

Chapter 11 Historic and Cultural Resources

11.1 Introduction

This chapter addresses the potential impacts of the proposed project's Technology Alternatives and Marine Terminal Alternatives and a No-Action Alternative on historic and cultural resources. The sections below describe the regulatory context, the cultural resources within the Area of Potential Effect (APE) for the proposed project, and probable impacts on such resources. This chapter summarizes information from the cultural resource survey completed for the proposed project (see **Appendix J**).¹

This chapter also addresses related actions, the Kalama Lateral Project (the proposed pipeline) and proposed electrical service improvements, and summarizes relevant cultural resource information from the proposed pipeline's environmental review documentation.

The analysis concludes that the proposed project, with either Technology Alternative and either Marine Terminal Alternative, the Related Actions, and the No-Action Alternative, would not result in significant adverse impacts to cultural resources.

11.2 Regulatory Context

The Washington State Department of Archaeology and Historic Preservation (DAHP) is the reviewing agency under State Environmental Policy Act (SEPA) with expertise in archaeological, historic, and cultural resources. SEPA lead agencies consult with DAHP regarding potential impacts to historic and cultural resources in an environmental review. DAHP considers impacts to properties that are eligible for listing in the Washington Heritage Register (WHR), the National Register of Historic Places (NRHP), and local registers.

Cowlitz County maintains a cultural resource inventory though it does not have a register. The APE lies within a designated shoreline zone, with development guidelines provided in the County's Shoreline Management Master Program (SMMP) of 1977, which was approved following the Washington State Shoreline Management Act of 1971 (RCW 90.58.610 and RCW 36.70A.480). The Cowlitz County SMMP specifies that proposals requiring a shoreline permit should include an assessment of cultural resources (Historical/Cultural Policy 1), and a provision for reporting inadvertent discoveries (Historical/Cultural Policy 2), following the guidelines set forth by the National Historic Preservation Act (NHPA) (Historical/Cultural Policy 3), with sufficient time provided for site protection or data recovery (Historical/Cultural Policy 4) (Cowlitz-Wahkiakum Regional Planning Commission 1977).

In addition, the SMMP's Use Activity Regulations for all shoreline districts state that developers shall notify the shorelines administrator in the event that an archaeological area or historic site is found during construction (Cowlitz-Wahkiakum Regional Planning Commission 1977). Similarly, a data-sharing agreement between the County and DAHP specifies steps for consideration of cultural resources during development review when the development is subject

¹ Because of the sensitive nature of information about the location of certain archaeological resources, the cultural resource survey will not be provided for review by the general public. The survey will be made available for review as appropriate by the co-lead agencies, DAHP, and other reviewing agencies.

to SEPA or the Shoreline Management Act. These steps are consistent with the methodology for the proposed project.

The regulations of the NHPA define historic properties as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places” as well as “properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization . . . that meet the National Register criteria” (NHPA 36 CFR 800.16).

Historic and archaeological resources, historic properties, and traditional cultural properties are terms with different definitions in various regulatory contexts. For the purposes of this chapter, the term “cultural resources” encompasses all of these.

Cultural resources under consideration for potential project impacts do not need to be formally listed in the NRHP or the WHR, as long as they meet the basic criteria for listing. To be eligible for listing in the WHR, a resource or property must:

- be at least 50 years old;
- retain historic integrity (i.e., important characteristics of the time that it was built or made); and
- have historical significance at the local, state, or national level (Washington State Department of Archaeology and Historic Preservation 2015).

To be eligible for listing in the NRHP, a cultural resource must:

- generally be at least 50 years old;
- retain historic integrity; and
- meet at least one of the following criteria: the resource is associated with significant historical events or with the lives of significant historical people; represents a distinctive type of construction or grouping of stylistic elements or construction by a master artisan; or is likely to provide important information about history or prehistory (U.S. Department of the Interior 1991).

Cultural resources identified for the proposed project include archaeological sites, historical buildings or structures, and traditional cultural properties within and adjacent to the APE of the proposed project and the areas described under the alternatives. These cultural resources were evaluated for eligibility for inclusion in national and state registers. Resources that are currently listed in or determined eligible for listing in the NRHP or WHR were evaluated for potential construction and operation related direct effect from the proposed project and alternatives. A cultural resource’s indirect setting may affect its register eligibility, particularly in the case of traditional cultural properties and intact historic properties. Therefore, indirect effects by construction and operation activities are considered as well. Mitigation measures, if necessary, would allow the proposed project and the alternatives to preserve important information about the past in the course of typical construction and operation activities. These mitigation measures are outlined in section 11.6, Mitigation Measures.

11.3 Methodology

11.3.1 Definition of the Area of Potential Effect

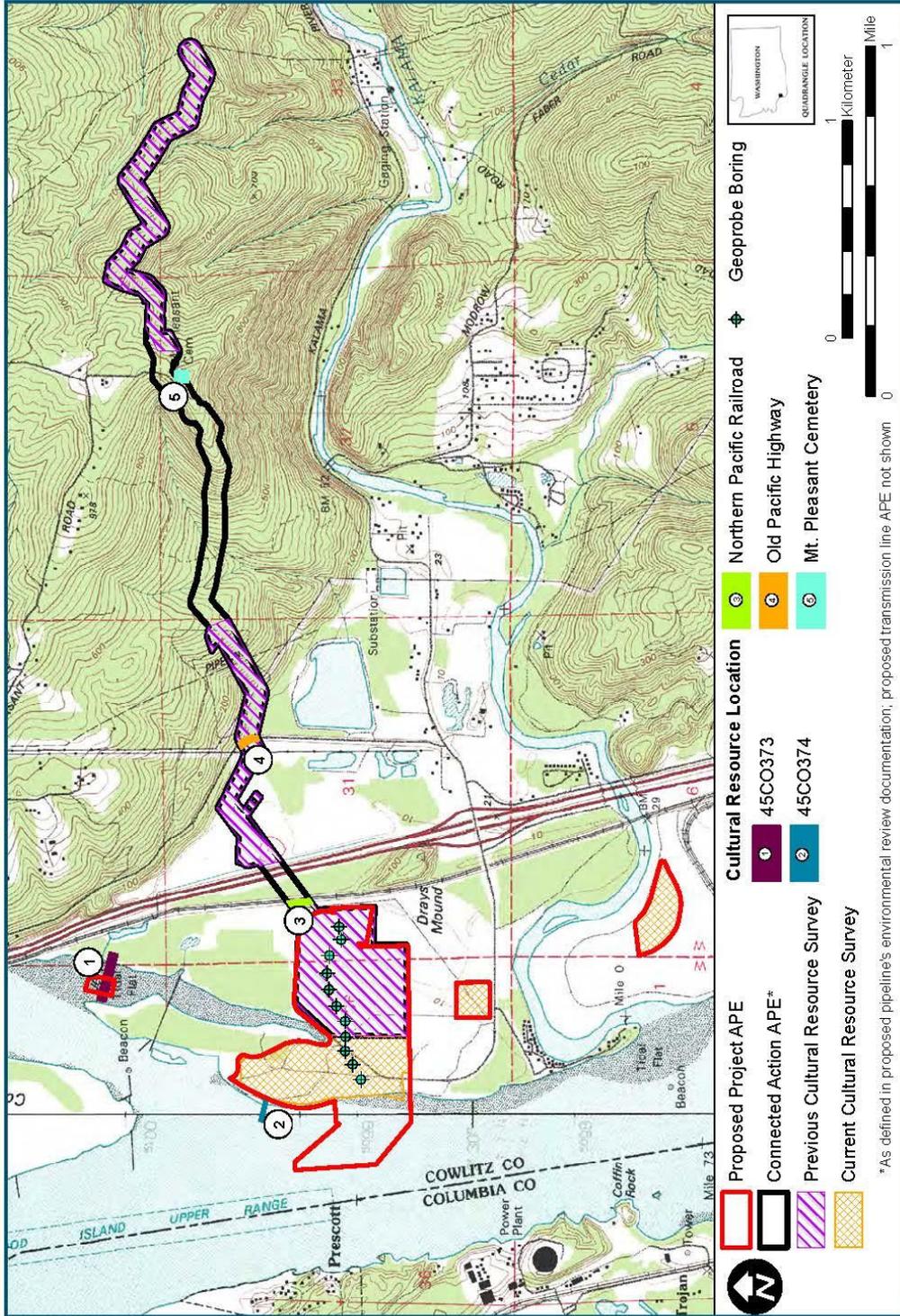
The project site is within the Port of Kalama (Port) North Port site in unincorporated Cowlitz County. The proposed project, with either Technology Alternative and either Marine Terminal Alternative would be located on the same project site, and so for the purposes of the cultural resource study, the Technology and Marine Terminal Alternatives are assessed using the same APE. The APE is defined as the project site, the wooden pile structure in the Columbia River and sloughs north of the project site, and the three potential temporary construction parking areas, for the purpose of considering potential impacts to cultural resources resulting from the proposed project. The wooden pile structure is included because it is proposed for removal as part of the proposed project's mitigation activities (see **Figure 11-1**). The APE also extends below the surface of the ground and was assessed to determine the potential for buried cultural resources. The submerged portions of the proposed project within the Columbia River are unlikely to retain cultural resources, because this area has undergone major changes as the river has eroded and redeposited sediment. Additional surveying in the river portion of the APE is not needed.

The APE for the proposed pipeline is defined in the environmental assessment for the pipeline (Federal Energy Regulatory Commission [FERC] Docket No. CP15-8-000, see **Appendix B**). The proposed pipeline APE includes all land that would be disturbed during construction of the pipeline. The APE for the electrical service improvements includes land that would be disturbed during its construction activities.

11.3.2 Identification of Cultural Resources

An inventory of cultural resources was compiled following the definition of the APE for the proposed project. A review was conducted of records and reports held by DAHP that are available through the Washington Information System for Architectural and Archaeological Records Data online database. Other materials, including historical maps and published secondary sources, were also reviewed to determine if cultural resources had been identified within or near the project site in the past and to determine if surrounding areas had been surveyed. The affected environment for this cultural resources assessment included cultural resources within or adjacent to the APE for the proposed project. Resources were considered if they meet or overlap the boundary of the APE. Resources that were not within or adjacent to the APE evaluated in this assessment would not be affected by the proposed project and are not identified in this analysis.

Background research and reviews of records revealed previous cultural resource inventories that covered a portion of the APE for the proposed project. An archaeological pedestrian survey and shovel testing were conducted within the APE of the proposed project in 2012 and 2013 (see **Figure 11-1** and **Appendix J**). The 2012 and 2013 fieldwork included the current APE though this field survey work was conducted based on plans for a previous project. The pedestrian survey followed meandering transects spaced at intervals of approximately 50 feet to cover most of the APE, which is crossed by dirt roads and covered in dredged fill material. The dredge materials that are present over much of the APE prevented observation of the deeply buried native soil surface where archaeological materials may be present. The eastern portion of the APE is bounded by an existing road, and appeared to be disturbed. A pedestrian survey of potential temporary construction parking areas was completed in 2015. The proposed parking areas were surveyed using transects spaced at intervals of approximately 50 feet. The parcels are capped by dredged sediment and gravel. No cultural resources were encountered within the proposed parking areas.



Cultural Resources in the Areas of Potential Effect
Figure 11-1

*As defined in proposed pipeline's environmental review documentation; proposed transmission line APE not shown

Shovel tests were excavated as part of the cultural resources survey to determine the presence of subsurface archaeological deposits. Two shovel tests were located on the west side of the inaccessible fenced area within the current APE. Soils encountered in both shovel tests represented modern dredge fill. A Geoprobe survey was completed in 2015 to inventory potential cultural resources within the native soils of the APE. Eleven Geoprobe borings were completed to a maximum depth of 60 feet below surface along an east-west transect crossing the project area. The native soils beneath the fill revealed wetland and sandy riverbank environments with little evidence of stable landforms. Cultural resources were not encountered in the borings.

11.4 Affected Environment

11.4.1 Cultural History Overview

Research, shovel testing, and Geoprobe sampling completed, for this assessment did not identify cultural resources associated with prehistoric or historic Native American settlement or land use on or adjacent to the APE. The recorded cultural resources are associated with historic-period Euroamerican settlement of the region. However, the cultural history of the Northwest Coast, including the APE, covers at least 13,800 years. Key elements of the cultural history of the surrounding area are outlined in this section.

11.4.1.1 Archaeological Background

The earliest archaeologically known pre-contact populations in the southern Northwest Coast are dated to about 13,800 years ago (Waters et al. 2011). Paleoindian (13,800 to 12,500 years ago) and subsequent Archaic Period (12,500 to 6,400 years ago) archaeological sites are rare in this region and sites of this age may be deeply buried under floodplain sediments (Aikens 1993; Ames and Maschner 1999). Archaeological sites dating to the Archaic Period in this region contain numerous hearths, fire pits, and earth ovens, as well as rich deposits of faunal remains and stone tools (Daugherty et al. 1987a, 1987b; Evans 2009; McClure 1986; Punke et al. 2009). Pacific Period (6,400 years ago to historic times) sites in the area include a diverse array of tools and personal items, as well as human remains (Ames et al. 1999; Burtchard 1989; Foutch et al. 2012; Jermann 1980; Ozbun et al. 2008; Punke et al. 2009; Warner and Warner 1975).

11.4.1.2 Ethnographic Background

The surrounding area was historically occupied by both Cowlitz and Chinookan-speaking peoples (Hajda 1990; Silverstein 1990). One or two ethnographically documented villages were located where the Kalama River flows into the Columbia River, approximately 0.3 mile south of the proposed project APE. According to Silverstein (1990) and Hajda (1984), these villages were occupied by Chinookan-speaking peoples. The word “kalama” is derived from one meaning “those of the rock” (Silverstein 1990). The first contacts with Europeans and Euroamericans in the late 1700s and early 1800s resulted in a demographic collapse for Chinook and Cowlitz ways of life. Many of the survivors went to reservations at Yakama, Warm Springs, and Grand Ronde after treaties were negotiated in 1855 (Boyd 1985; French and French 1998; Silverstein 1990).

11.4.1.3 Historical Background

Euroamericans did not establish permanent settlements in the area until the mid-1800s (General Land Office 1857a). Maps from 1857 depict the project area and the surrounding vicinity as generally undeveloped (General Land Office 1857b, 1857c), although a transportation corridor

labeled “Trail from Monticello to Fort Vancouver” was mapped approximately 0.4 mile to the east (General Land Office 1857b).

The first settlers to claim lands within the area were Joseph and Elizabeth Dray, who claimed a property encompassing most of the proposed project APE in 1865 under Donation Land Claim Nos. 37 and 40 (Bureau of Land Management 1865). The nearby Dray’s Mound was likely named after this family, many of whom claimed land in this area.

Northern Pacific built the first railroad on the Washington side of the Columbia River in the 1870s (Asay 1991). The company’s decision to build its headquarters at Kalama initiated the larger settlement and development there (Urrutia 1998:93). Today, BNSF operates the railroad. The area supported the logging and mill industries that would dominate this region throughout the twentieth century.

The Port was organized in 1920 and initially consisted of 600 acres on the east side of the Columbia River (Urrutia 1998). The Old Pacific Highway was completed in 1923 and Interstate 5 (I-5) followed a similar route by 1960. The U.S. Army Corps of Engineers (USACE) began dredging the Columbia River to improve navigation after the Rivers and Harbors Act of 1962 was passed. By 1969, dredge deposits had created an 18-foot-tall, 600-foot-long berm of sand, rocks, and logs on the Port shoreline to help reduce periodic flooding (Urrutia 1998). A portion of this berm became the existing marina, located 4.6 miles south of the current project area and operated by the Port. The project site was purchased by the Port in 1980 and the existing marine terminal located adjacent to the proposed project APE was built in 1997 (Trade Winds 2010).

New dredge fill was added within the proposed project APE after the 1980 eruption of Mount St. Helens. This eruption caused a huge flow of ash and debris down the Toutle River, into the Cowlitz River, and into the Columbia River just downstream from the Port (Urrutia 1998). The existing Steelscape facility was established on top of these newer dredge materials, leaving the area north of the proposed project APE as wildlife habitat (Urrutia 1998).

11.4.2 Cultural Resources Inventory

The investigation conducted for the proposed project and the alternatives identified four potential cultural resources within the proposed project APE, including one adjacent to the potential construction parking area at 2310 Hendrickson Drive (see **Table 11-1**). These resources are described below and mapped on **Figure 11-1**.

Table 11-1. Cultural Resources within the Proposed Project APE, Off-Site Alternative APE, and Related Action APE

Map No.	Name	Location ¹	NR-Eligible/WHR-Eligible
1	45CO373	Proposed Project APE	No ²
2	45CO374	Proposed Project APE	No ²
3	Northern Pacific/ BNSF Railway	Adjacent to Proposed Project APE/Within Related Action APE	No ²
4	Old Pacific Highway	Within Pipeline Related Action APE	Varies, but local segment is not eligible ²

² Pending review by DAHP.

Map No.	Name	Location ¹	NR-Eligible/WHR-Eligible
5	Mt. Pleasant Cemetery	Within Pipeline Related Action APE	Unevaluated ³
*	45CW5	Adjacent to 2310 Hendrickson Drive Potential Construction Parking Area	Unevaluated

Notes

1 Cultural resources identified within the proposed project APE are also within the Marine Terminal Design Alternative APE.

2 This resource has been recommended as not eligible for listing in the NRHP and WHR as part of the Kelso-Martin's Bluff Rail Project review (Jones & Stokes 2003), but has not been formally evaluated by DAHP.

3 This potential cultural resource has been identified within the related action environmental review documentation but has not been formally evaluated by DAHP.

* The precise site location is considered confidential information, and it is not provided in this document.

Two archaeological resources consisting of remnants of timber pier or dock structures were recorded within the mitigation portion of the proposed project APE (resource numbers 45CO373 and 45CO374, as assigned in the cultural resources survey report). These two archaeological resources (45CO373 and 45CO374) are at least 50 years old, triggering an assessment of their eligibility for listing in the NRHP. This assessment is provided in **Appendix J**. A third timber pier or dock structure is also identified in **Appendix J**, but it is no longer included in the APE as it will not be impacted by the current project. Portions of 45CO373 are proposed for removal as mitigation for the proposed project. Because the timber structures, as originally built, are in ruin, they are addressed as archaeological sites rather than historic structures. Both were formerly structures supported by piles driven into the bed of the Columbia River and adjacent sloughs, all are in ruin with superstructures mostly absent, and all date to the late 1800s or early 1900s. These appear on historic maps and are described in detail in **Appendix J**. According to AECOM's 2011 survey of USACE pile dikes, the entirety of 45CO374 (shown in **Figure 11-1**) is a USACE-maintained pile dike at River Mile 71.87 (AECOM 2011). Visual inspection of 45CO373 and 45CO374 by AINW indicates that maintenance has not been performed in some time and the structures are derelict. The portions of the original structures that extend across the tidal flat fall within the APE. These timber pier or dock structure remnants are recommended as not eligible for listing in the WHR or NRHP.

One other cultural resource is located adjacent to the proposed project APE. The historic alignment of the Northern Pacific Railroad (now BNSF) is located immediately west of the APE. This resource lies outside the APE and would not be affected by the proposed project or alternatives; therefore, it is not discussed further in this assessment.

There are no cultural resources located within the APE for the proposed project that are listed in or determined eligible for listing in the NRHP, the WHR, or the Cowlitz County cultural resource inventory. Furthermore, there are no traditional cultural properties or intact historic properties listed in or determined eligible for listing in the NRHP or WHR nearby the proposed project APE.

The potential temporary construction parking area at 2310 Hendrickson Drive is adjacent to a recorded pre-contact archaeological village site. DAHP records identify site 45CW5 in this area, which corresponds to an ethnographically documented village near the mouth of the Kalama River (Harder and Hannum 2006; Smith and Hudziak 1948; Wildesen and Holstine 1982). This site has not been evaluated for eligibility for listing in the NRHP or WHR, and the boundaries are unconfirmed.

Dray's Mound, a prominent rock outcropping, is located near the APE. Ethnographic and historic evidence suggests that Dray's Mound, as well as similar small rocky hills near the Columbia River, may be associated with human burials (Ed Arthur, personal communication, 24 February 2010, as cited in Ozbun et al. 2011). Nearby Coffin Rock (on the opposite side of the river from the APE) was so named because of the historic presence of human remains in Native American canoes (Moulton 1990; Urrutia 1998; Vancouver 1984).

11.4.3 Related Action

The APE defined for the proposed pipeline related action was found to contain three cultural resources: the Old Pacific Highway, the Northern Pacific Railroad, and the Mt. Pleasant Cemetery. These resources were identified based on the information provided in environmental assessment for the proposed pipeline (FERC Docket No. CP15-8-000, see **Appendix B**). The historic-period Old Pacific Highway and the historic-period Northern Pacific Railroad are not recommended to be eligible for listing in the WHR or NRHP. The historic-period Mt. Pleasant Cemetery has not been formally evaluated for eligibility by DAHP.

Within the APE for the proposed electrical service improvements-related action, there are no recorded cultural resources that are listed in or determined eligible for listing in the NRHP, the WHR, or the Cowlitz County cultural resource inventory.

11.5 Environmental Impacts

The following sections describe the potential impacts on cultural resources that could result from the construction and operation of the proposed project and the No-Action Alternative. The Technology Alternatives and Marine Terminal Alternatives for the proposed project would affect the same APE and would not alter the portions of the APE likely to contain buried cultural resources. Because of this, the impact analysis does not differentiate between the various Technology and Marine Terminal Alternatives for the proposed project.

There are no traditional cultural properties or intact historic properties listed in or determined eligible for listing in the NRHP or WHR within or nearby the APE for the proposed project. Therefore, the proposed project would not have the potential to result in indirect effects to such properties. The following section focuses on the potential for direct effects to cultural resources.

11.5.1 Proposed Project Technology and Marine Terminal Alternatives

There are no cultural resources listed in or eligible for listing in the NRHP or WHR within the proposed project's APE. Therefore, the proposed project, with either Technology Alternative and either Marine Terminal Alternative, would not result in significant adverse impacts to cultural resources.

The proposed project would prepare an inadvertent discovery plan in advance of construction as required by the Cowlitz County SMP (Cowlitz-Wahkiakum Regional Planning Commission 1977). This plan would detail protocols to be followed in the event that cultural resources or human remains are encountered during project construction activities. This measure would avoid potential adverse impacts to unanticipated cultural resources on the project site.

Dray's Mound is located near the APE for the proposed project and, as noted above, is a rock outcropping similar to other rocky hills that have been associated with human burials. The proposed project would not alter Dray's Mound, and the landform is already located nearby

existing industrial properties and I-5. Therefore, the proposed project would not result in adverse impacts to Dray's Mound.

As discussed in Chapter 2, Proposed Project and Alternatives, three potential temporary construction parking areas are under consideration: the Air Liquide and Steelscape parcels adjacent to the project site, and 2310 Hendrickson Drive on the south bank of the Kalama River (**Figure 11-1**). These areas would be graveled for use as parking lots but would not otherwise experience ground disturbance, such as grading or excavation activities. The Air Liquide property has been surveyed for cultural resources as part of the proposed pipeline-related action, and is immediately adjacent to the APE surveyed for cultural resources for this project. The survey for the proposed pipeline-related action found no cultural resources within the property. In addition, the fill cap observed within the APE is likely to continue onto the Air Liquide property. No recorded cultural resources would be adversely impacted by construction of a graveled parking area on this property.

The proposed parking area at the Steelscape facility has been surveyed for cultural resources as part of this project. The property contains a substantial cap of dredge fill. No cultural resources were encountered within the property, and therefore no cultural resources would be adversely impacted by construction of a graveled parking area on this property.

The proposed parking area at 2310 Hendrickson Drive has been surveyed for cultural resources as part of this project. The property lies adjacent to archaeological site 45CW5. The location and boundaries of this site are unconfirmed and may intersect the property, but the property contains a substantial cap of fill and is currently graveled. No cultural resources were encountered within the property, and if the proposed use of 2310 Hendrickson Drive as a parking area does not lead to additional ground disturbance, there would be no adverse impacts to cultural resources.

The proposed project, with either Technology Alternative and either Marine Terminal Alternative, would increase vessel traffic by an additional three to six vessel round-trips per month. The increased wakes from these vessels could lead to increased erosion of the shoreline, which in turn could impact cultural resources that are located in areas susceptible to erosion.

Potential impacts from erosion would vary depending on the proximity of a cultural resource to the existing river channel, the susceptibility of the shoreline to erosion and the amount of vessel traffic increase. The USACE's Channel Deepening Environmental Impact Statement noted that the natural shorelines of the lower Columbia River have remained very stable over the past 100 years (USACE 1999). Previous cultural resource studies of shoreline erosion effects on archaeological sites along the Columbia River have been conducted downstream for shipping terminal developments at Longview, Washington, and Bradwood, Oregon. These studies concluded that increased vessel traffic anticipated for these projects would have minimal cumulative effects on archaeological sites given the existing vessel wakes on the river. These effects were considered unlikely to impact previously recorded archaeological sites on the lower Columbia River in Oregon and Washington and no additional study was recommended (McDaniel et al. 2015). The project will only result in a minor increase in vessel traffic and the entire vessel corridor is currently exposed to vessel wakes from the ships that use the river. The vessels that would call at the marine terminal are within the size range of current vessels and would be piloted at similar speeds resulting in similar wakes. This means the shorelines, which have little susceptibility to erosion, would be subject to an incremental increase in vessel wakes

that are not currently causing erosion and no significant impacts from vessel wakes are anticipated.

11.5.2 Related Actions

11.5.2.1 Kalama Lateral Project

The Kalama Lateral Project (proposed pipeline) consists of construction and operation of a proposed pipeline to provide natural gas to the proposed project. The cultural resource survey of the related action project area remains incomplete because of a denial of permission to access some properties, but the related action will be required to complete Section 106 review under FERC. There would be no construction or operational impacts to recorded eligible cultural resources under the related action. The related action project area contains three recorded cultural resources; the Old Pacific Highway and the Northern Pacific Railroad have been determined to be ineligible for listing in the NRHP and WHR, and the Mt. Pleasant Cemetery has not been evaluated. It was also determined that the related action would avoid all three resources by aligning the route to avoid the cemetery and using horizontal directional drilling and conventional boring to route the pipeline beneath the highway and railroad. Therefore, the related action would not result in significant adverse impacts to cultural resources.

11.5.2.2 Electrical Service

The electrical service improvements upgrades an existing transmission line from the existing Kalama Industrial Substation to the project site by installing new lines on existing towers within the existing transmission line corridor. A new, short transmission line may be constructed between the Kalama Industrial Substation and an existing 115-kilovolt [kV] transmission line on the east side of I-5 to provide redundant supply to the substation. This short line would cross I-5, N. Hendrickson Drive, and the railroad and would require installation of new poles. Upgrades to the existing towers would not result in adverse impacts to existing cultural resources. The proposed locations of the new utility poles do not overlap with any recorded cultural resources. The fill cap within the Washington State Department of Transportation right-of-way renders it unlikely that significant cultural resources would be encountered within the project area for this related action, and no adverse impacts are anticipated.

11.5.3 No-Action Alternative

The proposed project would not be constructed under the No-Action Alternative. It is anticipated that the Port would pursue future industrial or marine terminal development at the North Port site, consistent with the Port's *Comprehensive Scheme for Harbor Improvements*. There are no cultural resources listed in or eligible for listing in the NRHP or WHR within the proposed project APE. Continued light industrial use of the proposed parking areas would not result in adverse impacts to site 45CW5. Therefore, the No-Action Alternative would not result in significant adverse impacts on cultural resources during either construction or operation. Depending on the nature of future development at the Port, the effects of vessel traffic on riverbank erosion may continue.

11.6 Mitigation Measures

11.6.1 Project Mitigation

The design features and best management practices the Applicant proposes to avoid or minimize environmental impacts during construction and operations and those required by

agency standards or permits are assumed to be part of the project and have been considered in assessing the environmental impacts to historic and cultural resources and are listed below.

11.6.1.1 Design Measures

There are no cultural resources listed in or eligible for listing in the NRHP or WHR within or nearby the APE for the proposed project as noted throughout this chapter. The cultural resources survey encountered no cultural materials, and the buried wetland and river landforms are unlikely to contain archaeological sites. Therefore, no monitoring during construction is recommended. Site 45CW5 is unevaluated for eligibility for listing in the NRHP or WHR, but if parking improvements at 2310 Hendrickson Drive do not lead to ground disturbance, no mitigation would be needed. Although not currently anticipated as part of the proposed project, if ground disturbance of native soils is required at the potential construction parking area at 2310 Hendrickson Drive, 45CW5 may need to be evaluated for eligibility for the NRHP or WHR. However, it is anticipated that adverse impacts can be avoided during construction and use of the parking area by maintaining or adding to the existing gravel surface and refraining from ground-disturbing improvements to the parking area.

An inadvertent discovery of a cultural resource during construction would be addressed with an inadvertent discovery plan. This measure would minimize potential adverse impacts to unanticipated cultural resources on the project site.

11.6.2 Additional Mitigation

There are no significant adverse impacts identified for historic and cultural resources and therefore no additional mitigation measures are identified.

11.7 Unavoidable Significant Adverse Impacts

The proposed project, with either Technology Alternative and either Marine Terminal Alternative, would not result in unavoidable significant adverse impacts to cultural resources. There are no cultural resources listed in or eligible for listing in the NRHP or WHR within or nearby the project APES. In addition, wake impacts generated by the proposed project are not likely to increase the erosion and impact cultural resources along the river, beyond already existing conditions caused by existing vessel traffic.

11.8 References

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