

## 4.4 Cultural Resources

The term *cultural resources* refers to the broad range of resources that represent or convey a place's heritage or help tell the story of a region's past. Three categories of cultural resources are discussed in this section: archaeological resources, historical resources, and culturally significant properties. Archaeological resources encompass features and deposits located on or below the ground surface that are evidence of prior human occupation or use in a particular area. Historical resources are elements of the built environment, such as buildings or structures, or human-made objects or landscapes. Finally, culturally significant properties are sites or locations considered culturally important to the history of a group of people, or are locations where culturally important events or practices are known to have occurred. These can include sites or locations culturally significant to Indian tribes. In contrast, tribal resources refers to the collective rights and resources associated with a tribe's sovereignty or formal treaty rights. Tribal resources are addressed in Section 4.5, *Tribal Treaty Rights and Trust Responsibilities*.

This section describes cultural resources in the study area. It then describes potential impacts on cultural resources from construction and operation of the proposed export terminal. The analyses and findings from this section are based on research prepared by the Applicant pursuant to Section 106 of the National Historic Preservation Act (Section 106).

### 4.4.1 Regulatory Setting

Laws and regulations relevant to cultural resources are summarized in Table 4.4-1.

**Table 4.4-1. Regulations, Statutes, and Guidelines for Cultural Resources**

Regulation, Statute, Guideline	Description
<b>Federal</b>	
Section 106 of the National Historic Preservation Act (16 USC 470 <i>et seq.</i> )(36 CFR 800)	Section 106 ensures federal agencies consider cultural resources in any funded, licensed, or permitted undertaking prior to initiation, and provide the State Historic Preservation Officer, affected Native American tribes, and other interested parties an opportunity to comment on potential impacts on cultural resources.
National Register of Historic Places (16 USC 470a)	The NRHP is the official list of the nation's historic places worthy of preservation and is administered by the National Park Service as part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historical and archaeological resources.

<b>Regulation, Statute, Guideline</b>	<b>Description</b>
<b>State</b>	
Indian Graves and Records (RCW 27.44)	Protects Native American graves and burial grounds, encourages voluntary reporting of said sites when they are discovered, and mandates a penalty for disturbance or desecration of such sites.
Archaeological Sites and Resources (RCW 27.53)	Governs the protection and preservation of archaeological sites and resources and establishes DAHP as the administering agency for these regulations.
Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60)	Protects and preserves abandoned and historic cemeteries and historic graves.
Shoreline Management Act (RCW 90.58)	Provides a statewide framework for managing, accessing, and protecting the Washington's significant shorelines including rivers, lakes, and coastal waters, including the consideration of significant cultural resources in these areas.
<b>Local</b>	
Longview Historic Preservation Ordinance (LMC 16.12)	Safeguards the heritage of the City of Longview and Cowlitz County by the identification, evaluation, designation, and protection of historic properties. Maintains a local register of historic places in each jurisdiction.
Notes: USC = United States Code; CFR = Code of Federal Regulations; NRHP = National Register of Historic Places; RCW = Revised Code of Washington; DAHP = Washington State Department of Archaeology and Historic Preservation; LMC = Longview Municipal Code	

## 4.4.2 Study Area

The study area for cultural resources consists of the project areas of both the On-Site Alternative and Off-Site Alternative, the areas of the Columbia River that would be directly affected by overwater structures and dredging for each alternative, and surrounding areas that would be affected by construction of the proposed export terminal (Figures 4.4-1 and 4.4-2). The study area also includes vantage points on the Oregon side of the Columbia River along U.S. Route 30 (US 30) to account for potential visual effects.

Figure 4.4-1. Cultural Resources Study Area—On-Site Alternative

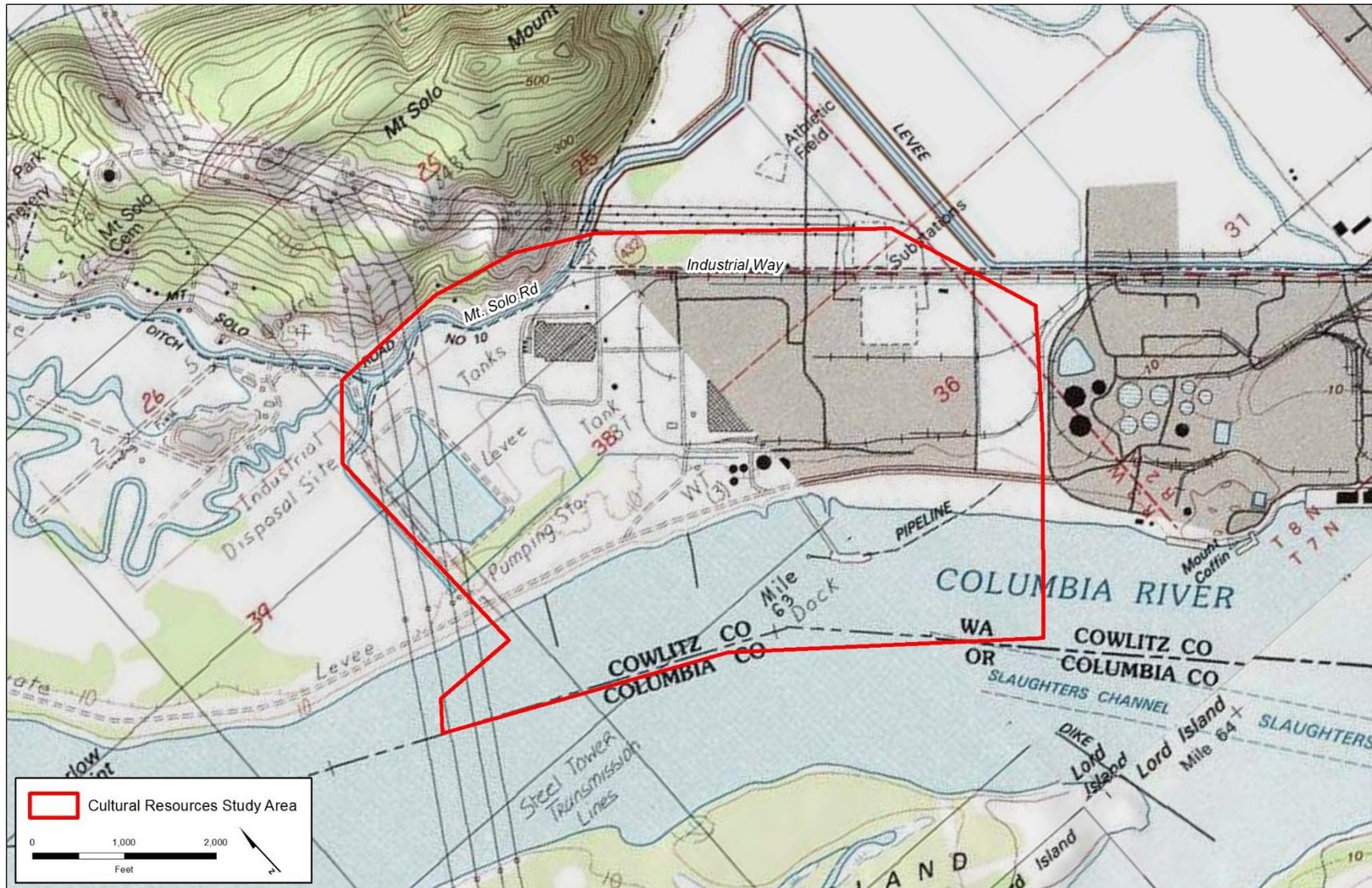
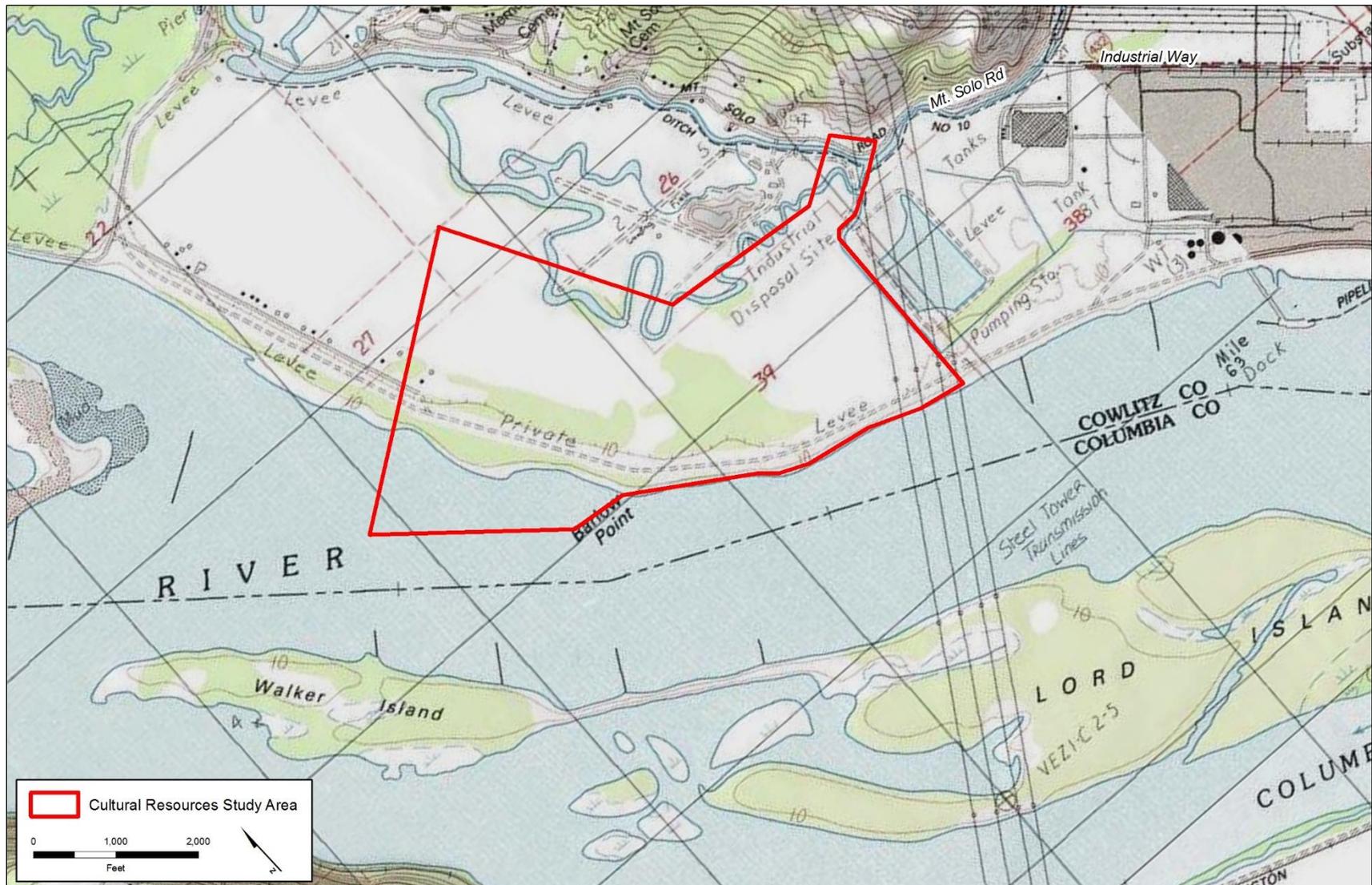


Figure 4.4-2. Cultural Resources Study Area—Off-Site Alternative



### 4.4.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on cultural resources associated with the construction and operation of the proposed export terminal. This section also addresses how Cowlitz County and the Corps have initiated consultation with the Washington State Department of Archaeology and Historic Preservation (DAHP), the City of Longview, Bonneville Power Administration (BPA), the National Park Service, potentially affected Native American tribes, and the Applicant regarding the terminal and its potential impacts on cultural resources.

#### 4.4.3.1 Information Sources

The following sources of information were used to identify potential impacts from construction and operation of the proposed export terminal on cultural resources in the study areas.

##### Data Sources

A literature review and records search was conducted to establish prehistoric and historic contexts and to identify previously recorded cultural resources in the study areas. These efforts used the following sources of information.

- A search of DAHP's Washington Information System for Architectural and Archaeological Records Database (WISAARD) for previously completed cultural resources studies and previously documented archaeological, ethnographic, and historical resources within a 1-mile radius of the project areas. An initial WISAARD file search was conducted for the On-Site Alternative in November 2011. Updated searches of WISAARD were completed for the On-Site Alternative in November 2013, and again in November 2014. A WISAARD file search was completed for the Off-Site Alternative in April 2016.
- Primary and secondary resources from local repositories, including the Cowlitz County Historical Museum.
- Historic maps, including the Washington State General Land Office plat maps and topographic quadrangle maps from the U.S. Geological Survey (USGS).
- Geological and historical documents and prior geotechnical studies that characterize the local geology and landform development history.
- Aerial photographs from the 1960s obtained from the Applicant and additional aerial photographs from the Cowlitz County Historical Museum.
- Interviews with former employees of the former Reynolds Metal Company facility (Reynolds facility), currently employed by the Applicant, conducted in November 2014.
- Outreach efforts and consultation with affected tribes.

Information for this section was also extracted from the following technical reports. These documents contain confidential historic and archaeological information and access to this information is restricted by the National Historic Preservation Act of 1966, as amended, and the Archaeological Resources Protection Act of 1979, as amended. These documents are only available to agencies with jurisdiction.

- *Identification of Historic Properties: Existing Information and Proposed Research, Millennium Coal Export Terminal, Cowlitz County, Washington—June 19, 2015* (AECOM 2015)
- *Identification of Historic Properties: Existing Information and Proposed Research, Millennium Coal Export Terminal, Cowlitz County, Washington—August 18, 2015* (AECOM 2015)
- *Historic and Cultural Resources Assessment, Millennium Coal Export Terminal, Cowlitz County, Washington—October 1, 2015* (AECOM 2015)
- *Off-Site Alternative – Barlow Point Historic and Cultural Resources Assessment—April 22, 2016* (AECOM 2016)

## Fieldwork

Field investigations were conducted between 2011 and 2015 to identify cultural resources in the study area for the On-Site Alternative. These investigations considered the archaeological and historical resources and the landform development of the project area for the On-Site Alternative.

- Windshield survey and walkthrough in November 2011, to assess existing conditions of the study area in the vicinity of the project area for the On-Site Alternative.
- Historic resource surveys conducted in April 2014 and January 2015 to prepare a historic property inventory of resources associated with the former Reynolds facility, which is part of the Applicant's leased area. The architectural inventory included photographic documentation, resource descriptions, and statements of significance for buildings, structures, and landscape features. Individual resources were recorded on Washington Historic Property Inventory forms in WISAARD. In addition, a nomination form for the National Register of Historic Places (NRHP) was prepared for the former Reynolds facility for evaluation as a historic district.
- Pedestrian survey in January 2015, to document landscape features associated with the former Reynolds facility such as several former landfills and surface impoundments. These features were documented as individual resources on Washington Archaeological Site forms, per guidance from DAHP. Building foundations associated with the South Plant portion of the former Reynolds facility were likewise documented as an archaeological site, consistent with protocols established through consultation with DAHP.
- Geotechnical investigations of upland soils in the project area for the On-Site Alternative using two sampling methods: geoprobing<sup>1</sup> and mud rotary coring. Geoprobe sampling was used to recover 21 intact sediment cores to anticipated maximum depths of 25 feet (the maximum depth of anticipated compression effects). A maximum total volume of 1.23 cubic feet was recovered from each geoprobe sample. Seven geotechnical borings were drilled to a minimum depth of 70 feet (the maximum depth of proposed support piles). The 70-foot cores were drilled using a mud rotary method and sediment samples were obtained using split-spoon samplers and Shelby tubes. A maximum total soil volume of 2.03 cubic feet was recovered from each

---

<sup>1</sup> A geoprobe is a tubular tool driven into the ground to sample soil.

geotechnical boring. Soil samples were collected from two cores for radiocarbon dating and from three cores, for tephra<sup>2</sup> identification. These efforts helped determine the chronology of the landform creation in the project area and the area's potential to contain archaeological resources.

A cultural resources field inventory has not been completed for the Off-Site Alternative project area because the area consists of private property and access has not been obtained. Technical analysis of this area to date has been limited to a desktop review of the affected environment.

## Research Design

Research and field data described above were collected, compiled, and analyzed by qualified cultural resources professionals. A research design for the identification and evaluation of cultural resources was prepared for the On-Site Alternative in June 2015 (McDaniel et al. 2015 cited in AECOM 2015). This document provided the following information used to refine identification of resources.

- A definition of the affected environment.
- A photographic inventory of former buildings at the South Plant portion of the former Reynolds facility.
- An archaeological work plan.
- An analysis of potential impacts on shorelines caused by increases in marine vessel traffic.
- A comprehensive study of historical channel migration at the study area. The study addressed the potential for cultural resources to be present in the proposed in-water dredge prism (the extent of the area to be dredged).

### 4.4.3.2 Impacts Analysis

The following methods were used to identify and evaluate the potential impacts from construction and operation of the proposed export terminal on cultural resources in the study area.

The shoreline analysis included a desktop review of information sources and the development of a geographic information system (GIS) model. The GIS model helped identify previously documented archaeological sites as the most at risk for shoreline erosion. These sites were then inspected at a reconnaissance level. The historical channel analysis included an assessment of historical bathymetric and channel migration data to address in-water conditions in the study area and the potential for eroded cultural materials to be present in the proposed dredging prism.

#### Historic Resources

For historic resources, identified buildings and structures at least 45 years old in the study area were evaluated to determine their eligibility for listing in the NRHP and the Washington Heritage Register (WHR). An NRHP nomination form was prepared for the former Reynolds facility, so the many elements of the property could be evaluated as a possible historic district. The nomination form comprehensively accounted for all buildings, structures, and landscape features situated on the former Reynolds facility.

---

<sup>2</sup> Tephra is fragmental material produced by a volcanic eruption.

## Archaeological Resources

For archaeological resources, field investigators were precluded from using traditional methods of subsurface archaeological investigation, such as exploratory shovel probing or trenching, due to existing development and the depths of fill materials within the study area. Instead, prior geotechnical studies and over 100 previous geotechnical bore logs were reviewed to address the extent of fill within the study area and the potential existence of buried archaeological remains (Anchor QEA 2011; GRI 2012, both cited in AECOM 2015). These data were used to help guide the placement of additional deep test borings (Bundy 2010a; Anchor QEA 2012, both cited in AECOM 2015), as described in Section 4.4.3.1, *Information Sources, Fieldwork*. The prior studies and the soil samples indicated a potential for the proposed export terminal to affect cultural resources in the study area. Impacts were determined by evaluating if construction and operations would alter any characteristic of a cultural resource that qualifies for inclusion in the NRHP or the WHR, or affect a recorded archaeological site.

### 4.4.3.3 Agency and Tribal Consultation

The Corps has initiated consultation under Section 106 of the NHPA with DAHP, the City of Longview, Cowlitz County, BPA, the National Park Service, potentially affected Native American tribes, and the Applicant regarding the proposed export terminal and potential impacts on cultural resources. The Corps is currently consulting under Section 106. A Memorandum of Agreement is expected to stipulate measures to help mitigate the terminal's impacts on cultural resources in the study area.

## 4.4.4 Affected Environment

This section describes the affected environment in the study areas related to cultural resources.

### 4.4.4.1 Setting

#### Precontact Context

Studies of the archaeology and prehistory of the Pacific Northwest divide the prehistory of the region into multiple phases or periods from about 6,000 years Before the Common Era (BCE) to the 1850s. These periods are delineated by changes in regional patterns of land use, subsistence, and tool types over time; they are academic constructs and do not necessarily reflect Native American viewpoints. A generally accepted cultural sequence for the prehistory of the lower Columbia River region consists of four periods (Minor 1983 cited in AECOM 2015): Youngs River complex (6000 to 4000 years BCE); the Seal Island phase (4000 BCE to the Common Era [CE] 0); the Ilwaco phase (CE 0 to 1775); and the Ethnographic period (CE 1775 to 1851).

#### Ethnographic Context

The study area falls within the territory principally used by two groups. The Cathlamet, an Upper Chinookan-speaking people, resided along the Columbia River, east of the Lower Chinook and west of the Multnomah groups. The Cowlitz, a Salish-speaking group, resided in the Cowlitz River drainage from its mouth to below Mayfield Dam, along segments of the Toutle, Newaukum, and South Fork of the Chehalis Rivers (Curtis 1913; Hajda 1990; Silverstein 1990, all cited in AECOM 2015). During the early 19th century, the Skilloot, a subset of the Chinookan Cathlamet, resided

along both sides of the Columbia River near the study area (Lewis 2013 cited in AECOM 2015). These peoples were prolific traders who transported goods between coastal groups and interior tribes (Kinkade 1997; Thorsgard et al. 2013 cited in AECOM 2015).

Native groups subsisted primarily on salmon and supplemented their diet with seasonal plant and animal resources, including berries, camas, wapato, deer, elk, bear, and waterfowl. Tribes seasonally fished and gathered roots along the Longview waterfront (Nisbet 2003:127 cited in AECOM 2015) and fishing camps were temporarily inhabited along the Columbia River (Minor 1983:72–73 cited in AECOM 2015). Houses and longhouses constructed from cedar planks were built along the Columbia River and its tributaries. Funeral customs along the lower Columbia River included the placement of the deceased in canoes elevated on trees or posts (Boyd 2013:196 cited in AECOM 2015). Graveyards were commonly located on islands or plots located near the river (Ray 1938:75 cited in AECOM 2015).

One such burial location in the vicinity of the study area was Mount Coffin. Called *Yee-eh-mas-tee*, Mount Coffin was a 240-foot-high knoll composed of volcanic rock situated on the north bank of the Columbia River (Thorsgard et al. 2013; Moulton 1990:29-30). The site is commonly confused with “Coffin Rock,” a physically similar landform located about 7 miles upriver. Mount Coffin was a prominent navigational feature on the Columbia River and even more significant as a distinctive burial site, which remains important to Native American tribes in the region. Beginning circa 1906 and continuing through the 1950s, quarrying of Mount Coffin’s volcanic rock gradually reduced the landform in size until it was removed entirely.

Contact with European Americans prompted rapid change to traditional life among Native Americans. Disease devastated native populations and large groups of European-American settlers and homesteaders entering the region supplanted the local indigenous communities. The U.S. government entered into treaties with local Native Americans during the 1850s. Chinookan Cathlamet peoples, including the Skilloot, were signatories to a treaty that ceded their lands in 1851. Along with several other Lower and Middle Chinook groups, many eventually relocated to the Grand Ronde Reservation (Lewis 2013; Ruby and Brown 1992:12, 25, 208, both cited in AECOM 2015). Non-reservation Cathlamets combined with other tribes into the Chinook Nation in 1951 to file a claim with the Indian Claims Commission; the Chinook Nation continues to apply for federal recognition (Fisher and Jette 2013; Ruby and Brown 1992:2, both cited in AECOM 2015). The Cowlitz Tribe attended the Chehalis River Treaty Council in 1855 but did not sign a treaty because a reservation in their territory was not offered (Ruby and Brown 1992:70-71 cited in AECOM 2015). Some removed to the Chehalis Reservation after 1864, and others continued to reside in the Longview area (Weber, Denni, and Maxey 2012:25 cited in AECOM 2015). Local Cowlitz maintained an independent organization that became federally recognized as an Indian tribal government in 2000 (Hajda 1990:514–515 cited in AECOM 2015).

## Historic Context

The first nonnative group to visit the region was a 1792 British expedition led by Lieutenant Broughton under the command of George Vancouver. This group explored the Columbia River from its mouth to the Sandy River (Mockford 2005:552 cited in AECOM 2015). Other later explorers included Hudson’s Bay Company fur traders and members of the 1805–1806 Lewis and Clark expedition (Nisbet 2003 cited in AECOM 2015). Intensive settlement of the territory by European Americans began following passage of the Donation Land Act of 1850. During this period, Oregon Trail emigrants settled along the Columbia River near what later became the City of Longview.

These early pioneers established the communities of Monticello (or Mount Solo) on the present site of Longview in 1850, the town of Mount Coffin (named after the prominent landform on the Columbia River; later renamed LaDu), and a settlement near what is now Barlow Point.

The property in the study area was eventually acquired and developed for industrial uses beginning in the early 20th century. The Star Sand and Gravel Company of Portland began quarrying rock from Mount Coffin east of the study area in 1906 and the Long-Bell Lumber Company established a large lumber mill in this same area in the 1920s. North of the study area, the Long-Bell Lumber Company also established the town of Longview as a planned community to support its operations. Considered the world's largest mill at the time, construction of the 2,000-acre mill changed the character of the Columbia River waterway by replacing its agricultural farms with a new industrial setting (Ramsey 1978:169-171, 196 cited in AECOM 2015).

As part of this construction, the Long-Bell Lumber Company built 15 miles of levee to protect its operations from flooding (McClary 2008 cited in AECOM 2015). Settlers had previously constructed dikes to protect the Columbia River's low-lying valley lands as early as the 1890s. In 1894, a record-setting flood led to the passage of legislation enabling the formation of diking and drainage districts. Diking District No.1 was created in 1911 to minimize seasonal and event-level floods and was the first flood management district in Cowlitz County (Erlich 2008:10-11 cited in AECOM 2015). The district constructed a levee near the study area in 1913 (Wilt 1972 cited in AECOM 2015).

Rapidly increasing industrial, commercial, and residential growth generated the need for a uniform stormwater management and flood-protection program in the early 1920s. As a result, six diking districts were combined to form the Consolidated Diking Improvement District (CDID) #1 in 1923. The Long-Bell Lumber Company worked with CDID #1 to enlarge and expand the area's existing system of dikes to protect the company's mill and town sites (Erlich 2008:11; McClelland 1976:20 both cited in AECOM 2015). CDID #1 and the Corps raised the levees in 1949 with additional improvements in later years to better facilitate stormwater removal and accommodate new developments (CDID #1 2013 cited in AECOM 2015).

No development is known to have occurred within the study area prior to the 1940s, except for the levees and diking improvements. In 1929, the Weyerhaeuser Timber Company built its sawmill on a 700-acre site east of the study area, between it and the Long-Bell Company mill. However, the study area itself remained primarily agricultural until the construction of the former Reynolds facility in the study area, beginning in the early 1940s.

In 1941, the Reynolds Metals Company established a new aluminum reduction plant on 400 acres of riverfront property west of the Long-Bell Lumber Company, acquired from the Long-Bell Lumber Company. The new facility benefited from rail and water transportation access, an abundance of wood for fuel and facility construction, and major hydroelectric power provided by BPA along the Columbia River (McClary 2008; Donovan and Associates 2013:2, both cited in AECOM 2015). The Reynolds Metal Company entered into a 20-year contract with BPA for 40,000 kilowatts of power to serve the facility (Bonneville Power Administration 1953:3 cited in AECOM 2015).

The Reynolds Metals Company completed construction of its Longview plant in November 1942. The plant was designed as a duplicate of the company's older aluminum plant in Listerhill, Alabama, and primarily consisted of those structures built in the South Plant area. The consulting engineer for the plant's construction was the J. E. Serrine & Company of Granville, South Carolina and the builder was Austin & Company of Seattle, Washington. To prepare the property for construction of the new plant, the Reynolds Metals Company placed extensive amounts of fill behind the existing river levees

to raise the property's elevation from between 5 and 10 feet to a level surface across the site (Bechtel Engineering 1968 cited in AECOM 2015).

The now-former Reynolds facility was one of five Pacific Northwest aluminum plants constructed before and during World War II. Aluminum was an important component of shipbuilding during World War II, and these plants supplied large quantities of the metal to the Kaiser Shipyards in Portland, Oregon, and Vancouver, Washington, in addition to many other wartime production facilities throughout the region (Oregon Blue Book 2014 cited in AECOM 2015). Four additional aluminum-reduction plants were built in the Pacific Northwest during the postwar period. Only two plants are still actively used for aluminum reduction today.

Following World War II, the aluminum industry grew rapidly in the 1950s and 1960s with the introduction of innovative new products and rising consumer demand. To accommodate this growth, the Reynolds Metals Company "modernized" its Longview plant. The company expanded its existing production lines in the South Plant in the early 1950s and further increased the plant's capacity in the late 1960s by expanding and altering the existing plant and constructing additional facilities at the property's western end. These improvements more than doubled the Longview plant's production capacity by 1969, making it the third largest employer in Cowlitz County and one of the largest aluminum manufacturers in the Pacific Northwest (Weber, Denni, and Maxey 2012:84 cited in AECOM 2015).

Over the next 30 years, the aluminum industry gradually declined in the Pacific Northwest. The Reynolds Metals Company continued operations at its Longview plant until 2000, when it was purchased by Alcoa, Inc. as a wholly owned subsidiary. Alcoa operated the plant through 2001. Thereafter, the property was owned and operated by several companies and investment groups until it was fully decommissioned by Chinook Ventures, Inc. in 2005. This company sold the plant's assets to the Applicant in January 2011 (Donovan and Associates 2013:3 cited in AECOM 2015).

#### **4.4.4.2 Archaeological Resources**

This section describes the results of archaeological investigations within the study area, including previous and current archaeological surveys and geotechnical monitoring conducted for the On-Site Alternative.

##### **Archaeological Surveys**

No previously recorded archaeological sites are known to exist within or in the immediate vicinity of the study area. The pedestrian archaeological surveys conducted in January 2015, identified eight landscape features in the study area, which were newly documented as archaeological sites. These eight documented sites consist of three landfills, four fill deposits, and the area of the former South Plant. All eight sites were associated with the former Reynolds facility. Seven were determined to be 45 years of age or older. Of these, six were found to retain good integrity. These six sites were determined eligible for listing in the NRHP as contributing elements of a NRHP-eligible historic district encompassing the former Reynolds facility.

The South Plant area and one landfill were determined not eligible for listing in the NRHP. The landfill was found to be less than 45 years of age. The South Plant area consists of recently demolished resources that no longer retained sufficient integrity to convey historical significance. Demolition of the resources in the South Plant area had previously occurred as a separate, unrelated project.

## Geotechnical Investigations

No archaeological resources were identified as a result of the geotechnical investigations. Observations made during the investigations generally correlated with the results of previous geotechnical work in the study area. These studies indicated much of the study area was likely a stable, low-lying wetland prior to the relatively recent filling and industrial development, and possibly had been in this condition for thousands of year. The results were also consistent with historical General Land Office and USGS maps showing past landforms in the study area.

Fill materials were found to extend across the study area in depths of about 5 to 10 feet and overlying native alluvial sediments. Most or all of the alluvium observed during the geotechnical investigations was determined to be from the Holocene epoch with no substantial soil development, reaching depths of up to 70 feet. The Holocene alluvium was interpreted to have accumulated in channel, near-channel, or floodplain environments that would have been perennially or seasonally saturated, such as in a low-lying wetland. This conclusion was substantiated by the characteristic features of the soils.

Five samples of organic debris and tephra recovered during the geotechnical investigations were submitted for chronological dating to better understand landform formation in the study area. The chronological dates of these samples helped establish the overall pattern of depth, character, and thickness of alluvial sediments within the study area.

### 4.4.4.3 Historic Resources

The historic resources survey identified four built environment resources in the study area. These resources are the former Reynolds facility, the CDID #1 levee, the BPA Longview Substation, and the Reynolds Federal Credit Union. The Lewis and Clark National Historic Trail, which is a nationally significant trail that traverses the study area, was also considered.

#### Reynolds Metals Reduction Plant Historic District

The former Reynolds facility was evaluated as a historic district and documented on an NRHP nomination form as part of the concurrent Section 106 review undertaken by the Corps (Gratrek et al. 2015). Referred to as the Reynolds Metals Reduction Plant Historic District, the property was determined eligible for listing in the NRHP through this process as a historic district under NRHP Criteria A and C.<sup>3</sup> Under Criterion A, the historic district's buildings and structures are associated with the aluminum industry's major growth periods during World War II and through the 1960s. Under Criterion C, the former Reynolds facility represents the aluminum industry's development in the Pacific Northwest and conveys its trend toward functional integration that occurred between World War II and the 1960s, which led to combining the reduction process with product

---

<sup>3</sup> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in history or prehistory.

manufacturing. The Reynolds Metals Reduction Plant Historic District consists of 53 separate resources, including 33 buildings, 12 structures, and eight landscape features (recorded as the aforementioned archaeological sites). Of these 53 identified resources, 39 were determined to contribute to the historic district's significance. Fourteen resources were determined to be noncontributing elements to the historic district because their construction postdates the historic district's period of significance or they have been heavily altered.

### **CDID #1 Levee and the BPA Longview Substation**

The CDID #1 levee and the BPA Longview Substation were both determined to be contributors to the Reynolds Metals Reduction Plant Historic District and individually eligible for listing in the NRHP.

### **Lewis and Clark National Historic Trail**

The portion of the Lewis and Clark National Historic Trail that traverses the study area is known as the Lower Columbia River Water Trail. No individual sites associated with the Lewis and Clark National Historic Trail were identified in the study area. The National Park Service is currently identifying high potential historic sites and high potential route segments along the trail; however, this list has not been released to the public (Gladstone 2014 cited in AECOM 2015). Because of the significant industrial development along on the north side of the Columbia River, it is unlikely landscape features in or near the study area would contribute to the significance of the Lewis and Clark National Historic Trail.

### **Other Historic Resources**

The Reynolds Federal Credit Union building was evaluated as not eligible for listing in the NRHP. Outside the study area, the nearest recorded historic properties are the J. D. Tennant house, or Rutherglen Mansion and the Longview-Allston No. 1, No. 2, and No. 3 Transmission Lines. The J. D. Tennant house is approximately 0.5 mile north of the study area at the base of Mount Solo and is listed in the NRHP. The Longview-Allston Transmission Lines are approximately 0.3 mile northeast of the study area and were recommended by BPA as contributing segments of the BPA Transmission System, which is listed in the NRHP under a Multiple Property Documentation Form (Perkins 2015; Kramer 2015). Two cemeteries are also located on Mount Solo about 0.5 mile north of the study area: Longview Memorial Park Cemetery and Mount Solo Cemetery.

#### **4.4.4.4 Culturally Significant Properties**

No culturally significant properties were identified within the study area. Outside the study area, four ethnographic sites are known to exist within several miles of the study area close to the Columbia River: three Native American village locations and the site of Mount Coffin. The latter is significant to the Confederated Tribes of the Grand Ronde Community of Oregon and has been identified as traditional cultural property eligible for listing in the NRHP. Although other areas of ethnographic significance may be located near the study area, they do not appear to be documented in the available literature.

## 4.4.5 Impacts

This section describes the potential direct and indirect impacts related to cultural resources from construction and operation of the proposed export terminal.

### 4.4.5.1 On-Site Alternative

This section describes the potential impacts in the study area as a result of construction and operation of the proposed export terminal at the On-Site Alternative location.

#### Construction—Direct Impacts

Construction of the On-Site Alternative would occur adjacent to the current shoreline and include dredging and in-water construction of Docks 2 and 3 in the Columbia River. This work would demolish 30 out of 39 of the identified resources in the study area that contribute to the historical significance of the Reynolds Metals Reduction Plant Historic District. The On-Site Alternative, therefore, would adversely affect cultural resources through the demolition of buildings and structures that contribute to the Reynolds Metals Reduction Plant Historic District. The anticipated adverse impacts on these resources would diminish the integrity of design, setting, materials, workmanship, feeling, and association that make the historic district eligible for listing in the NRHP. If the proposed terminal is constructed, the Reynolds Metals Reduction Plant Historic District would no longer be eligible for listing in the NRHP.

The demolition of buildings and structures associated with the former Reynolds facility could affect the CDID #1 levee and the BPA Longview Substation. These resources have been determined eligible for listing in the NRHP, both individually and as contributing elements of the Reynolds Metals Reduction Plant Historic District. The resources' integrity of setting and association would be diminished by the demolition of buildings and structures that contribute to the Reynolds Metals Reduction Plant Historic District, because the historic district would no longer be eligible for listing in the NRHP. Despite these impacts, the CDID #1 and BPA Longview Substation would remain individually eligible for listing in the NRHP.

The J. D. Tennant House is located on a terrace of Mount Solo about 0.5 mile north of the study area. This property is listed in the NRHP. The J. D. Tennant House, however, was oriented to face the former Long-Bell Lumber Mill (now Weyerhaeuser property), and is most closely associated with the lumber mill. The former Reynolds facility did not exist when the house was constructed. Although the J. D. Tennant House may have a view of the southeast corner of the project area, no adverse impacts are anticipated.

The On-Site Alternative would also involve the extension of dock supports and/or conveyors over the CDID #1 levee and the construction of support structure on either side of the levee. Impacts from these activities are expected to be minimal and would not diminish the levee's integrity as a flood control structure. Construction activities near the BPA Longview Substation would not affect its physical integrity and would remain functional.

Because the project area landward of the levee consists largely of fill material that deeply covers a historic low-lying wetland, there is limited potential to encounter undocumented archaeological sites. However, as described in Chapter 3, *Alternatives*, construction of the On-Site Alternative would require surface grading, compaction to a depth of approximately 25 feet, and pile-driving to a depth of approximately 70 feet. Based on the results of the geotechnical investigations conducted in and

near the project area, archaeological resources could exist in native soil below the existing fill. Geotechnical investigations indicated the depths of fill in the study area typically range from 5 to 10 feet below the existing surface. The only impacts expected to extend below this depth are the compaction/displacement impacts and installation of deep piles associated with the coal stockpiling development area; neither activity would yield sediment for observation. An Inadvertant Discovery Plan would address the discovery of any previously unidentified archaeological resource during construction.<sup>4</sup>

### **Construction—Indirect Impacts**

Construction of the proposed export terminal at the On-Site Alternative location would not result in any indirect impacts on cultural resources because construction would be limited to the project area.

### **Operations—Direct Impacts**

Routine operation and maintenance of the proposed export terminal are not expected to affect cultural resources in the study area. Remaining portions of the Reynolds Metals Reduction Plant Historic District would likely no longer be eligible for listing in the NRHP, due to a loss of integrity caused by the removal. The CDID #1 levee and BPA Longview Substation, meanwhile, would remain individually eligible for listing in the NRHP.

Archaeological resources in the project area discovered during construction could be vulnerable to inadvertent disturbance during routine operations and maintenance. If previously undocumented archaeological resources are encountered in the project area during routine operations, they would be addressed through implementation of an Inadvertant Discovery Plan.

Portions of the Lewis and Clark National Historic Trail are within the study area; however, these portions of the trail do not retain historic integrity. The features present during the Lewis and Clark expedition have been significantly modified by existing industrial development.

### **Operations—Indirect Impacts**

Operation of the proposed export terminal at the On-Site Alternative location would not result in any indirect impacts on cultural resources in the study area.

## **4.4.5.2 Off-Site Alternative**

This section describes the potential impacts in the study area as a result of constructing and operating the proposed export terminal at the Off-Site Alternative location.

### **Construction—Direct Impacts**

Construction-related activities associated with the Off-Site Alternative could result in direct impacts as described below. The Off-Site Alternative would not involve the demolition of existing buildings or structures, but would construct an additional access road and rail line extension, and would require a greater amount of dredging and dock construction.

---

<sup>4</sup> An Inadvertant Discovery Plan (sometimes referred to as an Unanticipated Discovery Plan) outlines procedures to be followed if previously unknown archaeological or historical resources are discovered during project activities.

Construction of the Off-Site Alternative would be similar to the On-Site Alternative. It would occur adjacent to the current shoreline and include dredging and in-water construction of two docks (Docks A and B) in the Columbia River. No historic structures are present in the project area.

The Off-Site Alternative would also involve extending dock supports and/or conveyors over the CDID #1 levee and constructing support structures on either side of the resource. Impacts from these activities are expected to be minimal and would not diminish the levee's integrity as a flood control structure.

The J. D. Tennant House is located on a terrace of Mount Solo about 1.0 mile northeast of the Off-Site Alternative project area. The resource is outside the study area and beyond the view of the Off-Site Alternative. Therefore, no adverse impacts are anticipated.

The Off-Site Alternative would be visible from the Longview-Allston Transmission Lines No. 1, No. 2, and No. 3 and the Longview Memorial Park and Mount Solo Cemeteries, which are outside the study area. No adverse impacts are anticipated on any of these resources due to their distance from the Off-Site Alternative project area and the character of other development that already exists in the vicinity.

An archaeological survey has not been conducted at the Off-Site Alternative project area and there are no known sites listed. However, for the same reasons as those discussed for the On-Site Alternative it is possible construction of the Off-Site Alternative could inadvertently affect yet unidentified archaeological resources during construction. The Off-Site Alternative would not affect the fill deposits and landfills documented as archaeological sites, associated with the Reynolds Metals Reduction Plant Historic District.

Similar to the On-Site Alternative, construction of the Off-Site Alternative would require surface grading, compaction to a depth of approximately 25 feet, and pile-driving to a depth of approximately 70 feet. Because of the Off-Site Alternative project area's lack of prior development, its proximity to the Columbia River, and the results of the archaeological and geotechnical investigations conducted for the On-Site Alternative, the probability for archaeological resources to exist at the Off-Site Alternative project area is considered high. Archaeological investigations and deep testing would be required prior to construction to determine whether the Off-Site Alternative would affect archaeological resources, and an Inadvertant Discovery Plan would be developed to address any discovery of previously unidentified archaeological resources during construction.

### **Construction—Indirect Impacts**

Construction of the proposed export terminal at the Off-Site Alternative location would not result in any indirect impacts on cultural resources because construction would be limited to the project area.

### **Operations—Direct Impacts**

Direct impacts resulting from the operation of the proposed export terminal at the Off-Site Alternative location would be the same as those for the On-Site Alternative, except demolition of portions of the Reynolds Metals Reduction Plant Historic District would not occur.

## Operations—Indirect Impacts

Indirect impacts resulting from the operation of the proposed export terminal at the Off-Site Alternative location would be the same as those for the On-Site Alternative.

### 4.4.5.3 No-Action Alternative

Under the No-Action Alternative, the Corps would not issue a Department of the Army permit authorizing construction and operation of the proposed export terminal. As a result, impacts resulting from constructing and operating the terminal would not occur. In addition, not constructing the terminal would likely lead to expansion of the adjacent bulk product business onto the export terminal project area. This new industrial development would be subject to environmental review and substantive regulatory approvals, including building demolition, and/or expanded industrial operations and the construction of upland facilities related to such potential operations. Such development could result in impacts similar to those described previously for the On-Site Alternative.

### 4.4.6 Required Permits

Federal permits would be required from the Corps for the proposed export terminal. A decision on whether to issue or deny a Department of the Army permit would be a federal undertaking subject to the requirements of NEPA and Section 106 of the NHPA. In compliance with Section 106 of the NHPA, the Corps has initiated consultation as described in Section 4.4.3.3, *Agency and Tribal Consultation*.

Based on the outcome of the Section 106 consultation process, the Applicant would be required to comply with the provisions of the Memorandum of Agreement to resolve potential adverse effects of the terminal.

An Inadvertant Discovery Plan would address any discovery of previously unidentified archaeological resources during construction. An Inadvertant Discovery Plan would require work to immediately stop in the vicinity of a discovery and notify the Corps and Cowlitz County.