage Register;
- City of Seattle list of Landmarks and Historic Resources Survey Database;
- King County Historic Preservation Program database; and
- Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database.

The EIS team conducted a reconnaissance-level survey of the study area to reexamine previously recorded built environment resources and identify areas or individual resources that are likely eligible for local, state, or federal registers. Information from the King County Department of Assessments and archival sources was used to determine the age of built environment resources.

Historical maps, photographs, and other documents were used to identify locations where past human activity occurred within the study area. Existing geotechnical borehole logs were used to characterize soils and identify areas where potentially significant archaeological resources could be identified during construction.

10.2 Affected Environment

The Missing Link study area for cultural resources includes the five Build Alternatives, a No Build Alternative, and six connector segments that are described from the east project terminus at the intersection of 11th Ave NW and NW 45th St to the west terminus at 30th Ave NW and the Ballard Locks. The study area includes properties directly abutting these alternatives and connector segments (Figure 10-1).

Changes from the DEIS

Chapter 10 includes analysis of the newly developed Preferred Alternative, which was not included in the DEIS. Additionally, potential impacts from the relocation of the SLS&E RR are evaluated.



Figure 10-1. Historic Shoreline and Historic District Boundaries

10.2.1 Setting

The study area is located along the north shore of Salmon Bay in a glacially exposed and eroded trough. After glaciers left the region at the end of the Pleistocene, Salmon Bay was a dry valley and the shoreline was southwest of its modern position throughout most of the Holocene. Salmon Bay supported a floodplain in which a stream flowed from Lake Union west to the sea as recently as 2,500 years ago (Downing, 1983). Relative sea level in Puget Sound continued to rise throughout the Holocene. The Salmon Bay area transitioned from a floodplain environment into a brackish tidal embayment after 2,500 years ago.

Native American communities whose descendants are now part of the Duwamish, Muckleshoot, Snohomish, Snoqualmie, and Suquamish Tribes once used the project vicinity for settlement and subsistence. Archaeological evidence of Native Americans living around the Puget Sound between about 5,000 and 2,500 years ago is commonly found along modern shorelines. The traditional Native American way of life was altered in the mid-1800s when the first Euroamerican settlers arrived in the Puget Lowland on the coattails of explorers and capitalists (Bass, 1937; Watt, 1931). The historic development of Seattle and its surrounding area was influenced by access to both natural resources and a means to transport them. Land seekers initially chose property along navigable waterways, and communities grew where there were good harbors and nearby resources that could accommodate the growth of trade. Shoreline property was in particular demand, and several early claimants filed for land along a bay that extended inland to the north of the Seattle settlement. This inlet was originally shown as Shilshole Bay on the January 1856 General Land Office survey map (U.S. Surveyor General, 1856) but ultimately became known as Salmon Bay.

Deposition of industrial fill was commonplace along the Salmon Bay shoreline in the 1890s. Canal spoils were later placed along the shoreline during construction of the Ship Canal and Hiram M. Chittenden Locks between 1916 and 1934. As a result, the wetlands along the coast were filled and the Salmon Bay shoreline was extended south of its original position. Figure 10-1 depicts the shoreline of Salmon Bay in 1891 in relation to the study area. The Preferred Alternative and the Shilshole North and South Alternatives are at or adjacent to the 1891 shoreline. Mean tide elevation in Salmon Bay rose to the level of Lake Union after completion of the Ship Canal (Chrzastowski, 1983). Lake Washington was subsequently lowered approximately 10 feet to the level of Lake Union (Galster and Laprade, 1991).

Today, soils mapped in the project vicinity consist of Alderwood series soils that formed on uplands and terraces in glacial till (Snyder et al., 1973). The study area, however, does not include intact Alderwood soils because it has been fully developed and most of the area includes a considerable amount of fill. Borings completed during previous geotechnical investigations for other projects found 1 to 17 feet of mixed clayey, gravelly, silty, sandy fill across the surface of the study area. The fill is thickest along the Preferred Alternative and the Shilshole North and South Alternatives at the historical shoreline.

10.2.2 Previously Identified Cultural and Historic Resources

Archaeological Resources

It is possible that archaeological materials dating to the middle Holocene are present in the project vicinity. If present, they would likely be encountered along the prehistoric shoreline that is closest to the Preferred Alternative and the Shilshole North and South Alternatives. Similar to middle Holocene sites, archaeological materials dating to the late Holocene are possibly in the project vicinity. If present, late Holocene sites would likely be encountered just below the historical fill along the prehistoric shoreline that is closest to the Preferred Alternative and the Shilshole North and South Alternatives.

The previous geotechnical studies reported potential archaeological deposits within the fill material. Brick, metal, and wood debris were reported throughout the fill, and similar deposits are expected along the connector segments. It appears that two dump sites exist, one near 11th Ave NW and NW 46th St, and the other near 28th Ave NW and NW Market St. Wood and other debris were also found at the base of the fill. The deeply buried wood and debris deposits that are concentrated at the base of the fill are more likely to be culturally significant than the bricks, wood, and metal debris found scattered throughout the upper fill because the lower deposits are located on natural surfaces, are older, and are still in place.

Table 10-1 summarizes the archaeological resources recorded in the vicinity of the BGT, as well as human remains and other cultural materials that have been noted, but not recorded, in the project vicinity.

Table 10-1. Previously Recorded Archaeological Sites and Burke Museum Collections and Materials Noted in the Project Vicinity

<i>Site No.</i>	<i>Compiler/ Data</i>	<i>Age</i>	<i>Description</i>	<i>Relation to Preferred Alternative and Shilshole North and South Alternatives</i>	<i>Relation to Ballard Avenue Alternative</i>	<i>Relation to Leary Alternative</i>
45KI1000	Major 2010	Pre-contact	Salmon Bay midden	0.3 mile west	0.3 mile west	0.3 mile west
Burke Human Remains Site 1162	King County Database	Pre-contact	Human remains	One block north	Adjacent at 1416 NW 46 th St	Two blocks south
Burke Archaeological Site 1117	King County Database	Pre-contact	Isolated projectile point	North	North	North
Burke Archaeological Site 1102	King County Database	Pre-contact	Shell midden and human remains	Adjacent to west end	Adjacent to west end	Adjacent to west end

Historic Districts

Three historic districts are located in or near the study area (Table 10-2, Figure 10-1). Two of the districts are listed in the NRHP: (1) the Ballard Avenue Historic District, and (2) the Hiram M. Chittenden Locks and Related Features of the Lake Washington Ship Canal. The third is a local historic district, but not listed in NRHP, the Ballard Avenue Landmark District, which has the same boundaries as the Ballard Avenue NRHP district. Although these two districts have the same boundary, they are distinct districts with different regulatory structures.

The historic streetscape along Ballard Ave NW from NW Market St to NW Dock Pl makes up the NRHP-listed Ballard Avenue Historic District, which includes 74 properties that belong to the period of

significance between 1890 and 1930 (Potter, 1976). Forty-one of these properties are adjacent to one or more of the alternatives or connector segments. The Ballard Avenue Alternative extends through the middle of the historic district. The contributing historic properties within this district are described further in the section on “Buildings and Structures” below. The locally designated Ballard Avenue Landmark District was established by the City of Seattle in 1975.

Eight miles of man-made channels and inland bodies of water between Puget Sound and Lake Washington have been recorded as the Hiram M. Chittenden Locks and Related Features of the Lake Washington Ship Canal (Potter, 1977). These features include the fixed dam and double locks at Salmon Bay in Ballard, the Fremont Cut between the locks and Lake Union, and the Montlake Cut between Lake Union and Lake Washington, as well as 20 accessory structures that date to the period of significance between 1906 and 1917. This district is located just west of the Missing Link study area (Figure 10-1).

Table 10-2. Historic Districts in or Adjacent to the Study Area

<i>Description</i>	<i>Age</i>	<i>Relationship to Alternatives</i>		
		Preferred Alternative and Shilshole North and South	Ballard Avenue	Leary
Ballard Avenue Historic District / Ballard Avenue Landmark District	1890–1930	½ block north	Within	Adjacent to ½ block south
Hiram M. Chittenden Locks and Related Features of the Lake Washington Ship Canal	1906–1917	Adjacent to west end	Adjacent to west end	Adjacent to west end

Buildings and Structures

In addition to the buildings that were recorded as part of the historic districts, a total of 54 buildings located on properties adjacent to the alternative alignments have been previously recorded. Some of these resources were evaluated for eligibility for listing in the NRHP while others were not. One resource, the 15th Ave Bridge/Ballard Bridge, is individually listed in the NRHP.

The following paragraphs summarize historic resources present along each of the Build Alternatives and connector segments.

Preferred Alternative

This alternative does not pass through any historic districts, but it is adjacent to the north edge of the Hiram M. Chittenden Locks District. This alternative does not border any contributing features of that district, but it is adjacent to three eligible or listed resources (Figure 10-2).

The NRHP-listed 15th Ave Bridge/Ballard Bridge crosses over a segment of the Preferred Alternative at NW 45th St. In addition, the Jack Johnson Beer Parlor/Lock Spot, which was evaluated and recorded locally, is adjacent to the Preferred Alternative on NW 54th St.

Along Shilshole Ave NW, the Preferred Alternative is adjacent to the NRHP-eligible Seattle Lake Shore and Eastern Railroad Grade/Ballard Terminal Railroad. For the purposes of this report, the two railroad segments are treated and discussed as a single resource (SLS&E RR). This resource is in very close proximity to the proposed trail and crosses it on Shilshole Ave NW near NW 46th St.

Shilshole South Alternative

This alternative does not pass through any of the historic districts. Although it is adjacent to the north edge of the Hiram M. Chittenden Locks District, it does not border any contributing features in that district. This alternative is adjacent to two eligible or listed resources (Figure 10-2).

The NRHP-listed 15th Ave Bridge/Ballard Bridge crosses over a segment of the Shilshole South Alternative at NW 45th St.

A large segment of the Shilshole South Alternative is adjacent to the NRHP-eligible SLS&E RR. Proposed plans for the Shilshole South Alternative indicate that this resource is located in very close proximity to the proposed trail and crosses it on Shilshole Ave NW between NW Dock Pl and 17th Ave NW.

Shilshole North Alternative

This alternative does not pass through any historic districts, but is adjacent to the north edge of the Hiram M. Chittenden Locks District. This alternative does not border any contributing features of that district, but it is adjacent to four eligible or listed resources (Figure 10-2).

The NRHP-listed 15th Ave Bridge/Ballard Bridge crosses a segment of the Shilshole North Alternative at NW 46th St. The Stimson Mill Office, which is NRHP-eligible, is adjacent to this alternative at the corner of NW Vernon Pl and Shilshole Ave NW. In addition, the Jack Johnson Beer Parlor/Lock Spot, which was evaluated and recorded locally, is adjacent to the Shilshole North Alternative on NW 54th St.

Large segments of the Shilshole North Alternative are adjacent to the NRHP-eligible SLS&E RR. Proposed plans for the Shilshole North Alternative indicate that the proposed trail crosses the railroad on NW 46th St, midway between 11th Ave NW and 14th Ave NW. The southeast end of the proposed route also crosses the railroad at the intersection of NW 45th St and 11th Ave NW.

Ballard Avenue Alternative

This alternative extends through the center of two historic districts (the NRHP-listed and local Ballard Avenue Historic Districts) and is adjacent to the north edge of a third historic district (Hiram M. Chittenden Locks District). A total of 38 eligible or listed resources are adjacent to or crossed by this alternative (Figure 10-2). See the Cultural Resources Discipline Report (SWCA, 2016) for a complete list.

The Ballard Avenue Alternative extends through the center of the Ballard Avenue Historic District from 22nd Ave NW to the southeast district boundary near NW Dock Pl. Twenty-six district resources are adjacent to this alternative alignment.

The 15th Ave Bridge/Ballard Bridge crosses the Ballard Avenue Alternative at NW 46th St, and is located immediately east of the alternative between NW Ballard Way and NW 46th St.

The plans for this alternative place the trail in close proximity to the SLS&E RR. The west end of the alternative is immediately north of the railroad, and the east end of the alternative crosses the railroad on

NW 46th St between 11th Ave NW and 14th Ave NW. The far east end of the alternative also crosses the railroad at the intersection of NW 45th St and 11th Ave NW.

Leary Alternative

The Leary Alternative is adjacent to the north edge of the two Ballard Avenue historic districts and the north edge of the Hiram M. Chittenden Locks District. A total of 11 eligible or listed resources are adjacent to this alternative. These resources include the north end of the 15th Avenue Bridge/Ballard Bridge and the SLS&E RR, which this alternative crosses at the intersection of NW 45th St and 11th Ave NW (Figure 10-2). See the Cultural Resources Discipline Report (SWCA, 2016) for a complete list.

Connector Segments

14th Avenue NW

This connector segment is not in the vicinity of any historic districts, and no historic resources are adjacent to this alternative.

15th Avenue NW

This segment is not adjacent to any historic districts, but is adjacent to the 15th Avenue Bridge/Ballard Bridge between Shilshole Ave NW and NW 46th St.

17th Avenue NW

This segment is adjacent to one eligible building located at the northeast corner of the 17th Ave NW and NW Ballard Way intersection.

20th Avenue NW

The 20th Avenue NW segment extends through the Ballard Avenue Historic District/Ballard Avenue Landmark District and is adjacent to six district resources and the Curtiss Building (Figure 10-2).

NW Vernon Place

The northeast portion of the NW Vernon Pl segment extends into the Ballard Avenue Historic District/Ballard Avenue Landmark District. Three eligible or listed resources are adjacent to this connector segment (Figure 10-2).

Ballard Avenue NW

This segment extends through the Ballard Avenue Historic District/Ballard Avenue Landmark District and is adjacent to 16 eligible or listed resources (Figure 10-2).



Figure 10-2. Historic Resources

10.2.3 Potential for Encountering Additional Archaeological Resources

Based on the natural and cultural setting of the study area, significant cultural resources could be encountered. The potential for encountering significant precontact and ethnographic period archaeological materials is slightly higher than the potential for encountering historical period archaeological materials.

The Salmon Bay shoreline was accessible throughout the Holocene, and local inhabitants almost certainly passed through, camped within, processed resources throughout, and even occupied portions of the study area in the past. These activities left behind variable traces in the archaeological record. While historical filling along the shoreline of Salmon Bay during industrial development and construction of the Ballard Locks buried prehistoric and ethnographic period cultural resources that may be present in the study area, significant early historical archaeological deposits could be present within this fill material. The potential for encountering significant historical cultural materials is highest at the base of the fill along the buried shoreline.

Table 10-3 assigns a sensitivity rating to each alternative based on its potential for encountering prehistoric, ethnographic, or historic period archaeological resources. The Preferred Alternative, Shilshole North and South Alternatives, and the Ballard Avenue Alternative appear to be slightly more sensitive than the Leary Alternative, and they carry a higher risk of an archaeological find during construction. This risk is tempered by the fact that there is a significant amount of fill on top of the old shoreline, so any potentially significant cultural materials that may be present are likely deeply buried below the proposed depth of project disturbance.

Table 10-3. Sensitivity for Encountering Cultural Resources within the Missing Link Alternatives

<i>Build Alternative</i>	<i>Prehistoric Archaeological</i>	<i>Ethnographic Archaeological</i>	<i>Historic Archaeological</i>	<i>Historic Built Environment</i>
Preferred Alternative	High	High	High	High
Shilshole North	High	High	High	High
Shilshole South	High	High	High	High
Ballard Avenue	High	High	High	High
Leary	Moderate	Moderate	Moderate	Moderate

10.3 Potential Impacts

10.3.1 No Build Alternative

No construction is proposed for the No Build Alternative; as a result, there are no anticipated impacts to cultural resources.

10.3.2 Impacts Common to All Build Alternatives

Construction

Three major types of construction impacts on historic properties could occur due to construction of the Missing Link. First are direct physical effects, primarily consisting of vibration, noise, dust, or other temporary environmental conditions caused by construction activities. These effects could damage built environment resources or could affect the maintenance or economic viability of these buildings and structures.

Second, indirect effects could result from traffic congestion, the presence of equipment, loss of parking, and limited access during construction. Prolonged periods of traffic disruption and construction could result in the loss of the distinctive character and economic base of historic neighborhoods. However, traffic delays and parking loss from construction would be minimal (see Chapters 7 and 8). Access may be limited but would be maintained during construction.

The third type of construction impact would be potential alterations to the SLS&E RR, which could affect its historic significance. The Build Alternatives, including the Preferred Alternative, cross the SLS&E RR at various locations. Removal or relocation of rails, or irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers could result in an impact to the SLS&E RR.

The Build Alternatives, including the Preferred Alternative, are located in an area of moderate to high probability for encountering potentially significant archaeological resources within the naturally deposited sediments of the study area. However, because there is a significant amount of fill on top of the old shoreline, the Missing Link construction would not likely affect any potentially significant cultural materials that may be present because project excavations would not extend below the fill.

Operation

No buildings would likely be altered. The streetscape would change slightly with new curb and markings, but in most areas these changes would not alter the overall character of the streetscape, except within the limits of a historic district. There would be no anticipated operational effects on pre-contact, ethnohistoric, or historical archaeological resources.

10.3.3 Preferred Alternative

Construction

The Preferred Alternative would cross from the north side of the SLS&E RR to the south along Shilshole Ave NW near NW 46th St. Under the Preferred Alternative, a portion of the SLS&E RR between the Hatton Marine driveway (approximately 600 feet west of 17th Ave NW) and just east of the Ballard Bridge would be relocated and replaced with new track (see Figure 1-3 in Chapter 1). Also, pavement would be added in portions of the rail line to decrease gaps between the tracks and the roadway to improve safety at driveways in the study area. These construction activities would be coordinated with the owners of SLS&E RR and DAHP. The removal or relocation of rails, or irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers, would result in an impact to the railroad.

Operation

There are no operational impacts unique to the Preferred Alternative.

10.3.4 Shilshole South Alternative

Construction

The Shilshole South Alternative would cross from the north side of the SLS&E RR to the south along Shilshole Ave NW between NW Dock Pl and 17th Ave NW. Similar to the Preferred Alternative, the Shilshole South Alternative would relocate a portion of the SLS&E RR between the Hatton Marine driveway (approximately 600 feet west of 17th Ave NW) and just east of the Ballard Bridge and replace it with new track. Also, pavement would be added in portions of the rail line to decrease gaps between the tracks and the roadway to improve safety at driveways in the study area. These construction activities would be coordinated with the owners of SLS&E RR and DAHP, as appropriate. The removal or relocation of rails, or irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers, would result in an impact to the railroad.

Operation

There are no operational impacts unique to the Shilshole South Alternative.

10.3.5 Shilshole North Alternative

Construction

The proposed Shilshole North Alternative would cross the SLS&E RR twice. Removal or relocation of rails or other irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers could result in an impact to the SLS&E RR at the east end of the alternative at NW 46th St midway between 11th Ave NW and 14th Ave NW, and at the intersection of NW 45th St and 11th Ave NW.

Operation

There are no operational impacts unique to the Shilshole North Alternative.

10.3.6 Ballard Avenue Alternative

Construction

The Ballard Avenue Alternative would cross the SLS&E RR at NW 46th St midway between 11th Ave NW and 14th Ave NW, and at the intersection of NW 45th St and 11th Ave NW. Removal or relocation of rails, or irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers could result in an impact to SLS&E RR.

The brick pavers on streets in this alternative are noted in the Ballard Avenue Landmark District Guidelines (adopted June 4, 2015) (City of Seattle, 2016) as one of the “qualities” that contributes to the historic character of the district.



Photo 10-1. Ballard Avenue NW

This description includes historic brick pavers that have been covered with asphalt, as well as streetcar lines that may exist beneath the current street surface. Granite curbs and hitching rings along these roads are also called out in this document as important to the district.

The pavement itself is not listed as a contributing feature within the NRHP nomination for the Ballard Avenue Historic District, but the nomination does note in the Site and Physical Features section that “brick was the earliest pavement to abut the Seattle Electric Railway tracks which ran the length of Ballard Avenue...,” and that “granite curb stones, still in evidence here and there, are generally believed to have come to land as ships’ ballast” (Potter, 1976).

Removal of granite curbs and brick underlying the asphalt road surface is anticipated throughout the Ballard Avenue Alternative due to changes in existing sidewalk width and construction of the trail and buffer. These changes would constitute an adverse impact to the district. Potential dust and vibrations from construction vehicles and activities could result in the physical deterioration of the buildings and structures as well as the pavers and roadway. An additional impact could be the weight of construction vehicles on the streets with brick pavers.

Operation

There are no operational impacts unique to the Ballard Avenue Alternative.

10.3.7 Leary Alternative

Construction

The Leary Alternative would cross the SLS&E RR at the intersection of NW 45th St and 11th Ave NW. Removal or relocation of rails, or irreversible treatments that cover the rails or other physical features of the railroad such as switches or sleepers as part of this crossing could result in an impact to SLS&E RR.

Operation

There are no operational impacts unique to the Leary Alternative.

10.3.8 Connector Segments

Construction

Removal or relocation of the pavers underlying the asphalt surface and granite curbs on the Ballard Avenue NW connector segment may result in an impact to the Ballard Avenue Historic District.

Operation

There are no operational impacts unique to the connector segments.

10.4 Avoidance, Minimization, and Mitigation Measures

10.4.1 Measures Common to All Build Alternatives

The primary impacts of the Missing Link project on the built environment would be potential effects to the rail lines and associated features of the SLS&E RR. Construction impacts along the Shilshole North,

Ballard, and Leary Alternatives and connector segments can be minimized if railroad rails are not removed or altered, and effects to other contributing features, such as switches and sleepers, are avoided. The use of surfaces that would not affect the rails or active use of the railroad would also minimize impacts. For the Preferred and Shilshole South Alternatives, impacts from relocating the SLS&E RR could be mitigated by completing DAHP Level II documentation of this segment of the rail line. An example of minimization can be seen along the existing BGT east of the Missing Link project. There, the crossing of the tracks is approached at an angle for safety, and the area between the rails was paved with asphalt. With the implementation of these minimization measures, impacts would not be significant.

Construction mitigation measures for direct and indirect impacts on historic properties would be based on the type of construction activity and the extent of the potential adverse effect on the resources. Traffic delays, loss of parking, and access problems during construction would be minor. Potential impacts could be minimized by implementing measures as outlined in the Transportation Discipline Report (Parametrix, 2017a) and Parking Discipline Report (Parametrix, 2017b). BMPs can be used to control noise, air pollution, dust, and mud and to avoid impacts to historic resources. Efforts to minimize impacts during construction would include limiting the disruptions of utility services and providing continued access to businesses and residences during construction.

The Missing Link would have limited operational impact on built environment resources and no expected impact on archaeological resources. Preparation of an Inadvertent Discovery Plan (IDP) specific to the Missing Link would avoid significant effects to archaeological resources during construction.

10.4.2 Measures Specific to Each Alternative

The construction and operation of the Ballard Avenue Alternative and the Ballard Avenue NW connector segment could have impacts on features that contribute to the historic significance of the Ballard Avenue Historic District. The design and appearance of the trail within the district would need to be compatible with its historic character and period of significance, and SDOT would need to obtain a Certificate of Approval demonstrating compatibility from the Office of Historic Preservation. Construction impacts to historic streetscapes could be minimized by reuse of the granite curbs for the expanded sidewalk design and by retention and, if necessary, resetting of the existing brick pavement that lies underneath the asphalt surfacing of the street. Any decisions about minimization or mitigation measures should be made in consultation with DAHP and the Ballard Avenue Landmark District Board.

No further measures other than those recommended for all of the alternatives in Section 10.4.1, Measures Common to All Build Alternatives, would be needed.