Appendix J

Cultural Resources Technical Report

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WESTWAY AND IMPERIUM EXPANSION PROJECTS

CULTURAL RESOURCES TECHNICAL REPORT

[*NOTE: SENSITIVE INFORMATION HAS BEEN REDACTED WHERE INDICATED*]

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Christopher Hetzel, J. Tait Elder, and Melissa Cascella. 2015. Westway and Imperium Expansion Projects, Cultural Resources Technical Report. August. (ICF 00138.14). ICF International, Seattle, WA. Prepared for City of Hoquiam, WA, and Washington State Department of Ecology, Lacey, WA.

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Acronyms and Abbreviations

BP	before present
Cascadia	Cascadia Archaeology, LLC
CFR	Code of Federal Regulations
DAHP	Washington State Department of Archaeology and Historic Preservation
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
GPS	global positioning system
HOV	high-occupancy vehicle
ICF	ICF International
Imperium	Imperium Terminal Services
MLLW	mean lower low water
NRHP	National Register of Historic Places
Port	Port of Grays Harbor
PS&P rail line	Puget Sound & Pacific Railroad
RCW	Revised Code of Washington
SEPA	Washington State Environmental Policy Act
SR	State Route
USACE	U. S. Army Corps of Engineers
WAC	Washington Administrative Code
Westway	Westway Terminals LLC
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Database
YMCA	Young Men's Christian Association

Chapter 1
Introduction

The City of Hoquiam and Washington State Department of Ecology (Ecology) engaged ICF International (ICF) to conduct cultural resources studies for two proposed expansion projects at the Port of Grays Harbor (Port) in Aberdeen and Hoquiam, Washington. These proposed actions are being separately undertaken by Westway Terminals LLC (Westway) and Imperium Terminal Services (Imperium) on two adjacent project sites. Both companies are proposing to expand their existing bulk liquid storage and distribution facilities at the Port's Marine Terminal No. 1.

Westway has operated a methanol distribution facility at the Port since 2009. Operations involve storing, handling, and transporting methanol by vehicle, rail, and tanker vessel. Similarly, Imperium has operated a biodiesel processing and distribution facility at the Port since 2006. The facility currently produces biodiesel on the property and receives, stores, and loads (for transport) various other materials, such as vegetable oil, methanol, diesel, glycerin, and biodiesel. Both facilities contain multiple, large liquid storage tanks; rail, tanker truck, and tank vessel loading/unloading areas; and associated pipelines for transferring the products. In addition, they both use existing railroad spurs that connect to the Puget Sound and Pacific Railroad (PS&P) rail line and vessel-loading facilities located at the Port's Marine Terminal No. 1 berth. The existing facilities employ many of the same logistical and operational considerations that would be required by the proposed actions.

The proposed actions require permits from the City of Hoquiam and Ecology. Therefore, the proposed actions are subject to the requirements of the Washington State Environmental Policy Act (SEPA). This cultural resources technical report was prepared to support environmental impact statements (EISs) under SEPA for each proposed action. The EISs are being prepared under SEPA Chapter 43.21C Revised Code of Washington [RCW]), the SEPA Rules (Chapter 197-11 Washington Administrative Code [WAC]), and the City of Hoquiam Municipal Code (11-10).

The following are descriptions of each proposed action, including the project sites, the proposed facilities and operations, and a summary of the no-action alternative.

Westway Project

Westway is proposing to develop an additional 7 acres of its existing 16-acre site to expand its bulk liquids storage facility. This expansion would provide additional facilities necessary for receiving, storing, and loading crude oil for transport. Crude oil would arrive at the project site by rail and be shipped from the project site by tank vessel. The Westway project site is located between Marine Terminals No. 1 and No. 2 of the Port (Figures 1-1 and 1-2).[1]

[1] Tax Assessor's Parcel Information: City of Hoquiam in Section 18, Township 17, Range 9 West, North of the Willamette Meridian, Tax Parcel Number #056402300000; and City of Aberdeen in Section 7, Township 17, Range 9 West, North of the Willamette Meridian, Tax Parcel Number #029902000200.
Latitude: 46.968253, longitude: -123.855871.

Proposed Action

The Westway proposed action, would be constructed in two phases. Phase 1 would include constructing two new storage tanks, expanding the existing onsite rail facilities, constructing related pipelines, upgrading dock capabilities, and installing a marine vapor combustion unit. Phase 2 would include constructing three additional storage tanks. Depending on market conditions, Phases 1 and 2 may be constructed at the same time.

Storage Tanks

The Westway proposed action would construct five new storage tanks on the Westway project site, south of the facility's existing storage tanks (Figure 1-2). Each tank would be approximately 150 feet wide and 64 feet tall and would have the capacity to hold approximately 200,000 barrels (8.4 million gallons) of crude oil, for a total crude oil storage capacity of 1 million barrels (42 million gallons).

The area where the new tanks would be built is currently paved with asphalt. Construction of the proposed tanks would require removing the existing pavement, amounting to approximately 14,000 cubic yards of paved material, and grading the project site. An impervious geotechnical (clay) lining, approved by a registered Washington State Professional Engineer, would be installed over the graded area to prevent any spills or leaks from contacting soil in the area. The lining would then be covered by soil and crushed rock and a containment area constructed on top of the clay liner to house the storage tanks.

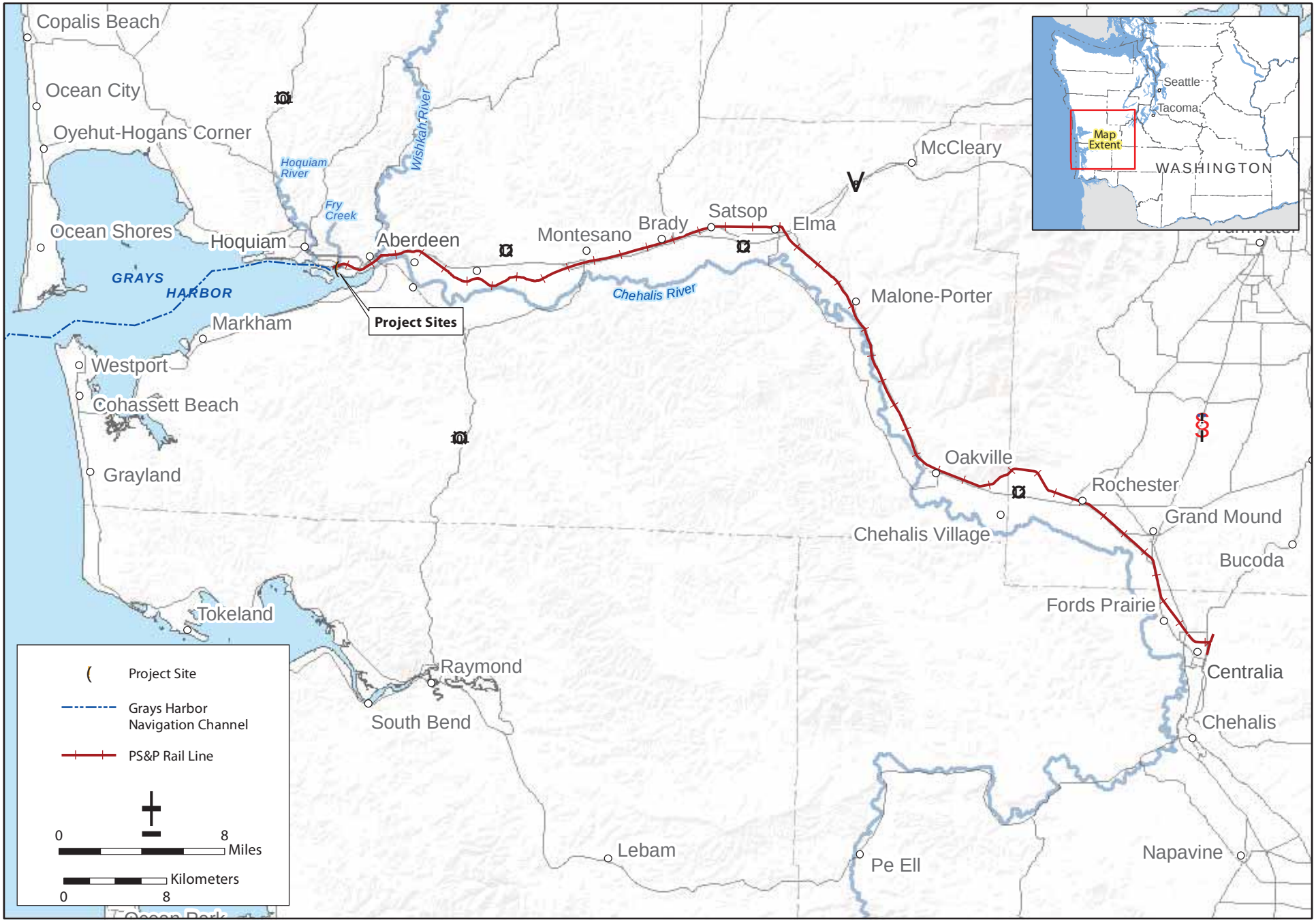
The containment area would consist of underlying concrete slabs surrounded by a 5-foot-tall concrete wall with the capacity to contain the total volume of a single tank plus an allowance for precipitation. The concrete slabs would be supported by approximately 200 piles driven 150 feet into the ground. The piles would be 18-inch-diameter steel pipe. Once all piles are driven for a tank, the concrete slabs would be formed and poured over the piles, creating a solid 3-inch-thick slab upon which a storage tank would be placed. Rebar in the slab would extend approximately 20 to 30 feet into the steel pipe piles, which would be filled with concrete.

Loading and Unloading Areas

The Westway proposed action would expand and improve Westway's existing rail and vessel loading and unloading areas, as described below. No changes would be proposed for the facility's existing truck loading and unloading areas.

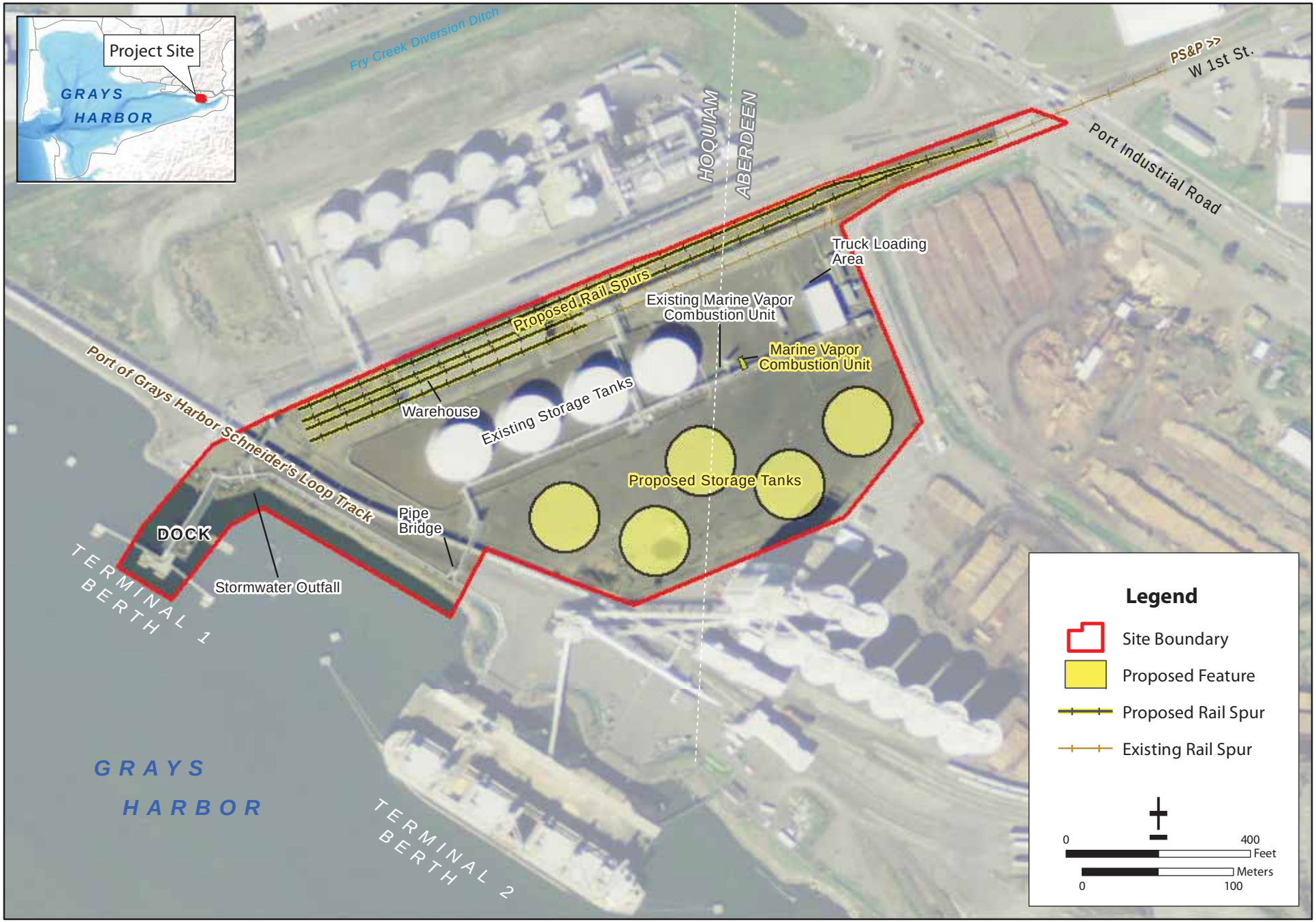
Rail

Under Phase 1, Westway's two existing rail spurs would be lengthened and two new spurs would be added, thereby increasing the total number of loading and unloading stations from 18 to 80. Similar to the existing stations, the new loading and unloading stations would be constructed on top of a containment area—a center-sloped concrete slab that collects and directs any spills to a central sump. This containment area would have the capacity to contain the total volume of a single rail car, plus allow for additional precipitation.



Sources: Navigational Channel, NOAA, 2012; Bathymetry, NOAA, 2005; PSAP Rail Line, ICF, 2014; National Rail Layer, RITA, 2013; Basemaps, ESRI

Figure 1-1
Location of Project Sites
Westway and Imperium Expansion Projects



GIS Data Sources: Site Design, Harris Group, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 1-2
Westway Project Site
Westway and Imperium Expansion Projects

Construction of the rail facilities would require demolishing an existing warehouse (Warehouse E) then grading and forming the project site. Crews would lay rebar and pour concrete to construct the containment area underlying the new and extended rail spurs. The entire rail area would be built on a solid concrete slab; there would be no wood ties or ballast rock in the rail area. The loading and unloading equipment (racks, hoses, pipelines, and pumps) would then be installed.

Connection of the new spurs to the PS&P rail line would use the existing grade crossing at Port Industrial Road and would require no new track to be constructed offsite. This connection would be maintained by the Port.

Vessel

Improvements to Westway's capability of loading vessels with crude oil would include the construction of a new a hose tower or loading arms above the existing dock at Marine Terminal No. 1 to add structural support for the pipes and the installation of a new marine vapor control system. The marine vapor control system would consist of three parts: a marine safety unit, a vapor blower unit, and the vapor combustion unit. The marine safety and vapor blower units would be installed on top of the dock with no modification to the dock structure in the water. The entire system would be constructed and operated in compliance with U.S. Coast Guard regulations (33 Code of Federal Regulations [CFR] 154) and the applicable air permit.

Pipelines

Under Phase 1, a system of pipelines would be constructed to connect the new rail loading and unloading stations to the storage tanks, and the storage tanks to the vessel-loading facilities at the Marine Terminal No. 1 berth. A 24-inch-diameter carbon steel pipeline would be installed on the existing pipe bridge to connect the storage tanks to the vessel loading facilities at the Marine Terminal No. 1 dock. New 10- or 12-inch-diameter carbon steel pipelines would be installed to move crude oil from the rail unloading areas to the storage tanks. The pipelines would be constructed above ground, in segments.

Buildings

Also under Phase 1, additional office space and support structures would be constructed at the Westway facility. These structures are expected to include a new electrical building south of the existing electrical building and shower and change rooms. Their construction would involve grading and otherwise preparing the project site. The existing warehouse (Warehouse E) is not currently being used and would be removed to make room for the new and expanded rail spurs.

Operations

Under the Westway proposed action, the facility's allowable (permitted) throughput capacity would increase by 17.9 million barrels per year (563.9 million gallons) for a cumulative total of 19.2 million barrels (604.8 million gallons) per year. The applicant intends to continue to handle methanol similar to existing conditions, and the new capacity provided under the proposed action would be dedicated to handling crude oil.

Onsite Operations

No changes would be made to the existing methanol distribution facility under the proposed action. The additional planned capacity would be dedicated to transferring crude oil from rail to tank vessels. Westway would receive crude oil from its future customers (i.e., owners of the oil), who would arrange rail transport to and vessel transport from the project site. Onsite operations would involve receiving and unloading the crude oil from rail cars, storing it, and transferring it onto tank vessels for shipment. Transport via rail or vessel would be under the responsibility of rail and vessel operators. No crude oil would be transported by tanker truck.

Once onsite, rail cars would be pushed onto the loading and unloading spots where the crude oil would be unloaded into a central collection area and then pumped to the storage tanks. The crude oil would be pumped from the storage tanks via the new pipelines to the Marine Terminal No. 1 vessel-loading facilities, where it would be transferred onto the tank vessel by hose.

Offsite Operations

Rail Transport

Crude oil would be transported to the project site via any of the rail corridors along mainline railroads from the source of the crude oil. From Centralia to the Port, the only rail access is via the PS&P rail line. All trains associated with the proposed action would use this corridor to reach the project site. Under the proposed action, increased train traffic would consist of unit trains of approximately 120 cars (1.25 miles long). Unit trains are typically transported by four locomotives and would have to be broken into smaller segments and taken by switch engine to and from the project site. Operation of the proposed action at full capacity would result in approximately 229 loaded unit train trips per year or one unit train round trip every 3 days, on average. This would be 458 total unit trains per year, loaded and unloaded traveling along the PS&P rail line to and from the Westway project site.

Vessel Transport

Crude oil would be transported from the project site by tank vessel. The depth constraints of the Grays Harbor Navigation Channel limit the size of vessels able to enter the harbor. The largest tankers would be Panamax class with the capacity to hold up to 350,000 barrels (14.7 million gallons); however, articulated tug and barge units are expected to be more commonly used. Barge capacity would be in the range of 25,000 to 150,000 barrels (1.05 million gallons to 5.3 million gallons).

Crude oil shipped from the facility would likely be transported by tank vessel to refineries in the Puget Sound area and northern California (Richmond area). Although transport of U.S. crude oil overseas is currently not allowed under U.S. law, it is possible for Canadian oil to be transported abroad, and overseas transport of U.S. oil could occur if current regulations were to change. At full capacity, operation of the proposed action would result in approximately 49 to 60 vessel round trips per year, i.e., approximately one round trip (entry and departure) every 3 days, depending on the type of the vessel used.

No-Action Alternative

Under the no-action alternative, the proposed action would not be constructed and Westway would continue to operate its existing facility under current conditions. For the purposes of evaluating impacts, the no-action alternative includes planned infrastructure improvements that have already been funded or are expected to be permitted prior to 2017 (anticipated operational start date for the proposed action).

Imperium Project

Imperium is proposing to expand its existing biodiesel production and transport facility by developing an additional 10.9 acres of its existing 22.9-acre site to receive, store, and load (for transport) a variety of products. These additional bulk liquids are expected to include: crude oil, ethanol, naphtha, gasoline, vacuum gas oil, jet fuel, no. 2 fuel oil, no. 6 fuel oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat. Imperium would store and use some of these bulk liquids at the facility in the biodiesel production process and would provide transfer services (loading and unloading for future customers as requested) from rail cars, tanker trucks, and tank vessels. Imperium's existing facility is located at Marine Terminal No. 1 of the Port (Figures 1-1 and 1-3).[2]

Proposed Action

The Imperium proposed action would be constructed in two phases. Phase 1 would include constructing five new storage tanks; expanding existing onsite rail facilities; and constructing a system of pipelines, a marine vapor combustion unit, and additional buildings. Phase 2 would include constructing four additional storage tanks. Depending on market conditions, Phases 1 and 2 may be constructed at the same time.

Storage Tanks

The Imperium proposed action would involve constructing nine new storage tanks on the Imperium project site to the north/northwest of Imperium's existing storage tanks. Each tank would be approximately 95 feet wide and 64 feet tall and would have the capacity to hold 80,000 barrels (3.63 million gallons) of bulk liquids, for a total additional storage capacity of up to 720,000 barrels (30.2 million gallons).

[2] Tax Assessor's Parcel Information: City of Hoquiam in Section 18, Township 17, Range 9 West, North of the Willamette Meridian, Tax Parcel Number #056402300000; and City of Aberdeen in Section 7, Township 17, Range 9 West, North of the Willamette Meridian, Tax Parcel Number #029902000200.
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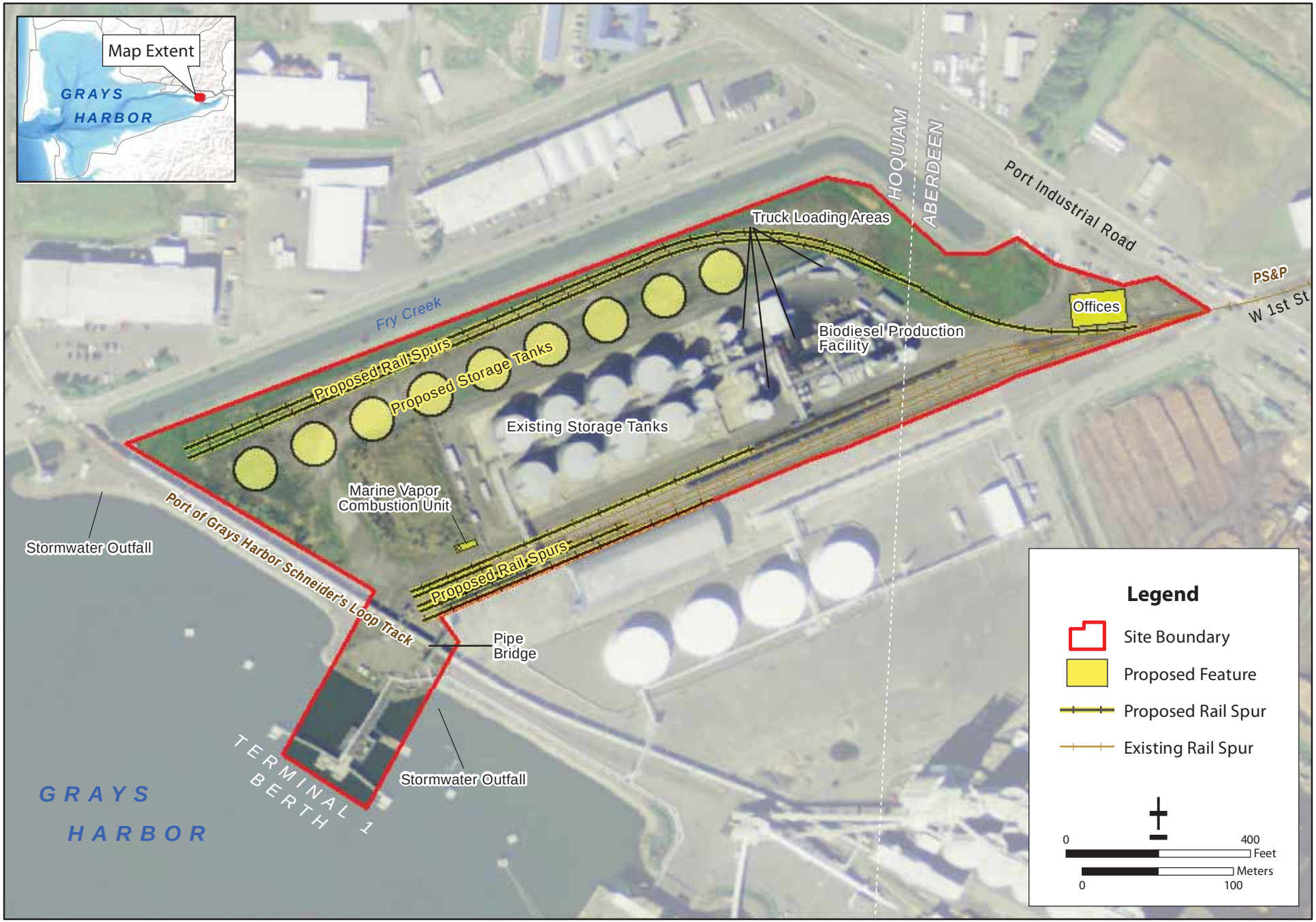


Sources: Site Design, Skillings Connely, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 1-3
Imperium Project Site
Westway and Imperium Expansion Projects

The area where the new storage tanks would be built is currently undeveloped and would require site grading. Approximately 314,000 square feet of earth would be graded with no material removed and 23,000 cubic yards filled. Once graded, an impervious liner, approved by a registered Washington State Professional Engineer, would be constructed over the prepared surface. The liner would be constructed of concrete or covered bentonite clay membrane and would be built on grade-level or elevated foundations in bermed areas made of an impervious material, with the capacity to contain the total volume of the largest tank, plus an allowance for precipitation. Each storage tank would be supported by a series of piles driven approximately 75 feet into the ground.

Loading and Unloading Areas

The Imperium proposed action would involve the expansion and improvement of the Imperium's existing rail and vessel loading and unloading areas. These changes are described below. No changes would be proposed for the facility's existing truck loading and unloading areas.

Rail

All elements of the rail loading and unloading areas would be constructed during Phase 1 with approximately 6,100 feet of new track constructed on the Imperium project site. Two new rail spurs would be constructed at the project site's northern end and the facility's existing five tracks located to the south would be extended. Construction of the rail facilities would require grading and forming the project site to be consistent with the grade of the existing rail.

Forty-one new rail car crude or refined petroleum unloading stations are proposed, which would bring the total up to 105 stations, sufficient to handle a unit train consisting of 105 cars. In addition, 45 new storage stations would be constructed, bringing the total capacity for onsite rail car storage to 161 stations. New and existing loading and unloading stations would be underlain with a center-sloped concrete containment area that collects and directs any spills to a central sump capable of holding the contents of a single rail car plus an allowance for precipitation.

Connection of the new spurs to the PS&P rail line would use the existing grade crossing at Port Industrial Road and would require no track to be constructed off site. This connection would be maintained by the Port.

Vessel

The Imperium proposed action would involve the construction of a marine vapor combustion unit for the transfer of the additional bulk liquids handled at the Imperium facility. The unit would be installed west of the existing storage tanks, and not at the existing dock (other than a small dock safety unit which would be installed on the Marine Terminal No. 1 dock). The marine vapor combustion unit would be used to incinerate displaced vapors during vessel loading and would use natural gas.

Pipelines

During Phase 1, a system of pipelines would be constructed to transfer bulk liquids from the loading and unloading areas to the new storage tanks. The new pipelines would consist of one 24-inch-diameter pipe and one 16-inch-diameter pipe. In general, the pipelines would be routed from the rail unloading areas in the new and expanded rail spurs to the new storage tanks (above grade, on pipe racks) and from the storage tanks over the Port's loop track via an existing pipe

bridge, along the Marine Terminal No. 1 dock (at grade, on concrete block pipe supports) to the berth.

Buildings

Phase 1 would also include constructing new buildings on the Imperium project site to replace existing mobile trailers. The new buildings would provide offices, a laboratory, and maintenance and warehouse facilities.

Operations

Under the Imperium proposed action, total throughput capacity of Imperium's facility would increase to 30 million barrels (1.26 billion gallons) per year. Imperium intends to continue to process and distribute biodiesel in a manner similar to existing operations, and the new capacity provided under the proposed action is currently planned to be used for crude oil. The facility could, however, distribute any one of or a mix of the bulk liquids depending on changes in market demand.

Onsite Operations

Under the Imperium proposed action, no changes would be made to Imperium's current operation of its biodiesel production facility. There are also no changes planned for the receiving, storage, and transport of materials related to biodiesel produced at the project site. Imperium anticipates continuing to receive biodiesel feedstocks, including the newly permitted liquids (used cooking oil and animal fat), and continuing to transport biodiesel and glycerin, similar to existing conditions. It is possible that the receipt, storing, and transferring of crude oil could be handled by these facilities in the future.

The additional planned capacity is anticipated to be dedicated to the transfer of crude oil from rail to tank vessels although Imperium would be permitted to receive, store, and transfer the other proposed bulk liquids. Once on site, rail cars would be pushed onto the loading and unloading spots where bulk liquid materials would be unloaded into a central collection area and pumped to the storage tanks. Under the proposed action, the facility would be capable of unloading one unit train per day. The bulk liquids would be pumped from the storage tanks via the new pipelines to vessel-loading facilities at Marine Terminal No. 1, where it would be transferred onto the tank vessel by hose.

Offsite Operations

Rail Transportation

It is anticipated that bulk liquids would be transported to and from the project site primarily by rail via any of the rail corridors along mainline railroads from the source of the crude oil. From Centralia to the Port, the only rail access is via the PS&P rail line. All trains associated with the Imperium proposed action would use this corridor to reach the project site.

Under the proposed action, increased train traffic would consist primarily of unit trains of approximately 105 cars but up to 120 cars (1.25 miles long). Unit trains are typically transported by four locomotives and would have to be broken into smaller segments and taken by switch engine to and from the project site. Smaller quantities bulk liquids would be transported by rail car as part of PS&P's existing freight traffic and not additional unit train trips. Operation of the proposed action at

full capacity would result in approximately 365 loaded unit train round trips per year, or one loaded unit train round trip every day on average. This would result in 730 total unit trains per year, loaded and unloaded traveling along the PS&P rail line to and from the Imperium project site.

Vessel

Bulk liquids would transported by tank vessel to and from the project site. The depth constraints of the Grays Harbor Navigation Channel limit the size of ships able to enter the harbor. The largest tankers would be Panamax-class vessels with capacity to hold up to 350,000 barrels (14.7 million gallons). Articulated tug and barge units would also be used. Tank barge capacity would range from 25,000 to 150,000 barrels (1.05 million to 6.3 million gallons).

Crude oil shipped from the facility would likely be transported by tank vessel to refineries in the Puget Sound area and northern California (Richmond area). Although transport of U.S. crude oil overseas is currently not allowed under U.S. law, it is possible for Canadian oil to be transported abroad, and overseas transport of U.S. oil could occur if current regulations were to change. Refined and other bulk liquids would be transported to domestic or international ports. At full capacity, operation of the proposed action would result in approximately 200 vessel round trips per year, i.e., approximately one round trip (entry and departure) every other day.

No-Action Alternative

Under the no-action alternative, the Imperium proposed action would not be constructed and Imperium would continue to operate its existing facility under current conditions. For the purposes of evaluating impacts, the no-action alternative includes planned infrastructure improvements that have already been funded or are expected to be permitted prior to 2017 (anticipated operational start date for the proposed action).

Chapter 2
Project Background

Personnel

Christopher Hetzel, senior architectural historian, served as cultural resources lead for this study and principal investigator for the consideration of built environment resources. J. Tait Elder, MA, senior archaeologist, was principal investigator for the consideration of archaeological resources. Melissa Cascella, MA, and Shane Sparks, MA (pending), assisted the principal investigators with the cultural resources survey and in drafting this cultural resources survey report.

Study Area

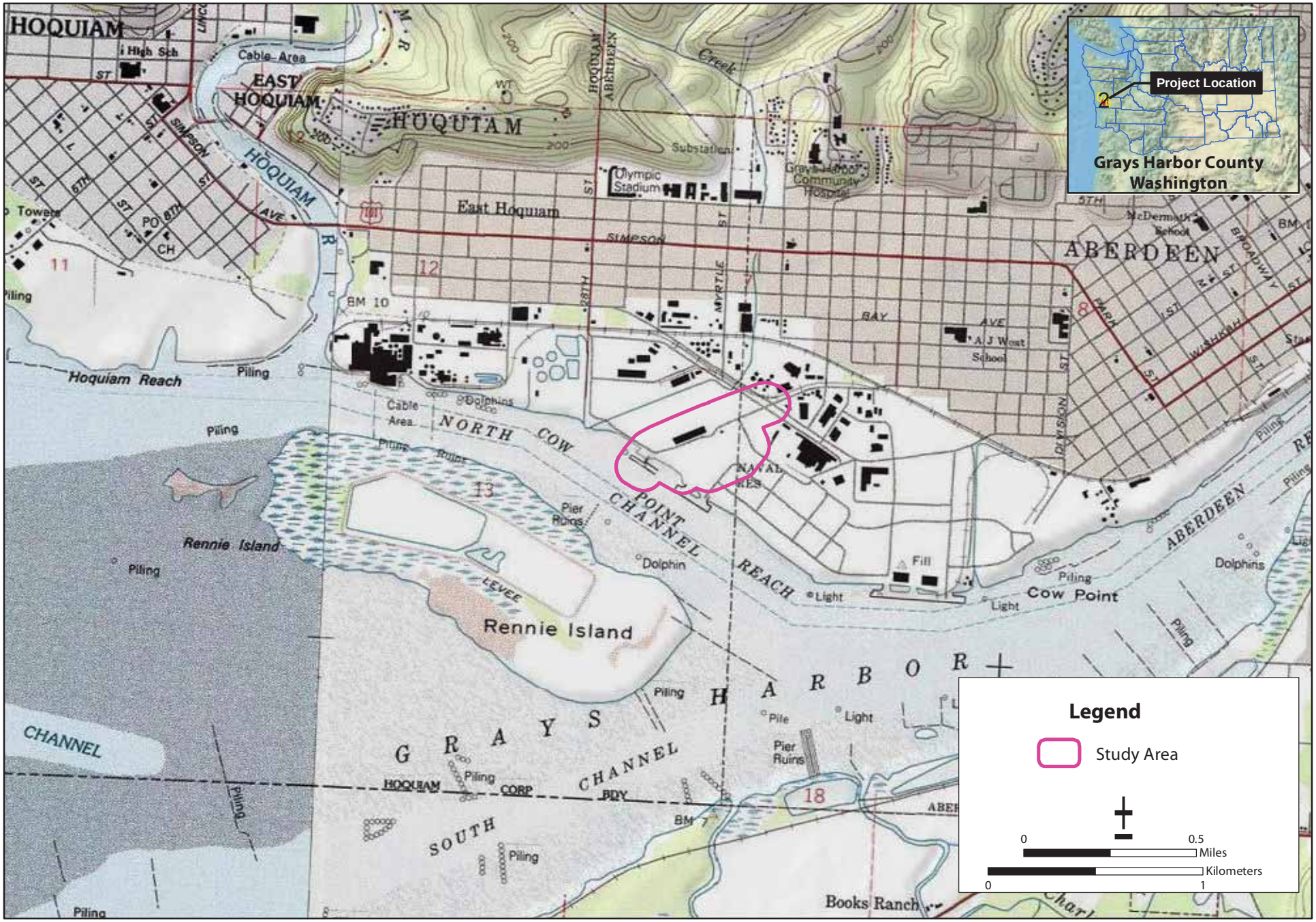
To accommodate the two separate proposed actions under consideration, ICF established separate cultural resources study areas (Figures 2-1 through 2-4). These study areas greatly overlap because the individual project sites are located on adjacent parcels. Therefore, some elements of the cultural resources survey presented in this report have been combined, to reduce redundancy. The cultural resources study areas are hereafter referred to as the *study areas* when combined, or the *Westway study area* and the *Imperium study area* when considered separately.

Both study areas are defined as the legal parcels that comprise the footprints of each project site, plus a 300-foot buffer surrounding these parcels. The project sites are considered as all locations of potential ground disturbance, and staging, construction, and equipment storage areas. The depth of potential ground disturbance is expected to vary across the study areas and according to individual project elements —deeper in areas where piles would be driven and shallower where minor grading or at-grade construction would occur.

In addition to the study areas, ICF also qualitatively considered potential impacts on cultural resources along transportation corridors to and from the project sites. These transportation corridors include the PS&P rail line, which extends from the Port to/from its intersection with the BNSF railway main line in Centralia, Washington, and the navigation channel through Grays Harbor.

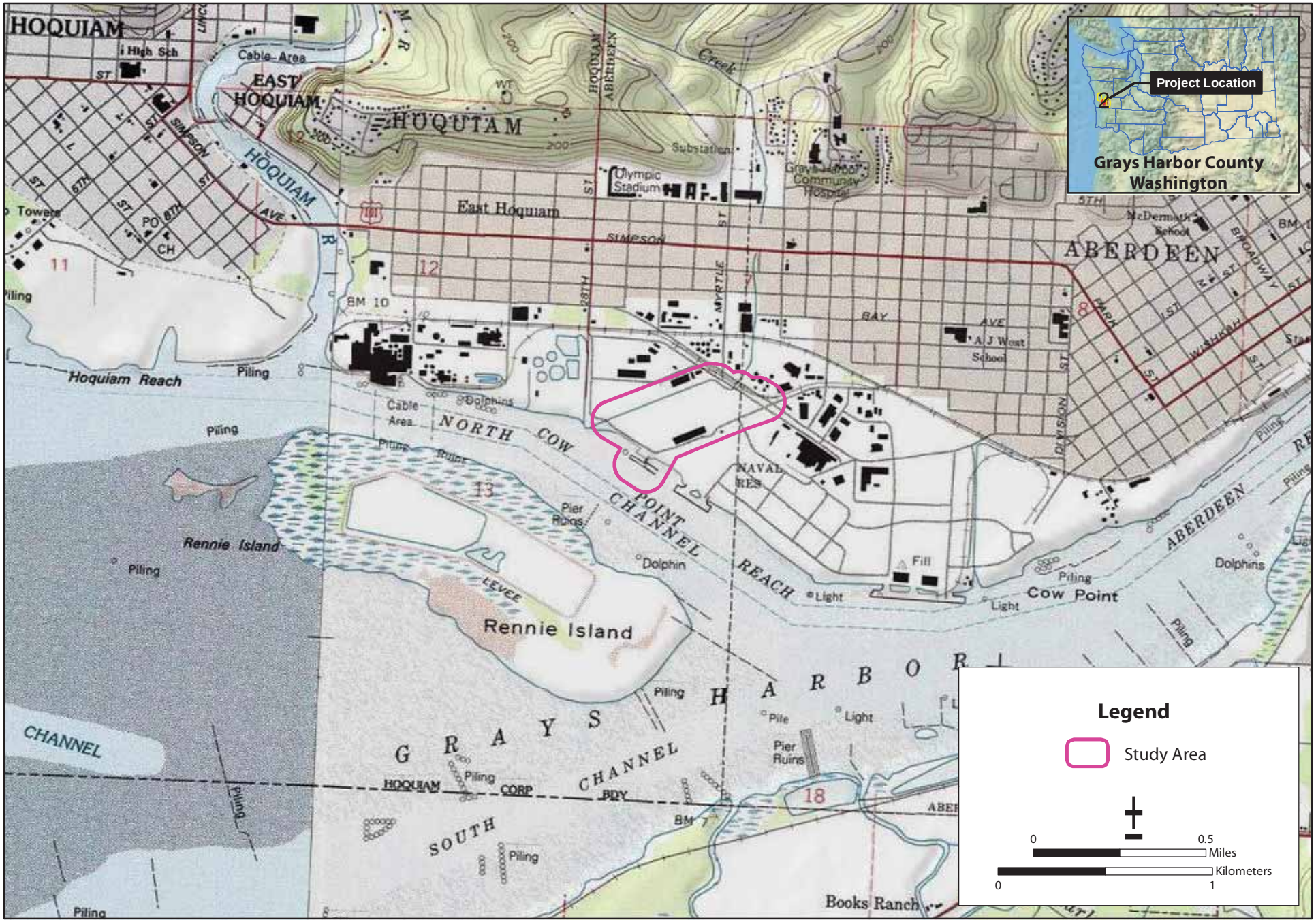
Regulatory Context

Federal, state, and local agency regulations recognize the public's interest in cultural resources and the public benefit of preserving these resources. These laws and regulations require analysts to consider how a project might affect significant cultural resources and to take steps to avoid or minimize potential damage. A cultural resource is considered to be any building, structure, object, site, landscape, or district associated with human manipulation of the environment. These resources are often valued by a particular group of people (monetarily, aesthetically, or religiously), and can be historic in character or date to the prehistoric past (i.e., the time prior to written records). Resource types referred to in this report include archaeological resources, historic resources, and culturally significant properties.



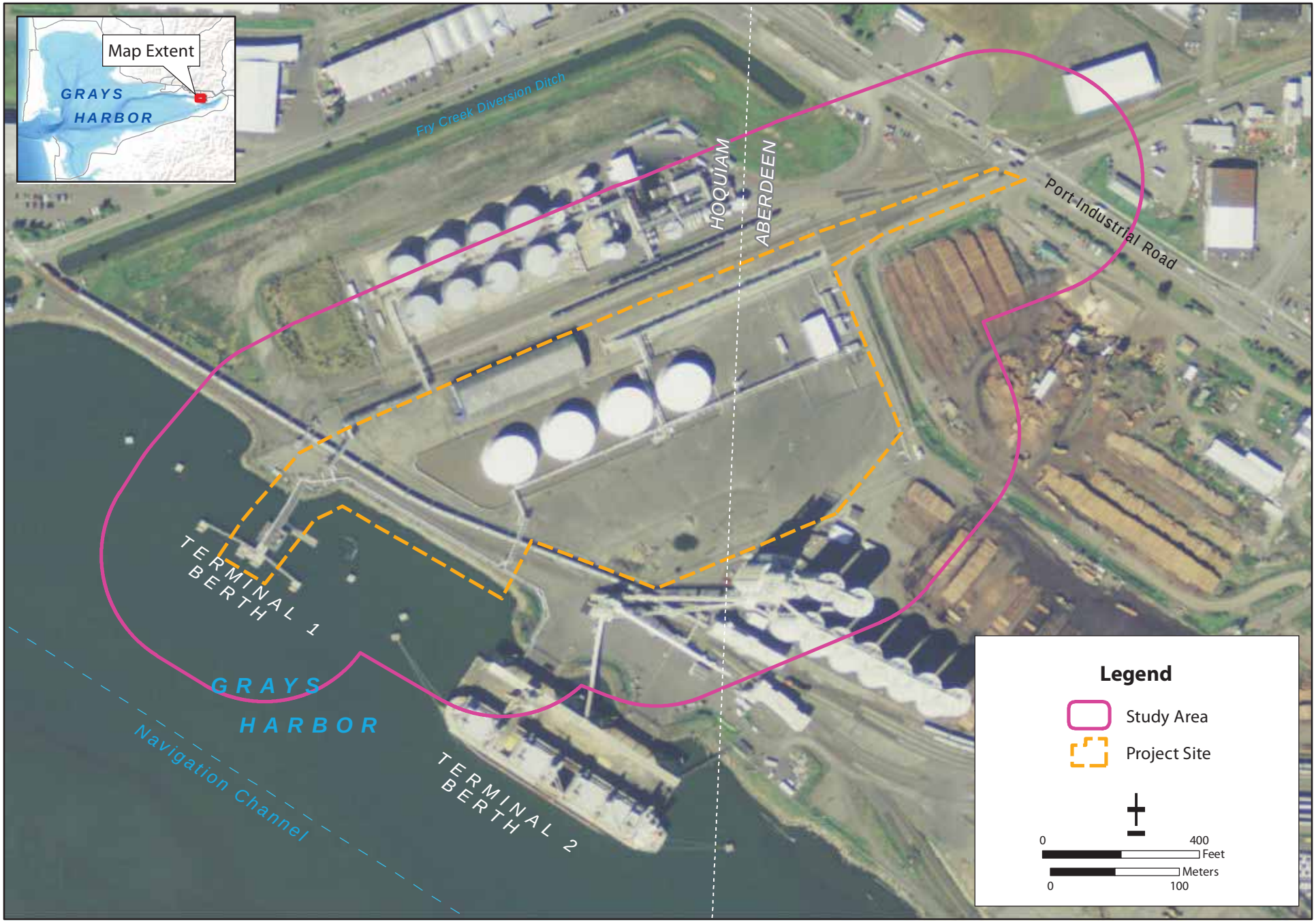
Sources: Site Design, Skillings Connely, 2014; Hoquiam, WA (46123-H8,1984) and Aberdeen, WA (46123-H7, 1984) 7.5" USGS Quadrangles

Figure 2-1
Westway Project Vicinity
Westway and Imperium Expansion Projects



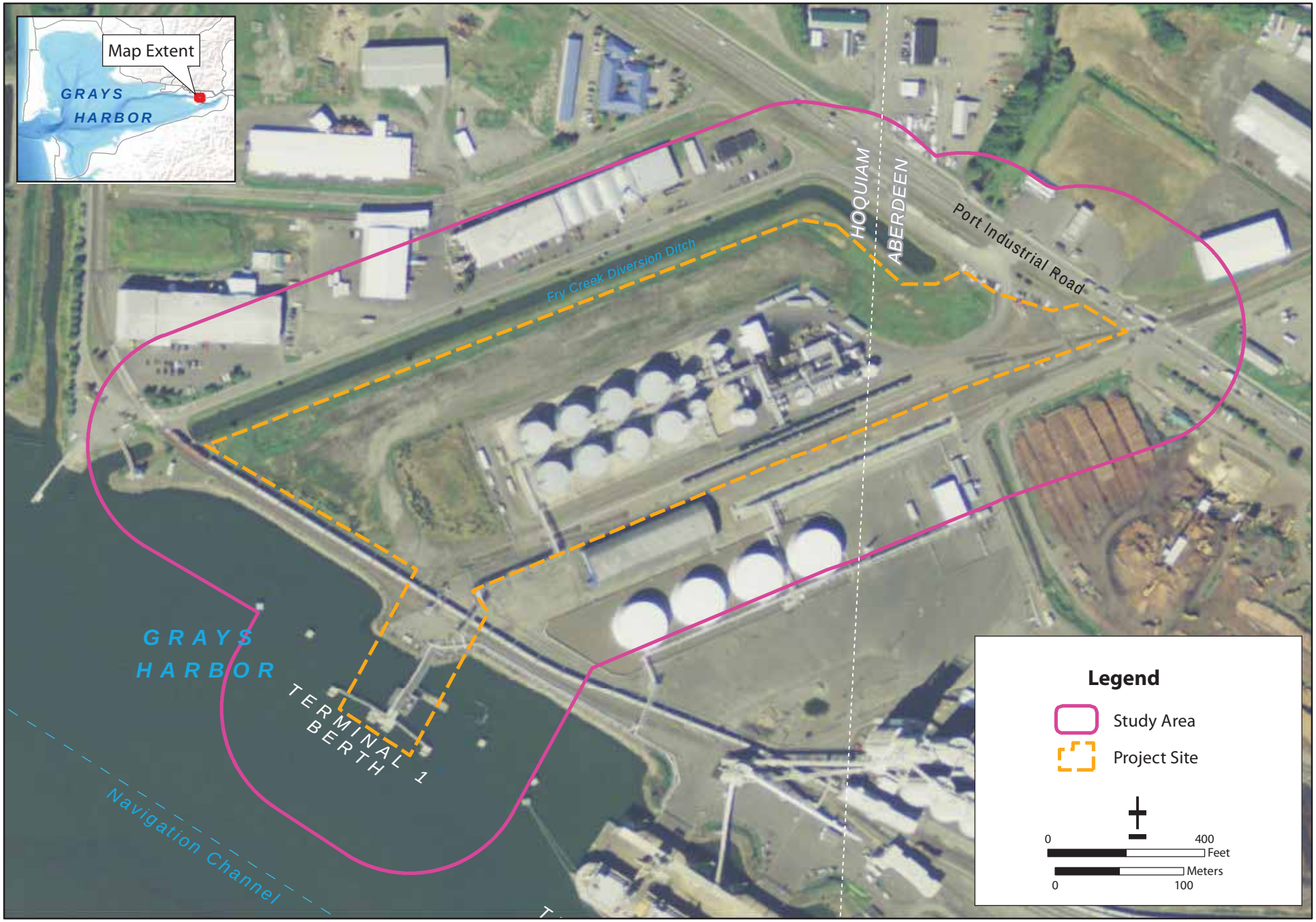
Sources: Site Design, Skillings Connely, 2014; Hoquiam, WA (46123-H8,1984) and Aberdeen, WA (46123-H7, 1984) 7.5" USGS Quadrangles

Figure 2-2
Imperium Project Vicinity
Westway and Imperium Expansion Projects



Sources: Site Design, Harris Group, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 2-3
Westway Study Area
Westway and Imperium Expansion Projects



Sources: Site Design, Skillings Connely, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 2-4
Imperium Study Area
Westway and Imperium Expansion Projects

State

The project must be performed in compliance with SEPA, and must, therefore, comply with other state and local cultural resources requirements, as appropriate. The key applicable laws and regulations are described below.

State Environmental Policy Act

SEPA requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies be planned so that environmental considerations—such as impact on cultural resources—are considered when state agency-enabled projects affect properties of historic, archaeological, scientific, or cultural importance (WAC 197-11-960).

Under SEPA, the Washington State Department of Archaeology and Historic Preservation (DAHP) is the specified agency with the technical expertise to consider the effects of a proposed action on cultural resources and to provide formal recommendations to local governments and other state agencies for appropriate treatments or actions. The degree to which an action may adversely affect districts, sites, buildings, structures, and objects listed in or eligible for listing in the National Register of Historic Places (NRHP) is the primary criterion for determining significant impacts under SEPA. Secondary criteria include whether an alternative has the potential to affect districts, sites, buildings, structures, and objects listed in or eligible for listing in the Washington Heritage Register (WHR), the state equivalent of the NRHP.

First authorized by the Historic Sites Act of 1935, the NRHP was established by the National Historic Preservation Act of 1966 as "an authoritative guide to be used by federal, state, and local governments; private groups; and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels, based on the following evaluation criteria.

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 or 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.

The guidelines further state that "Ordinarily, birthplaces, cemeteries, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years are not considered eligible for the NRHP," unless they satisfy certain conditions.

The NRHP requires that a resource not only meet one of these criteria, but that it must also possess integrity. *Integrity* is the ability of a property to convey historical significance. The evaluation of a resource's integrity must be grounded in an understanding of that resource's physical characteristics and how those characteristics relate to its significance. The NRHP recognizes seven aspects or qualities that, in various combinations, define the integrity of a property, including: location, design, setting, materials, workmanship, feeling, and association.

The WHR is an official listing of historically significant sites and properties found throughout the state. The list is maintained by DAHP and includes districts, sites, buildings, structures, and objects that have been identified and documented as being significant in local or state history, architecture, archaeology, engineering or culture. To qualify for placement on the WHR, the resource must meet the following criteria.

- A building, site, structure or object must be at least 50 years old. If newer, the resource should have documented exceptional significance.
- The resource should have a high to medium level of integrity (i.e., it should retain important character-defining features from its historic period of construction).
- The resource should have documented historical significance at the local, state, or federal level.

Sites listed on the NRHP are automatically added to the WHR; hence, a separate nomination form does not need to be completed.

Other State Archaeological Resource Laws

Other state laws that govern the protection of archaeological resources include:

- RCW 27.44, Indian Graves and Records provides protection for 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.
- RCW 27.53, Archaeological Sites and Resources governs the protection and preservation of archaeological sites and resources and establishes DAHP as the administering agency for these regulations.
- RCW 36.70A.020 includes a goal to "[i]dentify and encourage the preservation of lands, sites, and structures that have historical, cultural, and archaeological significance." Cities planning under the Washington State Growth Management Act must consider and incorporate this historic preservation goal.
- RCW 68.60, Abandoned and Historic Cemeteries and Historic Graves, provides for the protection and preservation of abandoned and historic cemeteries and historic graves.

Local

Both the Cities of Aberdeen and Hoquiam, Washington, maintain local registers of historic places, which include individually registered city landmarks, historic districts, or conservation districts (Aberdeen Municipal Code, Title 17, Chapter 17.50 and Hoquiam City Code, Chapter 10.06). The historic preservation commissions in each city are responsible for the administration and oversight of these regulations. Properties are nominated to the local registers of historic places and designated by city council resolution. Changes to the exteriors of listed properties in the study area would be subject to review by these respective commissions.

Agency and Tribal Consultation

Ecology has initiated consultation with DAHP and potentially affected Native American tribes regarding the proposed actions and potential impacts on cultural resources. Consultation to date has included the following.

- April 4, 2014. Ecology sent a letter of notification about the scoping period for both proposed actions to the Quinault Indian Nation, the Confederated Tribes of the Chehalis Reservation, the Coeur d'Alene Tribe, the Yakama Nation, and the Spokane Tribe of Indians,
- May 27, 2014. The Quinault Indian Nation provided scoping comments.
- June 10, 2014. The Quinault Indian Nation sent a letter to Ecology requesting government to government consultation.
- July 18, 2014. A government to government meeting was held conducted by the Quinault Indian Nation and Ecology.
- September 16, 2014. The Quinault Indian Nation sent a letter to Ecology with comments on scoping and government to government meeting.
- September 17, 2014. Letter from DAHP to the City of Hoquiam requesting information about cultural resources investigations.
- October 16, 2014. Ecology letter to the Quinault Indian Nation with response to comments.
- November 24, 2014. Meeting conducted by Quinault Indian Nation and Ecology with technical staff and consultants.
- December 3, 2014. Meeting conducted by the Confederated Tribes of the Chehalis Reservation and Ecology with technical staff and consultants.
- Correspondence between the Quinault Indian Nation President, the Honorable Fawn Sharp, and Ecology Regional Planner, Diane Butorac regarding the scope of the environmental review process. (September and October 2014).

The potentially affected, federally recognized Native American tribes include the Quinault Indian Nation and the Confederated Tribes of the Chehalis Reservation. DAHP and City of Hoquiam are additional consulting parties. Copies of relevant agency and tribal correspondence are provided in Attachment A.

Chapter 3
Environmental and Cultural Setting

This chapter describes the environmental and cultural setting of the study areas. This information helps with characterizing cultural resources sensitivity in the study areas, informs the evaluation of these resources, and is used to frame the research design and methods used for the cultural resources study.

Environmental Setting

Geology

The study areas are located within the Willapa Hills geomorphic province; a region characterized by uplifted bedrock ridges and hills, barrier beaches, and the estuaries of Grays Harbor and Willapa Bay. The province is bounded by the Olympic Mountains to the north, Puget Lowlands to the east, Pacific Ocean to the west, and Columbia River to the south. The study area is underlain by basalts formed during the Eocene epoch (around 56 million to 34 million years ago) and sedimentary rock derived from marine sediments deposited along the Washington coast during the Tertiary period (around 66 million to 2.6 million years ago) (Schuster 2009).

During the Pleistocene epoch (around 2.6 million to 12,000 years ago), the Puget Lowland and northern margin of the Olympic Peninsula were intermittently covered by glacial ice, which advanced southward from British Columbia (Troost and Booth 2008:2). Although the study areas were located below the southern-most extent of the glacial ice, glacial meltwater from the Puget Lowland drained into the Pacific Ocean through the lower Chehalis Valley, within which Grays Harbor and the study areas are located. Most recently, during the Vashon Stade of the Fraser glaciation or Vashon advance (around 18,750 to 16,950 years ago), glacial meltwater that pooled against the southern margin of the Puget Lobe ice sheet flowed into the lower Chehalis valley through a series of low-lying drainages, including the Black Lake spillway in Olympia and Ohop Channel near Eatonville (Bretz 1914). As the water drained through the lower Chehalis valley, thick deposits of gravels and sands were deposited across the valley, including the Grays Harbor basin (Peterson and Phipps 1992). As glacial ice retreated farther north during this period, a lower elevation drainage was exposed along the northeastern edge of the Olympic Peninsula near Chimacum (Troost and Booth 2008). Following the exposure of this drainage, glacial meltwater ceased to drain through the lower Chehalis valley.

As a result of the large volumes of water trapped in continental glaciers during the late Pleistocene epoch, global sea levels were significantly lower than at present; extending as much as 125 meters below their current levels approximately 15,000 years ago. From around 15,000 years ago to around 7,000 years ago, global sea levels rose to around 5 to 8 meters below their current elevation, with sea levels approaching their present elevation approximately 2,000 years ago (Flemming et al. 1998). Although local geologic factors can affect the magnitude of local sea-level change, the Grays Harbor basin appears to have undergone sea-level rise comparable in timing and scale to the global pattern of sea-level rise (Peterson and Phipps 1992). As sea levels rose, the lower course of the Chehalis River became inundated and formed Grays Harbor, which began to in-fill with sands and

silts (Peterson and Phipps 1992; Alt and Hyndman 1995). Geoarchaeological cores collected just over 0.75 mile east of the study areas along the Grays Harbor shoreline revealed that Holocene-aged silts and sands range from 85 to 115 feet in thickness (Phipps 2009), an observation roughly corroborated by geotechnical borings excavated within the study areas (Heller and Phelps 2014).

The Washington coast parallels the Cascadia Subduction Zone, which extends from northern California to southern British Columbia where the Juan de Fuca plate subducts beneath the Pacific plate. As a result of the friction generated at the contact between the two plates, the Washington coastline undergoes long periods of gradual uplift that are interrupted by sudden slips, resulting in rapid coseismic subsidence (Leonard et al. 2010). Evidence of at least eight subsidence events have been documented in the Grays Harbor area from around 5,400 years ago to around 300 years ago (Atwater 1992; Phipps 2007), with rates of subsidence ranging from 0.5 to 2.0 meters (Atwater 1987; Dareienzo and Peterson 1990; Nelson 1992). Coarse-grained sediments deposited by tsunamis, which are the result of the sudden displacement of water associated with rapid subsidence, have been documented in geotechnical cores and cutbanks throughout Grays Harbor (Phipps 2007).

Both the Washington Interactive Geologic Map and the U. S. Soil Conservation Service describe the study areas as being primarily in-water (Washington Geological Survey 2014; Pringle 1986), a function of these areas having been used as slips during the middle to late twentieth century before being diked and filled (see historic context discussion below) (Figure 3-1). Both sources also describe the vicinity of the study areas as comprising alluvial silts and sands (Washington Geological Survey 2014; Pringle 1986).

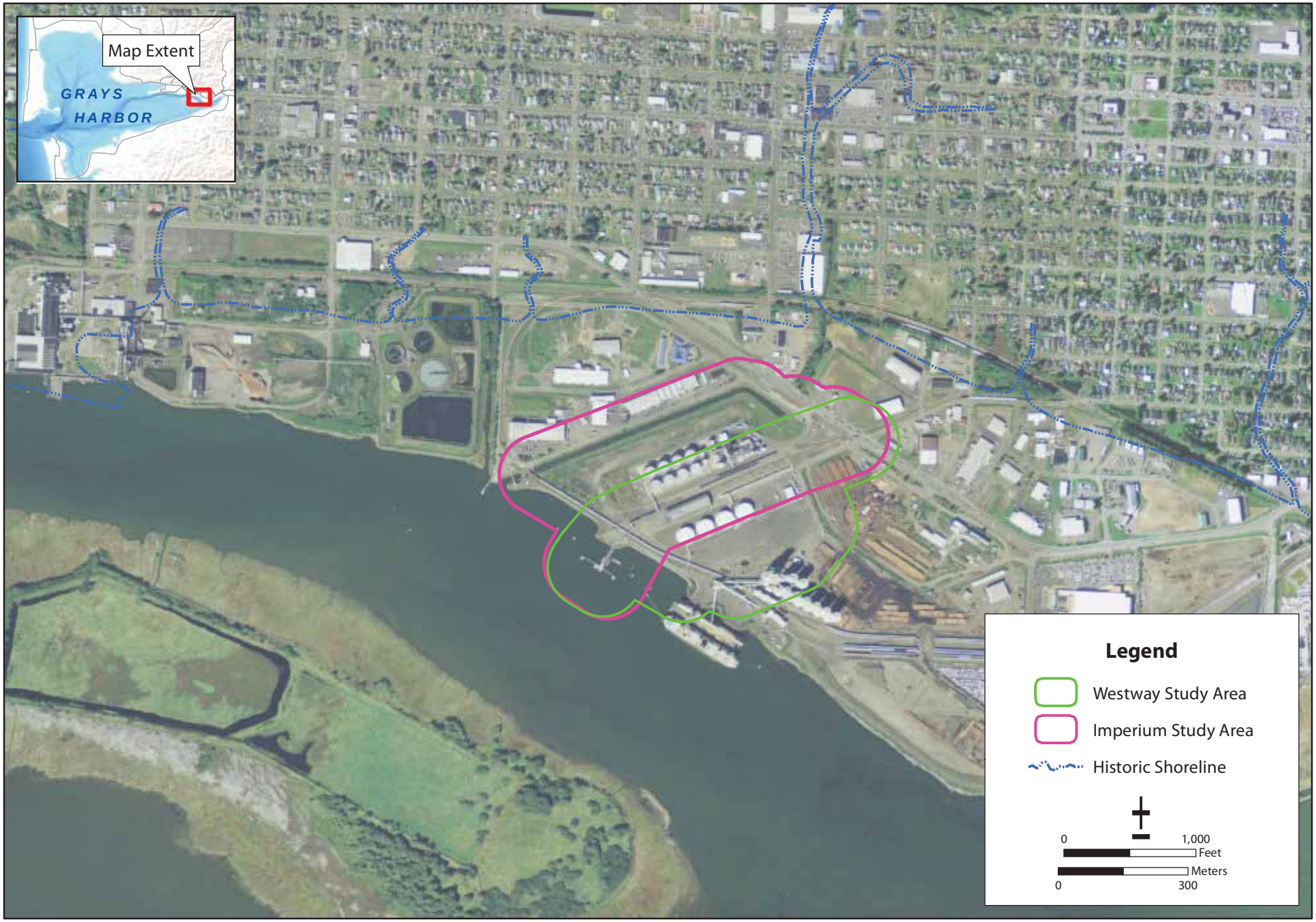
Flora

Grays Harbor is located within the sitka spruce (*Picea sitchensis*) vegetation zone, a long narrow area that stretches along the Washington and Oregon coast. Forests in this area are typically very dense, and most commonly consist of sitka spruce, western hemlock (*Tusga heterophylla*), and western red cedar (*Thuja plicata*). Red alder (*Alnus Rubra*) is most abundant in recently disturbed sites (Franklin and Dyrness 1988). Understory shrubs of potential food value for Native Americans within the sitka spruce zone include, but are not limited to, salal (*Gaultheria shallon*); blueberries and huckleberries (*Vaccinium* sp.); blackberry, salmonberry, and thimbleberry (*rubus* sp.); and red elderberry (*Sambucus racemosa)*. Geophytes, such as common camas (*Camassia quamash*) and tiger lily (*Lilium columbianum*), were collected when available (Pojar and Mackinnon 1994; Gunther 1945).

The study areas are located along the Grays Harbor shoreline, an environment that can support several traditionally used salt-tolerant plant species; including, but not limited to, Pacific silverweed (Potentilla anserina); springbank clover (*Trifolium wormskkjoldii*), northern rice-root lily (*Fritillaria camschatcensis*), and Tule (*Scirpus lacustris*) (Pojar and Mackinnon 1994: Deur 2005)

Fauna

Terrestrial faunal resources in the region include, but are not limited to, mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), black bear (*Ursus americanus*), squirrels (*Scirius* sp.), muskrat (*Ondatra* sp.), and raccoon (*Procyon lotor*) (Eder 2002).



Sources: Site Design, Skillings Connely, 2014; NOAA Historic Shoreline Data (2014) Aerial Imagery, ESRI Basemap, 2010

Figure 3-1
Historic Shoreline Location in the Study Areas and Vicinity (1909-1911)
Westway and Imperium Expansion Projects

Aquatic faunal resources include the river otter (*Lontra canadensis*); ducks, and geese (*Anas sp*.) (Ames and Maschner 1999); Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), and chum (*O. keta*) salmon; and steelhead (*O. gairdnerii*). The Hoquiam River has fall Chinook, chum, and both late and early coho runs (Phinney and Bucknell 1975). Marine faunal resources in the harbor include the cutthroat (*Oncorhynchus clarki clarki*) and steelhead trout (*O. mykiss*), eulachon (*Thaleichthys pacificus*), starry flounder (*Platichthese stellatus*), Pacific herring (*Clupea pallasi*), white (*Acipenser transmontanus*) and green sturgeon (*Acipenser medirostris*), Northern anchovy (*Engraulis mordax*), Pacific lamprey (*Lampetra tridentatus*), and English sole (*Pleronectes vetulus*) (Pacific State Marine Fisheries Commission 1996).

Although Grays Harbor has shellfish resources in addition to vertebrate faunal resources, they tend to decrease in frequency and variety east of where Grays Harbor feeds into the Pacific Ocean. As a result, no shellfish are currently thought to inhabit the shores of the study areas (Herrmann 1972). The mouth of the Hoquiam River, however, was known for large quantities of bay mussels (*Mytilus trossulus*) in the early historical period (Van Syckle 1982).

Cultural Setting

Precontact Context

Cultural developments of the outer Washington coast (hereafter referred to as the Washington coast) have been considered in summaries of regional cultural patterns in the Pacific Northwest (Matson and Coupland 1995; Ames and Maschner 1999; Moss 2011) and with regard to local cultural and archaeological sampling patterns (Wessen 1998). Studies of the archaeology and prehistory of the Pacific Northwest divide the prehistoric cultural sequence into multiple phases or periods from about 12,500 to 225 years BP, and are delineated by changes in regional patterns of land use, subsistence, and tool types over time. These phases are academic constructs and do not necessarily reflect Native American viewpoints. This document uses the Pacific Northwest coast cultural sequence provided by Ames and Maschner (1999) to help describe patterns in precontact cultural developments of the Washington coast. The sequence includes five periods, which are briefly summarized below:

Paleo-Indian (prior to 12,500 BP). The Paleo-Indian period is characterized by sparsely distributed highly mobile groups that primarily used terrestrial resources. Assemblages include large stone bifaces and bone technology. No archaeological sites from the Paleo-Indian period have been documented along the Washington coast. The nearest archaeological sites from the Paleo-Indian period are located in the Puget Sound region on upland glacial plains.

Archaic (12,500 to 6,400 BP). The Archaic period is characterized by increased technological diversity relative to the Paleo-Indian period. Typically located on alluvial terraces, assemblages include leaf-shaped bifaces, cobble, flake, and bone tools. Evidence of littoral resource use begins to appear during this period in the larger Pacific Northwest region; particularly Southeast Alaska and British Columbia; but not along the Washington coast. Some inland lithic artifacts scatters on the Olympic Peninsula appear to have attributes similar to Archaic- to Early Pacific period archaeological assemblages from the Puget Sound.

Early Pacific (6,400 to 3,800 BP). The Early Pacific period is characterized by expanded use of intertidal resources and increased dependence on bone and antler tools relative to the Archaic

period. Assemblages include bone points, barbs, and harpoons; ground stone points and celts; and shell middens. Although evidence for the use of upland and riverine resources continued, the earliest evidence for littoral resource use in the Puget also occurs during this period. No archaeological sites from the Early Pacific period have been documented along the Washington coast.

Middle Pacific (3,800 to 1800–1500 BP). The Middle Pacific period is characterized by the first evidence of permanent social inequality, as well as a shifting emphasis to a storage-based economy, intensification of salmon fishing, an increase in the variety of bone and antler tools, and near-modern art styling. Assemblages include artifacts similar to those associated with the Early Pacific period as well as plank house remains, wooden boxes, toggling harpoons, fish hooks, and fish rakes. Sites situated along the littoral zone become prevalent during this period.

Late Pacific (1800–1500 to around 225 BP). The Late Pacific period is characterized by the emergence of extremely large houses, heavy-duty woodworking tools, and a decreased reliance on chipped stone tools. Assemblages include artifacts similar to those associated with the Middle Pacific period.

The precontact archaeological record for the Washington coast is almost exclusively comprised of sites with contents that are consistent with assemblages from, or have been dated to, the Middle and Late Pacific periods. This clustered chronological distribution is thought to be largely a function of coastal geomorphic processes and archaeological survey design bias (Wessen 1998; Elder et al. 2014). Many of the sites along the Washington coast are shell middens with bone and ground stone tools and very few chipped stone artifacts; consistent with many Late Pacific period archaeological sites. [*Text containing sensitive information was removed.*] Although the contents of the shell middens of the Washington coast are consistent with those located elsewhere on the Pacific Coast, Wessen (1998) observes a distinction between the relative frequency and types of resources represented in shell middens along the northern and southern Washington coast. For example, northern coast shell middens tend to contain an abundance of marine mammal remains, while northern coast shell middens tend to be dominated by terrestrial mammal remains.

Two well-documented archaeological sites with organic materials preserved in saturated environments, termed *wet sites*, are located along the northern Washington Coast. [*Text containing sensitive information was removed.*] The similarity between many of these items and those used by Native Americans during the early historic era illustrates a long-standing continuity in a variety of cultural activities, most notably basket weaving form and style (Croes 1977). In addition to the two wet terrestrial sites identified above, the Washington coast has several documented wooden precontact intertidal fish capture facilities, termed *fish weirs*. [*Text containing sensitive information was removed.*] These facilities, combined with the numerous wood and bone fishing implements identified in middens and wet sites along the entire Washington coast, reflect the importance of marine resources to the precontact inhabitance of the region.

Ethnographic Context

The vicinity of the study areas was traditionally inhabited by the Hoquiam and Wishkah people, who spoke the Lower Chehalis dialects of the Salish language. Both groups lived along the banks of the rivers that share their namesakes. The waters in the vicinity of the study areas, including the mouth of the Hoquiam River, were also seasonally used for fishing by the Quinault people, who spoke the Quinault dialect of the Salish language (Gibbs 1877; Curtis 1913; Hajda 1990).

Grays Harbor, the landscape feature that the study areas fall within, was an important hub for habitation, resource collection, and travel for coastal Native American groups. It served as a passage for coastal tribes to the Puget Sound by way of the Chehalis River, and to the Columbia River by way of the Chehalis River and then the Cowlitz River. As a productive fishing area, Grays Harbor was used by numerous Lower Chehalis-speaking groups, as well as the Quinault. As a result of this use, the Native American groups of Grays Harbor maintained strong relationships and trade networks with each other and with neighboring groups from the Upper Chehalis, Quinault, and Shoalwater Bay—relationships strengthened by intergroup marriages (Miller 2009).

The waters of Grays Harbor were traditionally, and continue to be, important fishing areas for Native Americans in the region, while the shores served as productive hunting and plant gathering areas. Consistent with many Salish speaking groups, the precontact peoples of the Grays Harbor area relied on fisheries for a large portion of their diet. Salmon fishing occurred throughout Grays Harbor and its associated rivers and creeks; and was particularly fruitful at the mouth of the Hoquiam River (Welsh 1942:10; VanSyckle 1982:74). Salmon were caught with weirs, hooks and line, spears, gaffs, and drift nets. In addition to salmon, precontact peoples also caught eulachon, flounder, herring, lamprey, smelt, sole, and sturgeon. Sturgeon were usually caught with a large hook and line, but were also netted in conical bag nets between two canoes. Herring, smelt, and eulachon were caught with rakes and dip nets from canoes (Miller 2009); and the Hoquiam people used weirs built on or near eelgrass beds where herring spawned (Adamson 1969:329–342). Flounder and sole were captured by feeling along the mudflats with the feet and either impaling the fish with a sharp stick between the toes or holding it to the ground with the foot while another participant would dive down and grab it. Lampreys were captured by hand at night using a pitch torch (Miller 2009).

The Grays Harbor shoreline provided habitat for terrestrial mammals, avians, and plant resources. Land game, which included bear, beaver, deer, elk, and otter, were hunted with bow and arrow, spears, and traps. Waterfowl was caught using duck spears, pole nets thrown from canoes, submerged or aerial net traps. Edible plants, such as berries, roots, and bulbs, were collected along the rivers and tide prairie. Sweetgrass (a particularly important traditionally used plant), cattail, swampgrass, and stinging nettle were collected for weaving and textiles. Nettle was also used to make nets and line for fishing (Miller 2009).

Contact with European Americans prompted rapid change to traditional life among Native Americans in the Pacific Northwest. Starting in the early nineteenth century, fur trade routes were established and a limited number of European Americans regularly visited the region, introducing metal tools, new clothing styles, and foods. This initial contact was followed shortly thereafter by a malaria epidemic that devastated native populations (Boyd 1985). Beginning in the 1840s, large groups of European Americans made their way into the region as part of a large wave of settlers and homesteaders, prompted in part by the passing of the Treaty of Washington in 1846 and the Oregon Donation Act of 1850. As a result of this influx, traditionally used lands became increasingly inaccessible (Ruby and Brown 1995).

Following unsuccessful negotiations with Governor Isaac Stevens for the establishment of a reservation in 1855, the United States government obtained title to Native American lands in Grays Harbor without consent. After being removed from their traditional lands, descendants of the Hoquiam and Wishkah now live on the Confederated Tribes of the Chehalis Reservation, Quinault Reservation, or live in communities in the vicinity of their traditional territory (James and Martino 1986; Ruby and Brown 1995).

Ethnographically Named Places near the Study Areas

At least three ethnographically named places are located within a few miles, but outside, of the study areas. These places include: *xwa'qwyamc* (the Hoquiam River), *Ho-kwa-im-its* (a village located at the mouth of the Hoquiam River), and Cow Point (a fishing area/camp east of the study area) (James and Martino 1986; Miller 2009). Although other areas of ethnographic significance are undoubtedly located in the vicinity of the study areas, they do not appear to be documented in the available literature.

Historic Context[3]

Maritime explorers and fur traders were the first Euro-Americans to explore what is now known as Grays Harbor, arriving during the late eighteenth century. Captain Robert Gray, sailing the American ship Columbia Rediviva, first entered the mouth of the Columbia River on May 7, 1792, seeking to establish a fur trade foothold for Boston merchants (Scofield 1993; Van Syckle 1982). He next traveled further north, where he encountered Grays Harbor and named it "Bulfinch's Harbor" after his ship's owner. About 6 months later, Lieutenant Joseph Whidbey of the Vancouver expedition followed Gray's route, entered Grays Harbor, and renamed the bay in honor of Gray (Hanable 2004; Hayes 1999; Van Syckle 1982). Many years later, in 1824, a Hudson Bay Company crew traveling to the Puget Sound via the Columbia River next passed through the vicinity of present-day Aberdeen and Hoquiam initiating the first of many Euro-American incursions into the region.

Settlement

Settlement in the Grays Harbor region increased significantly following the signing of the Oregon Treaty in 1846, in which Britain ceded all claims to land south of the 49th parallel to the United States. The Washington Territory was established in 1853 and Chehalis County (whose name was changed to Grays Harbor County in 1915) formed the following year (Douglas 1914; Wilkes 1845; Wilma 2006; Work 1912). Although Grays Harbor would eventually become the sawmill capital of Western Washington, the area's earliest settlers were typically cattle and dairy farmers who sought to clear the land of its thick forests. Discoveries of gold in the Fraser River region of British Columbia helped further spur this development, due to the increased demand for beef and butter.

Several communities emerged to support this early settlement. Cosmopolis, a lumber-company town, was founded in the early 1850s on the Chehalis River's south shore, approximately 3.5 miles east of present-day Aberdeen, followed by the towns of Hoquiam and Aberdeen in the late 1850s.

Hoquiam

Hoquiam was initially established on the west bank of the Hoquiam River where it enters Grays Harbor. The first settlers in what is now Hoquiam were Samuel James, Roger James, Edward Campbell, Selucius Garfield, and James Karr. Samuel James claimed land along the harbor's north shore in 1857 and John Rogers James filed a 160-acre claim that encompassed nearly all of present-

[3] Portions of this section were adapted from David W. Harvey and Katheryn H. Krafft, *Historic Resources Survey and Inventory of the Cities of Aberdeen and Hoquiam, Washington*, prepared for the Washington State Department of Community Development and the Washington State Department of Archaeology and Historic Preservation (1988).

day Hoquiam that same year. Similarly, Campbell and Garfield staked claims on the Hoquiam River's east bank in 1858 and James Karr moved into Grays Harbor from Oregon in 1859 (Lamb 1948).

Edward Campbell applied for and received a commission from the United States government to establish a post office at the mouth of the Hoquiam River in 1867. When applying for the commission, Campbell chose the name "Hoquiam," after some wrangling over its spelling. The local indigenous name for the Hoquiam River, it was commonly spelled "Hokium" at the time Campbell served as Hoquiam's postmaster until his retirement in 1887 (Goings 2008).

By the mid-1860s the land along the lower Hoquiam River was largely settled, increasing demand for infrastructure such as roads, schools, and mail service. However, Hoquiam and other Grays Harbor communities remained largely isolated from the outside world with only a few scattered farms and few established transportation routes until the 1880s. In 1879, the arrival of the steam schooner Kate & Ann initiated greater access to the region's vast timber and fishing resources for the first time and introduced an outlet for local products (Birks 1938). Shipping routes between Grays Harbor communities, Portland, and an increasing number of other cities nationwide soon enabled the development of the region's logging and timber industries (Van Syckle 1982).

During this period, Hoquiam transformed from a small agricultural community into a modern industrial city. Spurred by new sawmills, logging camps, and the potential for a local Northern Pacific terminal, the town's population increased from 400 to 1,500 between 1889 and 1890 and doubled again between 1890 and 1900. By 1910, the population was 8,200 and featured "three theatres, nine churches, two banks, a public library, a Young Men's Christian Association (YMCA) facility, three major hotels, numerous boarding houses, and dozens of up-scaled residences" (Hoquiam Public Library). In 1913, the city reached a population of 14,000 residents with the largest payroll per capita in the state.

Aberdeen

Aberdeen is located at the confluence of the Wishkah River where it enters Grays Harbor. Like Hoquiam, it emerged in the late-nineteenth century as a prominent industrial center based on harvesting, processing, and exporting the region's natural resources. The location that would eventually become downtown Aberdeen was originally settled by Samuel Benn. Benn had first claimed a tract of land in the Chehalis River valley in the 1850s and later traded this claim for land at the mouth of the Wishkah River. He eventually owned 600 acres in the area. By 1875, the James Stewart and Alexander Young families joined Benn, also with claims along the Wishkah River. These three families constituted the small settlement through the early 1880s.

A turning point in Aberdeen's development occurred in 1883 when civil engineer D.W. Fleet surveyed and platted the townsite of Wishkah on the river's east side. Later that year, Fleet likewise platted the townsite of Aberdeen on the river's west side for Samuel Benn. The new town was named by stockbrokers of the Aberdeen Packing Company, which established a cannery at the mouth of the Wishkah River in 1877. Their home city of Aberdeen, Scotland, featured a similar cannery also built at the mouth of a river.

Recognizing the potential of the harbor's vast timber resources, Benn provided the necessary land inducements for lumber companies to establish mills on Aberdeen's waterfront. A. J. West established the first sawmill in Aberdeen in 1884, and was soon followed by J. M. Weatherwax (the Anderson-Middleton Mill), Emery, Mack & Wood (the American Mill), and the Wilson Brothers mill (on the present site of the Wishkah Mall).

With this development, the community's population increased from its first three families in 1875 to over 1,400 people by 1890, despite the town being rebuilt twice due to devastating fires. It was initially populated primarily by single men, who worked in the nearby mills, shipyards, and logging camps, with a transient population of as many as 2,000 single men living on lower Heron and Wishkah streets at one time.

By the turn of the century, the lumber industry had turned Aberdeen into an industrial giant. The city had six sawmills, a stave factory, one cooperage, sash and door factories, salmon canneries, and two shipyards. In 1900, the mills' daily output of cut lumber was reported as being as high 450,000 board feet and a staggering total of 250 million logs were delivered to the mills (Weinstein 1978:25). This industrial development led to an ever larger residential population. The town's population reached 14,000 residents by 1909 and exceeded over 20,000 residents by the end of World War I.

Industry

Harvesting and processing local natural resources, primarily timber, has defined the communities of Aberdeen and Hoquiam since their founding. Benefiting from vast expanses of fir, hemlock, cedar, and spruce trees combined with deep wide rivers, the Grays Harbor region was quickly discovered and exploited by enterprising lumbermen. Grays Harbor's first sawmill was constructed on the bank of the Chehalis River in early 1852, followed by many other small operations. By 1881, local lumber mills began to export lumber to distant markets. When the Simpson-Emerson mill was completed in 1882, it became the first sawmill in the area created specifically for export (Lamb 1948; Pettit 1939; Van Syckle 1980, 1982). Soon after opening, the mill reached a daily production volume of 100,000 board feet, and schooners waited their turn in the bay to load their cargoes.

By 1890, the local lumber industry had evolved into a large-scale commercial business and had diversified to include wood shingles and ship building. Growth continued with completion of a railroad to the area in 1898, which connected Grays Harbor to new markets and provided access to regional and national rail transport (Cox 1974). By the end of the nineteenth century, these qualities made Grays Harbor one of the most important lumber-shipping ports on the West Coast (Andrews 1957; Cox 1974; Lucia 1965).

The lumber-dependent economy of Grays Harbor thrived in the early 1900s and peaked in the 1920s. Responding to the insatiable demands of East Coast, Asian, and California markets, especially in San Francisco following the 1906 San Francisco earthquake, Grays Harbor became the leading exporter of timber and finished lumber on the West Coast during the first two decades of the twentieth century. Related industries also developed and succeeded in direct relation to the mills. Hoquiam's first electric light plant was built on the Simpson-Emerson Mill yard in 1883, and the North Shore Electric Company was built on the tideflats west of the shingle mill in 1891 (Sanborn Fire Insurance map 1902; Van Syckle 1982). Electric plants in the area provided power to the mills and electric railways alike (Van Syckle 1982).

The economic hardships of the Great Depression greatly impacted the Grays Harbor region, as it did other parts of the country. During the 1930s, nine Grays Harbor's mills ceased operations and closed due to the collapse of the national housing industry and decreased demands for lumber (Pettit 1939; Van Syckle 1980). Despite the slowdown, however, several significant technological advances emerged during this period, which partially mitigated the area's economic decline. The most prominent of these advances was the formation of new wood products from wood fibers, such as

plywood. During the 1930s, Grays Harbor became the leading plywood-producing center on the West Coast for plywood production.

Despite the advancements of the plywood industry, Grays Harbor's timber and lumber industries never fully recovered from the Great Depression. Old-growth forests were decimated from years of unchecked harvesting, and an absence of proper resource management resulted in a lack of new stands of timber for decades. Modern forest management practices were implemented in the 1940s and the Forest Practices Act was enacted in 1946 to help alleviate these issues and stabilize future timber resources (Wilma 2006).

In the late twentieth century, increased foreign demand and lower overseas labor costs posed another substantial threat to the timber industry. During Asia's economic boom in the 1960s, foreign mills subsidized by the Japanese government were able to outbid the American mills time and again. Washington State consequently lost as much as 40% of its wood-processing capacity between 1965 and 1975. Since then, the lumber and wood products industry has been Washington's third largest manufacturing sector, accounting for 10% of all manufacturing output (Wilma 2006).

Transportation

Since Grays Harbor was not the primary consumer of most of its wood products, transportation of the milled and raw lumber played a key role in the development of the region's industry and local economy. The two primary modes of transportation were by ship or by rail. The development of each involved overcoming certain financial and natural barriers, specific to Grays Harbor's unique characteristics and geography.

Shipping

Shipping by water was the primary method for getting finished lumber to Grays Harbor's increasingly distant customers, prior to the development of railroads. However, navigating the waters of Grays Harbor was no easy task. In the late-nineteenth century, approximately nine-tenths of Grays Harbor consisted of exposed tideflats at low tide, making it nearly impossible for ships to access the shoreline (Davidson 1889). The first dredging of the Grays Harbors Navigation Channel began in 1889. Regular dredging continued to be carried out to provide safe passage for ships well into the twentieth century and remains a significant issue today.

A regional shipbuilding trade also emerged in Grays Harbor in the late-nineteenth century. Given its high volume of shipping and readily available supply of lumber, Grays Harbor attracted some of the country's best-known shipbuilders to the region. The first vessel built in Grays Harbor, a schooner, was constructed in 1887 at the Northwestern mill in Hoquiam. Grays Harbor's shipyards produced all kinds of ships, including three and four masted schooners and steam schooners (Van Syckle 1980). The 1906 San Francisco earthquake, in particular, spurred the industry by creating a large demand for lumber from Grays Harbor to rebuild the city, and for the ships to transport it. Soon, finished lumber was transported to destinations around the world by ships built in Grays Harbor. Between 1895 and 1915, some 50 vessels were built by local shipyards and, at the height of World War I, nearly 4,000 men were on shipyard company payrolls (Van Syckle 1980).

Railroad

The Northern Pacific Railroad was the first major railroad line to serve the Grays Harbor region. Its arrival spurred the early growth of Aberdeen, Hoquiam, and other burgeoning communities in the area, as they competed to become the railroad's west coast terminus.

The first portions of the Northern Pacific's Grays Harbor Branch were completed in 1892. The railroad extended west from Elma to Junction City near Aberdeen, but then turned south over the Chehalis River to Cosmopolis. The Northern Pacific Railroad initially elected to bypass the towns of Hoquiam and Aberdeen, instead opting to establish an entirely new town to serve as the line's terminus. The new town was a speculative venture named Ocosta-by-the-Sea, today known simply as Ocosta.

Despite its billing as the "Metropolis of the West," its location proved a poor chose for the railroad, due to the harbor's shallows and failed attempts to dredge the bay's south channel. As early as 1891, the Northern Pacific entered into discussions with the town of Aberdeen for relocation of the terminus and the construction of a railroad depot. The Depression of 1893 and a widespread railroad strike in 1894 provided even more impetus to the Northern Pacific to search for a more viable terminus.

In 1893, the Northern Pacific reached an agreement with Aberdeen for the construction of a new 2-mile spur line into the town from Junction City. Resourceful Aberdeen and Hoquiam citizens recognized the opportunity to finally have full railroad service and decided to build the connecting spur to the Northern Pacific line at Junction City themselves. In Aberdeen, local lumbermen donated materials for tracks and ties, and Samuel Benn offered free lots to those that volunteered their labor. The line was completed in 1895 and subsequently turned over to Northern Pacific. Local folklore maintains that the Aberdeen spur was constructed using rails salvaged from the British bark Abercorn, which sank at the entrance to Grays Harbor in June of 1888. The rails, which had lain in salt water for nearly six years and were pitted, reportedly creating a unique sound when trains ran across them.

In 1898, the Northern Pacific extended the Grays Harbor Branch rail line an additional 4.6 miles over the Wishkah and Hoquiam Rivers, through central Aberdeen to Hoquiam. Construction of the railroad included a wood bridge over the Hoquiam River, a wood trestle over the tide flats, and the erection of Hoquiam's Northern Pacific Railroad Depot. The wood bridge was replaced by the existing bridge in 1909 and the wood trestle was removed and in-filled with dredge materials.

The railroad line through Aberdeen and Hoquiam serviced the many mills and industries that once existed along the waterfront in these communities, and provided passenger service between Grays Harbor and the Seattle/Tacoma area. The Northern Pacific Railroad line continued west toward the Pacific, terminating in the town of Moclips, Washington. The railroad later became connected with three transcontinental routes. Regularly scheduled passenger service continued through the 1950s, when the Northern Pacific canceled the Seattle-Hoquiam passenger trains in February 1956. Today, the route is operated by the PS&P rail line and carries freight service for the Port and other area industries.

Port of Grays Harbor[4]

The Port was first established in 1911, following the passage of the Washington Port District Act in March of that same year. Prior to the act's passage, port facilities largely consisted of docks and piers built by the private mill companies in Aberdeen, Hoquiam, and other communities, for their own use. Many of these mills were located along the shorelines of Grays Harbor or the Chehalis or Wishkah Rivers. These locations more easily accommodated the processing of timber, which would be rafted down rivers from logging camps, and the subsequent export of milled lumber on ocean-going ships to distant markets.

The intent of the Port District Act was to provide the basis for comprehensive planning efforts and large-scale infrastructure improvements that would foster increased economic development in Washington's port cities. The Panama Canal was under construction in 1911 and provided strong incentives to local businessmen to help ensure that Grays Harbor was able to handle the influx of large cargo vessels expect to pass through the canal. Grays Harbor was the only deepwater port north of San Francisco on the United States' west coast, and its location was much closer to Asian ports than either California or Puget Sound ports at the time. The economic opportunities were tremendous, and many other Washington ports faced similar challenges and opportunities.

The act authorized the formation of public port districts, which could develop new port facilities and fund their construction with property taxes, bond issues, and by other means. Dredging Grays Harbor's inner harbor channels, for example, required significant outlays of capital that no one business typically could afford. By dredging the harbor, new docks and common freight-handling facilities could be developed that would help attract new businesses to the region.

Three months after the act's passage, area business owners organized an effort to create the Port. County commissioners agreed to put the measure before voters in December 1911. Proponents of the port district's creation targeted the County's farmers for support, arguing that a developed port would provide more markets for farm produce, as well as increase land values. Many of Grays Harbor's timber and mill companies, the County's largest landowners, opposed the plan. They opposed the increased taxes it would incur and stood to gain less in the short term from the creation of a public port, as they already had their own docks and operated their own freight-handling equipment.

Voters overwhelmingly approved the creation of the Port on December 12, 1911. The Port was the second in the state (after the Port of Seattle) and its jurisdiction encompassed the entire county, divided into three districts: Hoquiam, Aberdeen, and East County. From 1911 through the 1920s, the Grays Harbor Port commissioners worked to establish a public terminal, acquire land, develop a comprehensive plan, and overcome opposition to port development. Initial improvements included dredging navigation channels, adding piers and slips, filling tidelands, adding a railroad avenue in Hoquiam, and removing two bends in the Wishkah River.

Marine Terminal No. 1, the Port's first public terminal facility, was constructed at Cow Point in 1921–1922. The land for the facility was deeded to the Port in 1913 by the Washington legislature, initially amounting to 68.744 acres. It was purposely located on the waterfront at the border of

[4] Portions of this section were adapted from Jennifer Ott, "Port of Grays Harbor becomes Washington's second public port on December 12, 1911," *HistoryLink.org* Essay 9390 (April 08, 2010), online document: http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=9390, accessed December 2014.

Hoquiam and Aberdeen, to prevent disputes over which town would benefit more from future improvements. The facility was designed by Charles A. Strong, a civil engineer from Tacoma, who was hired by the Port in March 1920 to develop a 5-year plan for carrying out Port projects. The plan called for an extensive dredging program for the inner harbor and river, and the construction of new dock facilities at Cow Point.

The dock at Cow Point, known as Pier 1, opened on September 22, 1922. It featured a 2,000-foot by 300-foot dock with a slip along its west side (Slip 1). To facilitate the transfer and storage of goods, a large warehouse was constructed on the dock, which could hold 20 million board feet of lumber. The terminal was likewise equipped with a 5-ton traveling crane and other freight-handling equipment. A second slip (Slip 2) was constructed east of the new pier shortly thereafter.

Grays Harbor residents immediately received a positive return on their investment, when the Trans-Marine Corporation announced that it would begin direct shipments to Grays Harbor instead of sending cargo through San Francisco. New development continued through the 1920s as Grays Harbor experienced prodigious growth in lumber exports, and expected shipping from the Panama Canal began to realize its full potential. Lumber exports grew enormously each year, and the Port celebrated its billionth board foot on December 21, 1924. Thereafter, exports surpassed a billion feet annually until the onset of the Great Depression, making the Port the largest lumber-exporting port in the world during this period.

The Great Depression abruptly ended the region's lumber boom. The Port struggled to maintain its facilities and to continue dredging operations during the 1930s, but recovered with assistance from the federal government. Thereafter, lumber exports continued to fuel the economy of Grays Harbor and provided the bulk of the Port's business into the 1980s.

Capitalizing on postwar growth, the Port established a newly formed Industrial Development Districts in the 1960s to attract new commercial and industrial industries to the area. This effort included the construction of new warehouses, manufacturing plants, and other facilities in the previously undeveloped lands around Marine Terminal No. 1. For example, the original warehouse on Pier 1 was removed in 1962 and replaced by the construction of Warehouse E, now on Westway's property. The Longshore Federal Credit Union at 3107 John Stevens Way and the warehouse now occupied by Paneltech, Inc., at 2999 John Stevens Way were also constructed during this period.

The Port pursued further development in the late 1970s and 1980s, which significantly altered the Port's waterfront facilities. The Port began the construction of Marine Terminal No. 2 in 1979 and coordinated with the U.S. Army Corp of Engineers (USACE) to dike and fill Slips 1 and 2. Slips 1 and 2 were diked and filled by the Port beginning in 1983 to create new areas for development. Fill material largely consisted of dredge spoils from maintenance dredging at Cow Point and navigation channel improvement projects carried out in the late 1980s and early 1990s. Both slips were completely filled by 1992 (Cowan 2013). The construction of Marine Terminal No. 2 was completed during this period, and a berth for large ocean-going vessels dredged in front of the new pier (U.S. Army Corps of Engineers 1978a, 1978b, and 1989).

Some of the Port's most recent improvements have included the development of a Walmart on Port property along Port Industrial Road, a federally funded dredging project to further deepen the inner harbor's navigation channels to accommodate ever-larger ocean-going vessels, and the construction of the Imperium Grays Harbor biodiesel processing and storage facility in 2006 and the Westway Terminals LLC's liquid bulk transfer facility in 2009, both at Marine Terminal No. 1 (Ott 2010; Port of Grays Harbor 2014; Boersema 2013). The Port likewise retains an active railway connection,

currently operated by the PS&P. It connects with the BNSF and the Union Pacific lines near Chehalis, Washington. The dredging project and the rail connection, in particular, have made it possible for the Port to construct a bulk handling facility at Marine Terminal No. 2 and establish a new auto export operation. The former was developed by AG Processing in 2010 and the latter by The Pasha Group in 2011 (Port of Grays Harbor 2013).

Chapter 4
Literature Review

In September 2014, ICF conducted a literature review and records search using DAHP's online Washington Information System for Architectural and Archaeological Records Database (WISAARD) to identify previously completed cultural resources studies and previously documented archaeological, ethnographic, and historic resources within a 1-mile radius of the study areas. WISAARD contains all the records and reports on file with DAHP, including completed cultural resources survey reports, properties listed in or determined eligible for listing in the NRHP, documentation of WHR-listed properties, archaeological sites, cemeteries, and inventoried built environment resources.

[*Text containing sensitive information was removed.*] Table 4-1 summarizes the findings of previous cultural resources surveys.

Table 4-1. Cultural Resources Studies Conducted within 1 Mile of the Study Areas[a]

NADB #	Report Title	Author/Date	Description	Resources
N/A	*Cultural Resources Assessment for the Grays Harbor Rail Terminal, LLC Proposed Liquid Bulk Facility, Hoquiam, Grays Harbor County, Washington*	Chambers et al. 2014	Pedestrian Survey, Geotechnical Testing, Shovel Probes	None
N/A	*A Cultural Resources Assessment and Survey of the Westway Grays Harbor Terminal Expansion Project, Grays Harbor County, Washington*	Boersema 2013	Pedestrian Survey, and Shovel Probes	None
1682042	*Archaeological Monitoring Report, State Route (SR) 520 Bridge Replacement and High-Occupancy Vehicle (HOV) Program Pontoon Construction Project, Aberdeen Log Yard*	Perkins 2012	Archaeological Monitoring	None
1352766	*Cultural Resources Assessment for Port of Grays Harbor Port Industrial Road Improvement Project, Aberdeen and Hoquiam, Washington*	Shaw, Perrin, Gilpin, and Hicks 2009	Pedestrian Survey, Shovel Probes	None
1330208	*Grays Harbor FY 1980 Channel Widening, Cultural Resources: Reconnaissance and Testing of Dredge Disposal Area "A."*	Munsell 1980	Pedestrian Survey and Shovel Probes	None
1332091	*Cultural Resources Survey, Three Sites on Grays Harbor, Grays Harbor County,*	Munsell 1976	Pedestrian Survey and Shovel Probes	None

NADB #	Report Title	Author/Date	Description	Resources
	Washington			

Notes:
[a] Text containing sensitive information was removed.
NADB = National Archaeological Database; N/A = not applicable.

[*Text and tables containing sensitive information were removed.*]

Chapter 5
Research Design

This chapter defines the objectives of the cultural resources investigations, the expectations used to assess the potential for identifying cultural resources in the study areas, and the specific methods selected to perform the study based on these expectations.

Objectives

The primary objective of the cultural resources investigations is to determine whether cultural resources (including archaeological sites, historic resources, and culturally significant properties) are located in the study areas. In the absence of previously documented resources, the secondary objective is to assess the potential for encountering undiscovered archaeological sites.

Archaeological Expectations

The following expectations about archaeological site potential are based on the geologic and cultural context outlined in Chapter 3, *Environmental and Cultural Setting*.

- The archaeological and ethnographic record of the Grays Harbor area indicates that the region was important for habitation and resource gathering, as well as a key travel corridor to the southwestern Washington interior and Puget Sound. Precontact peoples used the upland shorelines of Grays Harbor for habitation, plant gathering, and hunting; and the waters of Grays Harbor for fishing and shellfish harvesting. Of these activities, habitation and facility-based fishing tend to leave the most robust archaeological traces. However, review of the development history of the study areas reveals that both the Westway study area and Imperium study area have been subject to deep and widespread ground disturbance. Therefore, although the likelihood that these areas were used by precontact peoples is high, the possibility that archaeological evidence of these activities was preserved during the twentieth century is low. Since no subsurface ground disturbance is anticipated for the transportation corridors associated with the proposed actions, the likelihood of encountering precontact archaeological sites in this area is considered low.
- Review of the study areas' development history revealed that both study areas were nearly entirely seaward of the historic shoreline during the early-twentieth century, and consisted of dredged slips during the middle and late twentieth century. These slips were diked and filled during the late twentieth century—less than 45 years ago—therefore, the potential for encountering historical archaeological sites is considered low in these areas. Since no subsurface ground disturbance is anticipated for the transportation corridors associated with the proposed actions, the likelihood of encountering historical archaeological sites in these areas is considered low.

Based on the information presented above, the likelihood of encountering archaeological sites is considered low.

Methods

This section describes the methods used to identify cultural resources in the study areas, and to assess the study areas' archaeological sensitivity.

Research Methods

Cultural Setting

ICF conducted general and property-specific archival research to establish precontact, ethnographic, and historic contexts for the study areas. Materials examined included the previous cultural resources studies found during the literature review, as well as primary and secondary resources from local repositories. ICF reviewed existing cultural resources studies performed within or directly adjacent to the study areas and considered the methods used for these studies and any possible data gaps. ICF reviewed research materials obtained from the following repositories:

- City of Hoquiam Archives
- Timberland Regional Library, Hoquiam and Aberdeen
- University of Washington Library
- Seattle Public Library
- Jones Photo Historical Collection (http://www.jonesphotocollection.com)

Landform History Analysis

ICF conducted a landform history analysis to assess the extent to which the local geology and development history affects the potential for encountering archaeological deposits in the vicinity of each portion of the study areas. This was accomplished by analyzing geologic and historical maps, publications, and existing geotechnical bore logs to develop area-specific contexts for each alternative site.

The following sources were used to accomplish this analysis.

- U.S. Geological Survey Publications Warehouse (http://pubs.er.usgs.gov/#home:7:30)
- Washington State Department of Natural Resources (WDNR), Division of Geology and Earth Resources Subsurface Geology Information System (https://fortress.wa.gov/dnr/geology/?Site=subsurf)
- Washington State Department of Natural Resources, Division of Geology and Earth Resources Publications (http://www.dnr.wa.gov/ResearchScience/Topics/GeologyPublicationsLibrary/Pages/pubs.aspx)
- Geological Society of America (http://www.gsapubs.org)
- Science Direct (http://www.sciencedirect.com)
- Historic Aerials by NETROnline (http://www.historicaerials.com)
- Historic Map Works (http://www.historicmapworks.com)
- Dataquick (http://www.dataquick.com)

Field Methods

Archaeological Investigations

ICF archaeologists performed subsurface archaeological investigations in the study areas. Subsurface investigation methods included mechanical trenching and geoarchaeological borings. All subsurface investigations were spaced at approximately 100-foot intervals where subsurface project-related ground disturbance is anticipated. The subsurface investigations were performed in accordance with the proposed actions' cultural resources workplan, which was developed based on comments and feedback from DAHP (Attachment F).

Mechanical Trenching

Mechanical trenches were excavated in unpaved areas where buried utilities were unlikely to be encountered. Since the entirety of the Westway project site is paved, mechanical trenching was exclusively used in the Imperium project site. Mechanical trenches were excavated to the maximum vertical reach of the excavator arm (24 feet) or until the sidewalls of the trench slumped and the trench infilled faster than it could be excavated. Trench dimensions varied depending on local logistical factors, but were typically around 20 feet long and 6 feet wide. All trenches were excavated in successive shallow lifts to a depth of 15 feet below the ground surface. Below this depth, larger lifts were taken because of excavator arm leverage constraints.

Two archaeologists were present during the excavation of mechanical trenches; one oversaw excavations and inspected trench profile walls and the other carefully inspected the spoils pile. A metal shovel was used to break-up any large peds to inspect them for archaeological materials. No sediments that warranted additional closer inspection were identified, so no sediment samples were screened.

Once each trench was completed, it was photographed and plotted using a handheld global positioning system (GPS) unit. Trench contents, stratigraphy, depth to undisturbed native landforms, and other relevant information were recorded on a standard trench summary form. All mechanical trenches were backfilled and compacted.

Geoarchaeological Borings

Geoarchaeological borings were used in paved areas and to supplement mechanical trenching. As a result, most of the geoarchaeological borings were excavated in the Westway study area. Geoarchaeological borings were excavated to a minimum depth of 40 feet below the ground surface in all instances. Two-inch internal diameter sediment samples were continuously collected in 5-foot increments via the direct push sample collection method using a Geoprobe 7730 rig.

ICF archaeologists performed a detailed analysis of each sediment sample. Sample attributes, such as color, grain size, gravel angularity, structure, interface, compaction, and notable inclusions, were recorded and used to determine depositional context. Sample attributes were analyzed at no less than two points for each sediment sample. If stratigraphic contacts were present, sediments were analyzed at two additional points per contact—directly above and below each contact. This information was recorded on a standardized bore log form.

Upon completion of the analysis, each sediment sample was photographed and the entire of the contents of the screened through 0.25-inch mesh. Upon completion, all borings were mapped with a

handheld GPS unit and refilled using a structurally appropriate substrate as directed by the landowner.

Historic Resources Survey

A historic resources survey was performed within the study areas. The survey involved examining and evaluating all buildings and structures in the study areas determined to be 45 years of age or older. Buildings and structures less than 45 years old were not evaluated to determine NRHP and WHR eligibility. The target age of 45 years old was selected to include all resources 50 years old at time of survey, plus any that might become 50 years old through the course of the site development or initial use. ICF senior architectural historian, Christopher Hetzel, MA, conducted the historic resources survey and evaluated all of the identified properties in the study areas to determine their eligibility for listing in the NRHP and WHR.

ICF conducted a parcel-by-parcel, reconnaissance-level field survey of properties in both study areas in August 2014. Construction dates were established using data from the Grays Harbor County tax assessor and based on visual inspection. Properties built on or before 1969 were identified and information collected about their physical characteristics. The data collected included one or more photographs of each property from the public right-of-way, the architectural style of each resource (if identifiable), the type and materials of significant features, and the existence of alterations and overall physical integrity. Properties identified as 45 years of age or older were evaluated to determine their eligibility for listing in the NRHP and WHR, and recorded in the Washington State Historic Property Inventory Form Database, per DAHP reporting standards. Printed forms for recorded properties are provided in Attachment B.

Chapter 6
Results

This chapter presents the results of the cultural resources investigations of the study areas, including both study areas.

Landform History Analysis

This section summarizes the depositional sequence and sea-level change that occurred in the vicinity of the study areas during the Holocene epoch. The purpose of this section is to provide a geologic framework and local depositional context with which to consider the results of the archaeological investigations. This information is necessary to assess whether a given coastal landform would have been accessible for precontact human use and the depth at which buried archaeological deposits could be present. The information used in this analysis is based on the sedimentary and stratigraphic findings of the archaeological field survey, as well as previous geotechnical (Heller and Phelps 2014; CH2M Hill 2010), geological (Peterson and Phipps 1992) and geoarchaeological (Phipps 2008, 2010) studies performed along the northern Grays Harbor shoreline.

Depositional Sequence

Review of field notes from the archaeological field survey and previous geotechnical and geoarchaeological findings revealed three widespread but stratigraphically discrete Quaternary-aged deposits in the upper (eastern) Grays Harbor basin; including anthropogenic fill, intertidal flats, and high-energy alluvium. In some instances, these deposits were further subdivided based on local variations in deposit composition. For the purposes of considering the timing of formation and origin of the various deposits, however, the more general categories listed above were used. These deposits are discussed in greater detail below in order from youngest to oldest. The stratigraphy of the upper Grays Harbor basin differs markedly from the lower Grays Harbor basin. A detailed discussion of the stratigraphy of the lower Grays Harbor basin was developed by Peterson and Phipps (1992).

Anthropogenic Fill

Anthropogenic fill has had multiple origins, resulting in varying compositions depending on location and depth. In many instances, anthropogenic fill deposits commonly comprised structural fill (gravels and sands) at the ground surface. These deposits were underlain by mixed silts, sands, gravels, wood debris, and occasional historic-era items; laminated silt and silty sand; or sand with occasional organics, sawn wood fragments, or other historic-era items. Both hydraulic fill and refuse fill are known to have been used to reclaim the Aberdeen and Hoquiam tideflats, including areas in both study areas, during the twentieth century (Schneyder et al. 2010:2-32–2-35; U.S. Army Corps of Engineers 1978a:1-2 and 1978b: 4; 1989:3-3, 3-15).

In some instances, including during the current archaeological investigations, the distinction between hydraulic fill and intertidal flat deposits is difficult to decipher (Phipps 2010:7). This is

particularly noticeable in the study areas. Based on the results of the archaeological field investigations, anthropogenic fill ranged from 17 to 35 feet thick in the Imperium study area and from 7 to 34 feet thick in the Westway study area. Fill thicknesses at the Westway study area are considered to be minimum measurements, however, because the distinction between anthropogenic fill and intertidal flat deposits is less clear in this location.

Intertidal Flat

Intertidal flat deposits typically comprise silt, sandy silt, or (less commonly) silty sand or sand. Phipps (2010:7–8) notes a distinction between upper intertidal flat deposits (referred to as *mud, silt & very fine sand*) that appear to either lack or contain sparse amounts of organics and lower intertidal deposits (referred to as *mud with some peat content*). The latter appear to have higher amounts of organics and tend to take on a brownish tint. This distinction is important because increased peat content has been linked to shallower water estuarine environments in the Pacific Northwest (Barnett 1997). One study noted a similar distinction west of the Wishkah River (CH2M Hill 2010:18–22), while no such distinction was documented in a related geotechnical study in the vicinity of the study areas or during the current archaeological investigations.

Based on the radiocarbon synthesis presented below and a previous geological study of the Grays Harbor basin (Peterson and Phipps 1992), intertidal flat deposits began to form in the Grays Harbor basin during the early Holocene as marine water began to infill the basin, and continue to form in the present day. Review of previous geotechnical studies in the Imperium study area revealed that the terminal depth of intertidal flat deposits is around 130 feet below the ground surface (Heller and Phelps 2014:3).

High-Energy Alluvium

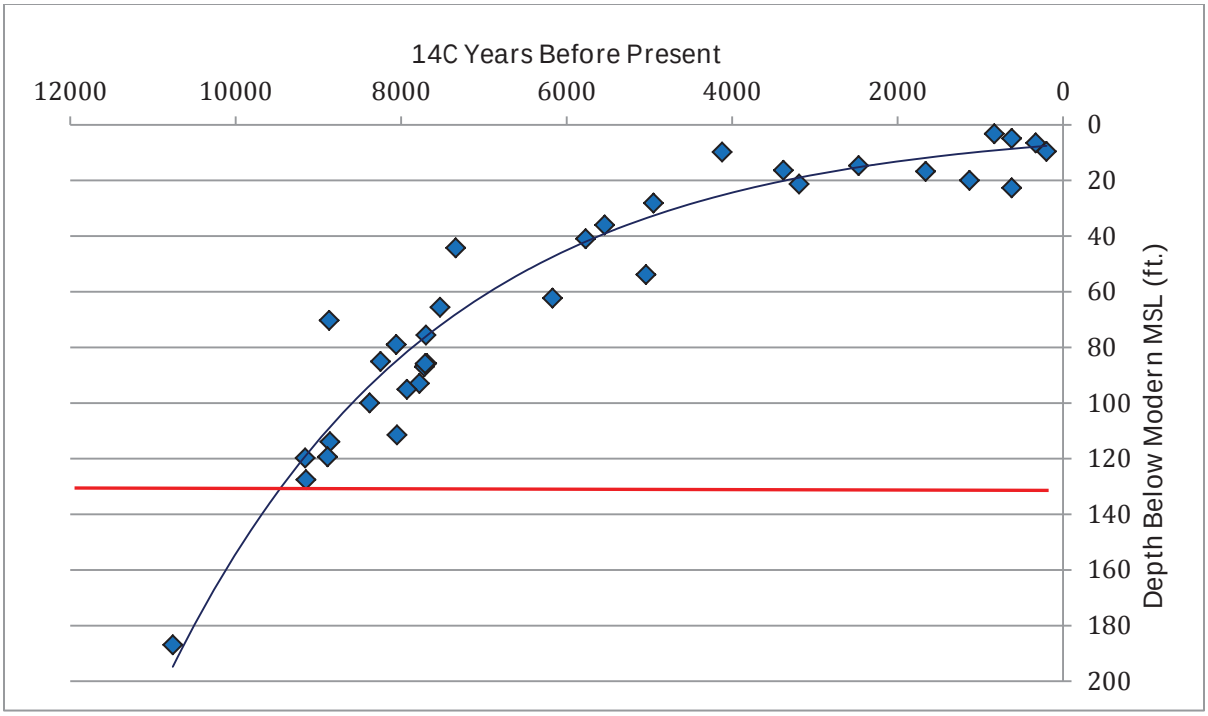
Comprising rounded gravels and sands, the origin of high-energy alluvium deposits has alternately been attributed to the downslope movement of gravels from the Olympic, Coast, and Cascade mountain ranges, fluvial reworking of Pleistocene glacial deposits (Peterson and Phipps 1992:280), or glacial outwash events (Phipps 2010:8). The latter inferred origin is neither supported by the spatial pattern of this deposit (Peterson and Phipps: 280) nor the results of previous radiocarbon analyses (Blukis Onat et al. 2007:84; Phipps 2010: associated documents). Previous geotechnical studies performed approximately 0.75 mile east of the Westway study area revealed that the terminal depth of high energy alluvial deposits is around 200 feet below the ground surface. These deposits are underlain by weathered siltstone (CH2M Hill 2010:18).

Sea-Level Change

A total of 68 radiocarbon samples from four studies, including one sample collected during the current archaeological investigations, were compiled to generate an updated sea-level curve for the Grays Harbor basin (Figure 6-1, Attachment G). This data was used to update a sea-level curve previously produced by Peterson and Phipps using 28 radiocarbon samples. Half of these prior samples were collected from marine shellfish (Peterson and Phipps 1992:280–281). This detail is important because the measured age of marine shellfish must be calibrated to account for the marine reservoir effect and the magnitude of this effect changes over space and time (Stuiver and Braziunas 1993; Stuiver et al. 1998; Deo et al. 2004). To eliminate the uncertainty associated with dating marine shellfish, only radiocarbon samples obtained from plant remains are used in the

current study. The purpose of generating an updated sea-level curve is to increase the resolution of the curve, if possible.

Figure 6-1. Relative Sea-Level Curve for the Grays Harbor Basin plus Red Trendline Showing Terminal Depth of Intertidal Flat Deposits in the Study Areas



The relative sea-level curve presented in Figure 6-1 appears to be generally consistent with curves previously developed for the Grays Harbor basin (Peterson and Phipps 1992) and the larger southern Cascadia subregion (Shugar et al. 2014). Like many sea-level curves developed for the outer coast of Washington and Oregon, local sea levels appear to have risen dramatically from the end of the Pleistocene epoch until around 4,000 radiocarbon years BP. In this instance, sea levels appear to have transgressed around 160 feet between 11,000 BP and 4,000 BP. Between 4,000 BP and the present, sea levels transgressed another 30 feet with much of this transgression occurring before 2,000 BP.

Uncertainty

In considering the results of this analysis, it is important to acknowledge that a number of uncontrolled variables introduce uncertainty. The standard error associated with radiocarbon analysis is not considered to be a significant source of uncertainty. Error associated with coseismic movement, too, is considered to be negligible since the magnitude of coseismic subsidence is thought to be inversely equal to or less than the cumulative extent of interseismic strain (Leonard et al. 2004). However, other factors, such as basin subsidence and use of detrital organics, are considered likely to introduce a greater degree of uncertainty. These factors are discussed in greater detail below.

Basin Subsidence

Sedimentary loading in estuaries can cause the consolidation of compressible sediments, resulting in subsidence (Atwater et al. 1977:9; Weller 1959:290). No studies evaluating the nature and extent of basin subsidence in Grays Harbor have occurred, but the geologic conditions are conducive to such an occurrence (CH2M Hill 2010:30). If basin subsidence has occurred, it would result in a sea-level curve that underrepresents the true extent of local sea-level change. As a result, the lack of information about basin subsidence introduces uncertainty into the analysis.

Detrital Organics

To precisely depict sea-level change, one must obtain radiocarbon samples from floral and faunal specimens that would have been located at sea level when they were alive. Atwater et al. (1977:10–11), for example, selected roots and rhizomes of floral species that typically inhabit salt marshes in order to generate a sea-level curve for the San Francisco Bay. Unfortunately, no such samples were identified during the four studies that have occurred in the Grays Harbor basin to date. Instead, all of the recovered samples appeared to be detrital in origin. Unlike roots and rhizomes, detrital organics can be deposited on both intertidal and subtidal landforms. In addition, their origin and the length of time in which they were transported before deposition are unknown. As a result, use of detrital organics introduces uncertainty into the analysis and may result in individual samples registering ages that are younger or older than the sea-level elevation that they are taken to represent.

Summary

Review of the depositional sequence for the upper Grays Harbor basin, including the study areas, reveals that the study areas were located in an active estuarine environment prior to the twentieth century. The sea-level curve presented in Figure 6-1 indicates that the study areas have been estuarine environments since around 9,500 BP. Prior to 9,500 BP, the study areas appear to have been located in a high-energy alluvial environment. This environment is most likely associated with the ancestral Chehalis River channel, which appears to have had a high-gradient before the Grays Harbor basin infilled during marine transgression.

Westway Study Area

Consideration of Archaeological Resources

In 2013, Cascadia Archaeology, LLC, (Cascadia) performed an archaeological study for the Westway project site and two associated tree planting areas that are not associated with the current proposed action. The Cascadia study included an analysis of landscape history in the vicinity of the study area, a pedestrian survey of the Westway project site, and a shovel/auger probe survey of the two associated tree planting areas. A copy of the Cascadia study is provided in Attachment C.

Cascadia's analysis of the area's landscape history revealed that the Westway study area is located seaward of the predevelopment Grays Harbor shoreline in the tidelands (Boersema 2013:6–7). This conclusion is supported by the U. S. General Land Office's 1860 cadastral survey map of the region and environmental studies conducted by USACE in 1978 for the construction of Marine Terminal No. 2, the expansion and modification of Marine Terminal No. 1, and in 1989 for proposed dredging and

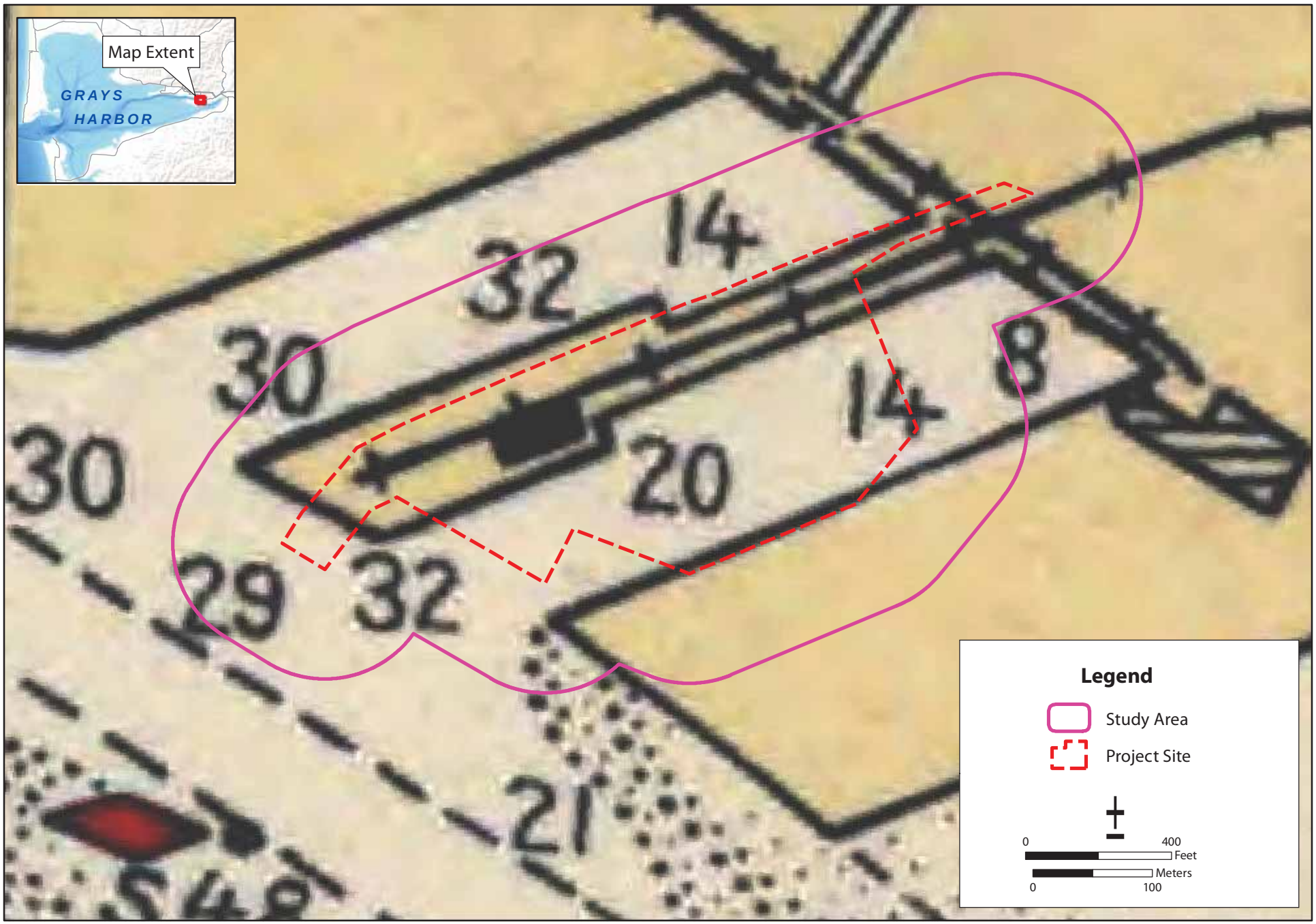
navigation channel improvements. Each of these studies provides information on changes to landforms within the Westway study area (U.S. General Land Office 1860a; U.S. Army Corps of Engineers 1978a, 1978b, 1989) (Figure 6-1).

Beginning in the early 1920s, the Port established Marine Terminal No. 1 at Cow Point within what is now the Westway study area. Marine Terminal No. 1 was the Port's first public terminal facility. The land for the facility was deeded to the Port in 1913 by the Washington legislature, initially amounting to 68.74 acres, and its initial construction was completed in 1921–1922. The first dock at Cow Point, known as Pier 1, opened on September 22, 1922. It featured the excavation of a 2,000-foot by 300-foot dock with a slip along its west side (Slip 1). A second slip (Slip 2) was constructed east of the new pier shortly thereafter (Ott 2010; Boersema 2013:11–12).

The northwestern two-thirds of the Westway project site is located within the area of what was once Slip 2 (Figure 6-2). Both Slips 1 and 2 were diked and filled with dredge spoils beginning in 1983, with work completed in 1992 (Boersema 2013:11–12). The areas affected by these activities, including the fill depths of Slip 2 and the composition of the fill materials, were addressed by EISs issued by USACE in May 1978 (U.S. Army Corps of Engineers 1978a, 1978b). These studies were prepared in response to an application from the Port for the "construction of a new pier, dredging of a berth in front of this pier, and filling of tidelands between the new pier and adjacent to Slip 2 at the Port in Aberdeen, Washington." The new pier and shipping berth became the Port's existing Marine Terminal No. 2.

The following is a brief outline of the activities, which affected changes to the landforms of the Westway project site, between 1983 and 1992. A site plan and cross section profiles from the 1978 report, illustrating the depth of fill in Slip 2 and elsewhere, are provided in Attachment D.

- The pier for Marine Terminal No. 2 was constructed in a slightly offshore location and the space behind the new pier was filled, including existing tidelands between the bank and the pier. The pier was constructed of reinforced concrete over steel and concrete pilings (U.S. Army Corps of Engineers 1978a:1).
- Fill behind the new pier involved the filling of about 1.7 acres of intertidal and subtidal land (measured from the ordinary high water mark to the toe of the dike). It was filled to 18 feet above mean lower low water (MLLW). Fill material consisted of approximately 31,000 cubic yards of rehandled dredge material taken from USACE's maintenance dredging at Cow Point. This material was stock piled at two sites in the area, and consisted of clean, sandy gravel (U.S. Army Corps of Engineers 1978a:1).
- Slip 2 was filled to expand the cargo storage areas of Marine Terminals No. 1 and No. 2. Construction of the dike across slip No. 2 occurred in two stages. The first stage involved partial construction of a dike across three-fourths of the slip opening. A section of Marine Terminal No. 1 was demolished during this first stage, to an elevation of +5 MLLW. The second stage involved extending the dike completely across the opening and the entire structure raised to an elevation of +18 MLLW. The amount and type of material required was the same as the first stage. Fractured basalt was used for riprap: 8,000 cubic yards for stage 1, and 4,000 cubic yards for stage 2 (U.S. Army Corps of Engineers 1978a:1–2, 1978b:4).



Sources: Site Design, Harris Group, 2014; Coast Geodetic Survey Gray's Harbor, WA, 1928.

Figure 6-2
Overlay of Historic Coast Geodetic Survey Map (1928) and Westway Study Area
Westway and Imperium Expansion Projects

As with the area behind the new pier, Slip 2 was filled with rehandled dredged material from USACE's maintenance dredging at Cow Point. The surface material for the filled portion of the new pier and for Slip 2 was approximately 24 inches of quarry rock, with runways of asphalt. When complete, Slip 2 was filled with approximately 250,000 cubic yards of rehandled clean, sandy gravel and inorganic, nonpolluting material such as concrete slabs and asphalt from on-site demolition. The fill covered approximately 9 acres of intertidal and subtidal land (U.S. Army Corps of Engineers 1978a:1–2, 1978b:4).

- A berth for large ocean-going vessels was dredged in front of the new pier at Marine Terminal No. 2. Dredged material from this site was placed in one of the disposal sites used for Slip 2 filling. The berth was to be dredged to about -37 MLLW in front of the new pier. About 250,000 cubic yards of sandy soil was removed from about 15 acres of subtidal land by hydraulic dredge (U.S. Army Corps of Engineers 1978a).
- Two new dolphins, 37 pilings each, were placed at the end of the new vessel berth (U.S. Army Corps of Engineers 1978a:3, 1978b:4).
- A pier addition to terminal No. 1 was also constructed. It was constructed on pilings and surfaced with asphalt to provide better access to the pier (U.S. Army Corps of Engineers 1978a:1, 1978b:4).

Cascadia archaeologists performed a pedestrian survey of the Westway study area in 2013. No shovel/auger probes were excavated in the study area because of the presence of a thick layer of asphalt at the ground surface. Twenty-seven shovel/auger probes were excavated in the tree planting area, which was associated with the proposed action at that time. These probes revealed deposits of gravelly fill at the ground surface, ranging from 40 to 90 centimeters (16 to 35 inches) in thickness, underlain by fine-grained alluvium. No archaeological deposits were identified during the survey (Boersema 2013:15–17).

As a result of this study, Cascadia concluded that the proposed action would not encounter documented archaeological sites. Their findings also stated that the potential for encountering as-yet undocumented archaeological sites was low because project-related ground disturbance was not anticipated to be deeper than the depth of the previous dredging and filling. No further archaeological investigations or restrictions were recommended (Boersema 2013:20–21).

ICF's review of Cascadia's data and supplemental research corroborates Cascadia's findings in the northwestern two-thirds of the Westway study area. However, the southeastern third of the study area is located outside of the footprint of Slip 2 and appears to have only been subject to filling of an indeterminate depth during the historic era. Review of historic aerial imagery (Anderson & Middleton Company n.d.) and U.S. Coast and Geodetic Survey maps (1928, 1948) of the undeveloped areas located directly east of the Westway study area reveal that this area was likely located on unvegetated intertidal flats prior to development. ICF's archaeological review and supplemental research on the Westway study area revealed no documented archaeological sites and limited potential for encountering as-yet undocumented archaeological sites across much of the Westway study area. The northwester two-thirds of the Westway study area was subject to widespread dredging that ranged from just below MLLW to -37 feet below MLLW in depth (or between 18 and 55 feet below the current ground surface)during the early-twentieth century. This area was subsequently filled during the late-twentieth century (U.S. Army Corps of Engineers 1978a). None of the proposed ground-disturbing activities in this area, except one, are expected to disturb sediments at a depth greater than was previously disturbed and removed during the prior dredging activities.

Only the proposed driving of piles is anticipated to encounter undisturbed native sediments. However, no sediments would be excavated as part of this activity. Based on the available documentary data, it is unclear whether proposed ground-disturbing activities other than the driving of piles would encounter undisturbed native sediments.

Archaeological Investigations

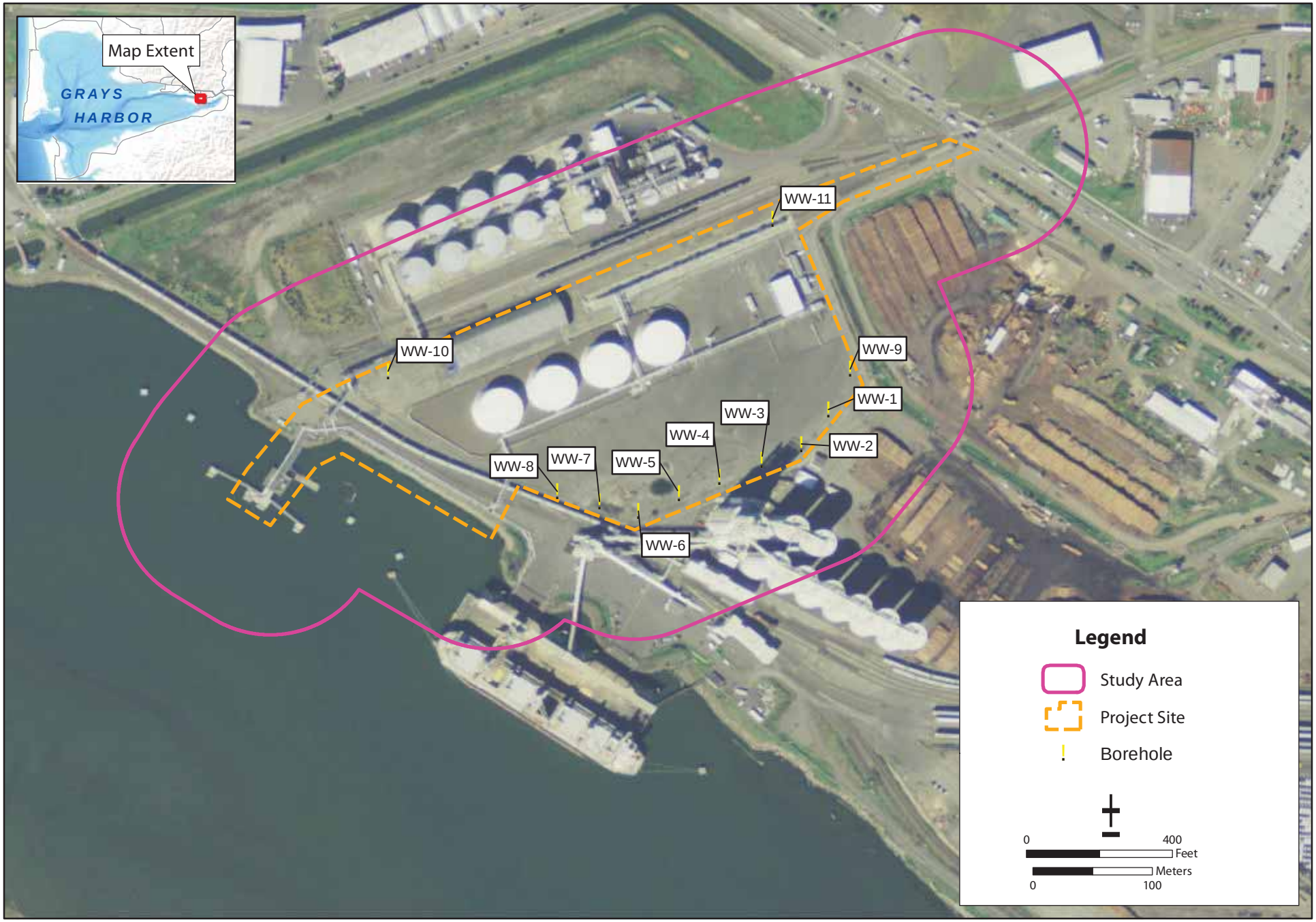
ICF archaeologists J. Tait Elder and Anna Robison-Mathes performed an archaeological field survey in the Westway study area between April 20 and 24, 2015. Weather conditions during this period ranged from overcast with occasional showers to partly sunny. The field survey consisted of the excavation of 11 geoarchaeological borings (Figure 6-3). No archaeological deposits or buried terrestrial surfaces were identified during the archaeological field survey.

Review of the sedimentary and stratigraphic data obtained during the archaeological investigations revealed four deposits with differing inferred origins and a fifth deposit for which origin could not be verified with the data obtained during the investigations. These deposits are described in Table 6-1, in the vertical sequence in which they were encountered, and generally appear to correspond with the development history described in the historic context and previous archaeological studies. Figure 6-4 depicts the stratigraphic relationship and relative thickness of the deposits across the Westway study area, while Figure 6-5 depicts the distribution of boreholes relative to the historic Slip 2 footprint.

Table 6-1. Deposits Identified in the Westway Study Area and their Inferred Depositional Environment

Field Designation	Description	Inferred Depositional Environment
Asphalt	N/A	N/A
Structural Fill	Massive to blocky dry to moist gray, very dark gray, and bluish gray sand and small angular gravels. Occasional beds of very dark gray silt with sparse decomposing organics.	Mass filling using structurally stable materials.
Undifferentiated Fill	Laminated to massive loose saturated very dark gray silt, sandy silt, or sand, occasional decomposing organics, angular gravels, wood debris, sawn and wood fragments, sparse shell unidentified shell fragments.	A combination of mass and hydraulic filling.
Unknown Origin	Laminated to massive loose saturated gray, dark gray, or dark bluish gray silt or sandy silt with occasional lenses of fine to medium sand, occasional flecks of mica and sparse detrital organics.	Indistinguishable – intertidal flat or hydraulic fill.
Intertidal Flat	Laminated firm saturated grayish brown to dark gray silt with trace sand, occasional lenses of fine sand and detrital organics, sparse in-situ *Macoma* sp. valves.	Low-energy tidally influenced deposition prior to the historic era.

Notes:
N/A = not applicable.



Sources: Site Design, Harris Group, 2014; ESRI Imagery, 2014.

Figure 6-3
Westway Borehole Locations
Westway and Imperium Expansion Projects

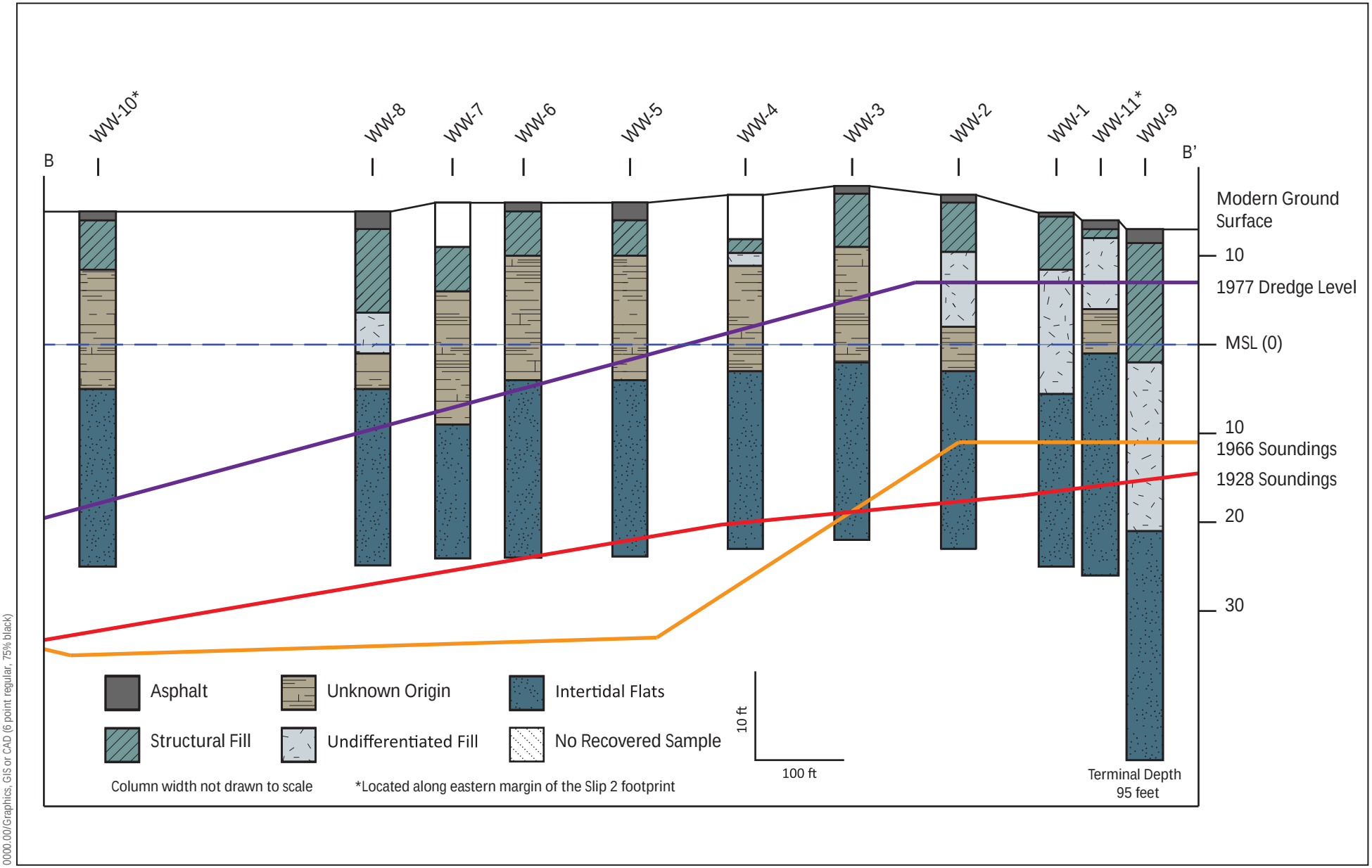


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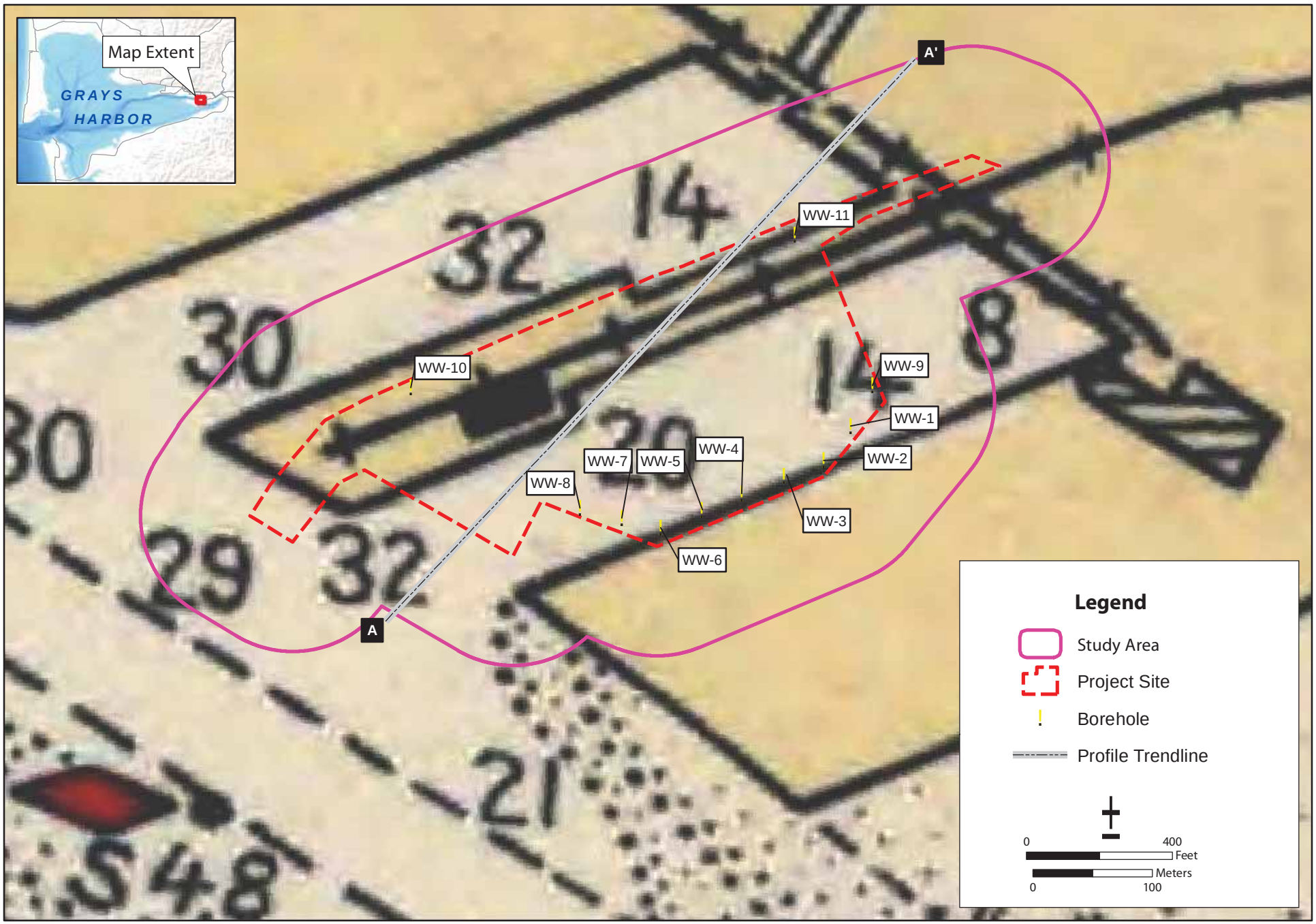
Figure 6-4
Westway Geologic Fence Diagram
Westway and Imperium Expansion Projects



Sources: Site Design, Harris Group, 2014; Coast Geodetic Survey Gray's Harbor, WA, 1928.

Figure 6-5
Westway Borehole Locations with Profile Trendline
Westway and Imperium Expansion Projects

Asphalt was located at the ground surface in all but one instance (WW-11), and ranged from 0.5 to 1 foot in thickness. Structural fill was located below asphalt in every instance in which asphalt was encountered and at the ground surface in WW-11. The thickness of structural fill ranged from 4.5 to 15 feet, but was fairly consistent across the Westway study area. For example, eight boreholes had structural fill that ranged from 5 to 6 feet. The composition of this deposit appeared to have widespread horizontal continuity, which is likely representative of the use of a limited set of borrow sources to fill the property.

Undifferentiated fill was identified in six instances (WW-1, WW-2, WW-4, WW-8, WW-9, and WW-11). In many instances, undifferentiated fill was difficult to distinguish from intertidal flat deposits because of a shared color, composition, and structure. Only in instances where angular gravels, sawn wood fragments, mixed or fractured structure, or sediments with a composition not indicative of low-energy alluvial depositional environment were present could the origin of undifferentiated fill be verified. Based on the depth of soundings taken while Slip 2 was in use (U.S. Coast and Geodetic Survey 1928, 1948) combined with the known maximum elevation of unvegetated intertidal flats (which tends to be just over mean sea level) (Readings and Collinson 1996:213), it is anticipated that undifferentiated fill is located at greater depths than could be determined during this study. Therefore, no thickness range for undifferentiated fill could be determined at all but three borehole locations (i.e., WW-1, WW-7, WW-8, and WW-9) in the Westway study area.

Deposits of unknown origin were identified in seven instances (WW-2 through WW-6, WW-10, WW-11). These deposits were described as such because their color, composition, and structure provided no reasonable basis to conclude that they were not intertidal flat deposits. However, the elevation at which they were encountered was less than the recorded depth of previous dredging activity (i.e., U.S. Coast and Geodetic Survey 1928, 1948; U.S. Army Corps of Engineers 1989:3-3, 3-15) or mean sea level. Identification of origin was particularly difficult because it is recorded that the materials used to fill Slip 2 were dredged tidal flat deposits from the Cow Point vicinity (U.S. Army Corps of Engineers 1978a:1-2, 1978b:4), less than 1 mile east of the Westway study area.

Native intertidal flat deposits were identified in five instances (WW-1, WW-7 through WW-9 and WW-11). They were defined as such because they were encountered below the depth of previous dredging activity within the former Slip 2 footprint or below mean sea level outside of the former Slip 2 footprint. In several instances, native intertidal flats contained in-situ mature *Macoma* sp. valves. Dredging would have removed any in-situ bivalves in the zone in which dredging occurred, and bivalves would not have been able to reestablish populations unless there were stable surfaces exposed for several years (Garbutt and Boorman 2009:779). Therefore, it is hypothesized that the presence of in-situ valves can be used as a bellwether to differentiate native intertidal flat deposits from hydraulic fill deposits.

The upper interface of the intertidal flat deposits could not be determined with confidence in several boreholes, but appeared to range from 15 to 34 feet below the ground surface. The latter depth was documented in WW-9, which was located within the former Slip 2 footprint. The lower interface of intertidal flat deposits could not be established because the boring technology used could not excavate to depths greater than 90 feet below the ground surface. As a result, this study can only confirm that intertidal flat deposits extend greater than 90 feet below the current ground surface. This conclusion is consistent with the findings of previous geotechnical and geoarchaeological studies that have occurred in the study area vicinity (Heller and Phelps 2014; Phipps 2010).

Summary

Subsurface investigations revealed no buried surfaces or archaeological resources in the Westway study area. Although fill deposits were documented across the entirety of the Westway study area, the terminal depth of these deposits was ambiguous. In many instances, there were no clear attributes that could be used to differentiate the undifferentiated fill from the native intertidal flat deposits. This is most likely because most of the deposits used to fill Slip 2 were intertidal flat deposits dredged from an area just east of the Westway study area and therefore had comparable attributes. Review of previous U.S. Coast and Geodetic Survey maps and fill plans, however, indicates that fill deposits likely range from 15 to 34 feet in thickness. In two instances (WW-9 and WW-11), deposits with in-situ bivalve shells were documented below the depth documented as having been previously dredged. Based on their depth and the presence of in-situ bivalves, these deposits were considered to be native intertidal flat deposits. Although the terminal depth of these deposits was not established during subsurface investigations, previous geotechnical and geoarchaeological investigations in the study area vicinity indicate that the interface is located between 120 and 130 feet below the ground surface.

Historic Resources Survey

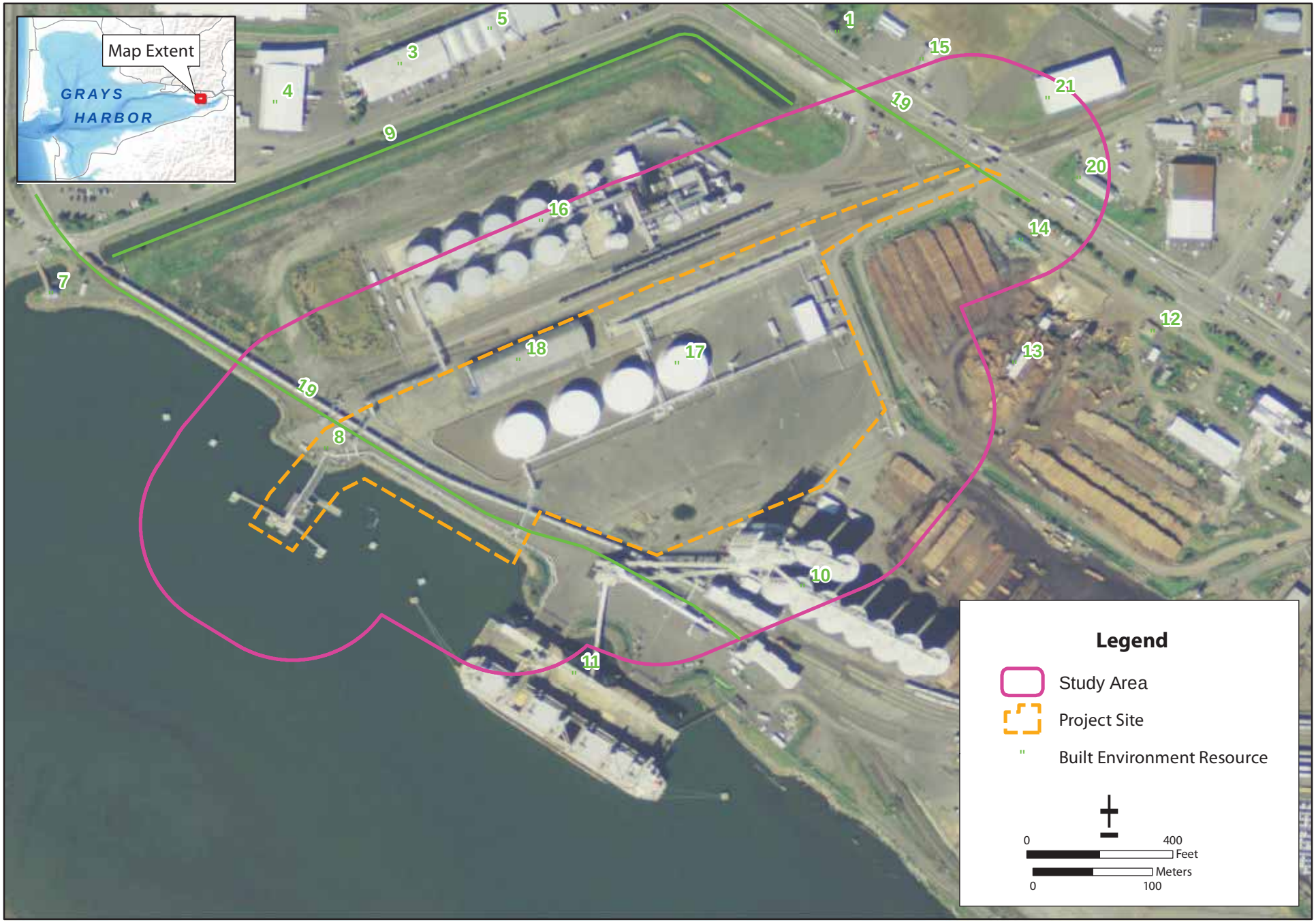
The historic resources survey of the Westway study area identified 12 buildings and structures (Figure 6-6; Table 6-2). Based on Grays Harbor County tax assessor data and field observations, only two properties were identified as being 45 years of age or older. Of the two, the literature review revealed that one of these properties was identified and evaluated by a previously completed cultural resources study and recorded in WISAARD (Schneyder et al. 2010). ICF newly evaluated the other property for the current study.

DAHP determined that the one previously evaluated property is not eligible for listing in the NRHP, within the past five years. ICF's review of the resource corroborates this evaluation.

ICF evaluated the one newly identified property and concluded that it does not appear eligible for listing in the NRHP. The property, known as Warehouse E, is located on the Westway project site at 3128 Port Industrial Road. It was first built as a warehouse for the Port's Marine Terminal No. 1 in 1962, and was originally twice its current length. The building's eastern half was removed during a renovation in 2009 and the exterior cladding replaced. These changes appear to have occurred during construction of the Westway facility.

ICF found no evidence to suggest that the property is associated with events that have made a significant contribution to the broad patterns of history, nor with the lives of significant persons, in the local community, the state/region, or the nation. It exhibits a common architectural style and building type, but has been substantially altered with changes to its plan and exterior cladding, such that it does not appear capable of conveying historical significance. Furthermore, there is no evidence to suggest the property is associated with a significant designer or craftsman. Finally, the property is not considered to have the potential to be a principal source of historical information based on their common construction and building types.

ICF concluded that all of the other properties in the Westway study area are less than 45 years old. These properties were not evaluated for NRHP eligibility, due to their age, based on DAHP cultural resources reporting guidelines.



Sources: Site Design, Harris Group, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 6-6
Identified Buildings and Structures in the Westway Study Area
Westway and Imperium Expansion Projects

Table 6-2. Buildings and Structures Identified in the Westway Study Area

ID	APN	Property Name	Address	Build Date	NRHP Evaluation
8	56402300000	Port of Grays Harbor Marine Terminal No. 1	PGH Terminal 1	c1985	Less than 45 years
10	29902000200	Port of Grays Harbor Bulk Handling Facility	PGH Terminal 2	2010	Less than 45 years
11	56402300000	Port of Grays Harbor Marine Terminal No. 2	PGH Terminal 2	1979	Less than 45 years
13	29902000200	Local Manufacturing, Inc.	2421 Port Industrial Road, Aberdeen	c1985	Less than 45 years
14	29902000200	Local Manufacturing, Inc.	2609 Port Industrial Road, Aberdeen	c1975	Less than 45 years
15	29902000200	Petit Oil Company (Fueling Station)/ Coffeeman	2616 Port Industrial Road, Hoquiam	c2000	Less than 45 years
16	56402300000	Imperium Grays Harbor	3122 Port Industrial Road, Hoquiam	2006	Less than 45 years
17	56402300000	Westway	3128 Port Industrial Road, Hoquiam	2009	Less than 45 years
18	56402300000	Westway /Warehouse E	3128 Port Industrial Road, Hoquiam	1962/ 2009	Not Eligible
19	56402300000 29902000200	Port of Grays Harbor Railroad Spur	N/A	c1995	Less than 45 years
20	29902000200	California Petroleum Corp. Warehouse	2519 W 1st Street, Aberdeen (aka 2421 W 1st Street)	c1925	Not Eligible (Previously Evaluated)
21	29902000200	Warehouse	2510 1st Street, Aberdeen	c1970	Less than 45 years

Notes:
PGH = Port of Grays Harbor; c = circa; N/A = not applicable.

Imperium Study Area

Consideration of Archaeological Resources

The Imperium study area was subject to a cultural resources desktop review conducted in 2013 (Cowan 2013). Similar to the Westway study area, the desktop review revealed that the Imperium project site was previously subject to deep dredging beginning in the 1920s and subsequently filled from 1983 to 1992. Based on this information, the desktop review recommended that the project site had limited potential for encountering archaeological sites. A copy of the Cowan (2013) study is provided in Attachment E.

ICF archaeologists further supplemented the research performed by Cowan (2013) with additional geological and historical documentary research. This research revealed that the landscape history of the Imperium study area mirrors that of the Westway study area, as presented by Cascadia. Cascadia study, the U. S. General Land Office's 1860 cadastral survey map of the region, and USACE's 1978

and 1989 studies all corroborate the Cowan study's conclusions. The Imperium study area is located seaward of the predevelopment Grays Harbor shoreline and the Imperium project site is located within the footprint of former Slip 1, which was diked and filled from 1983 to 1992 (U. S. General Land Office 1860b; Boersema 2013:6-7; U.S. Army Corps of Engineers 1978a, 1978b, 1989) (Figure 6-7).

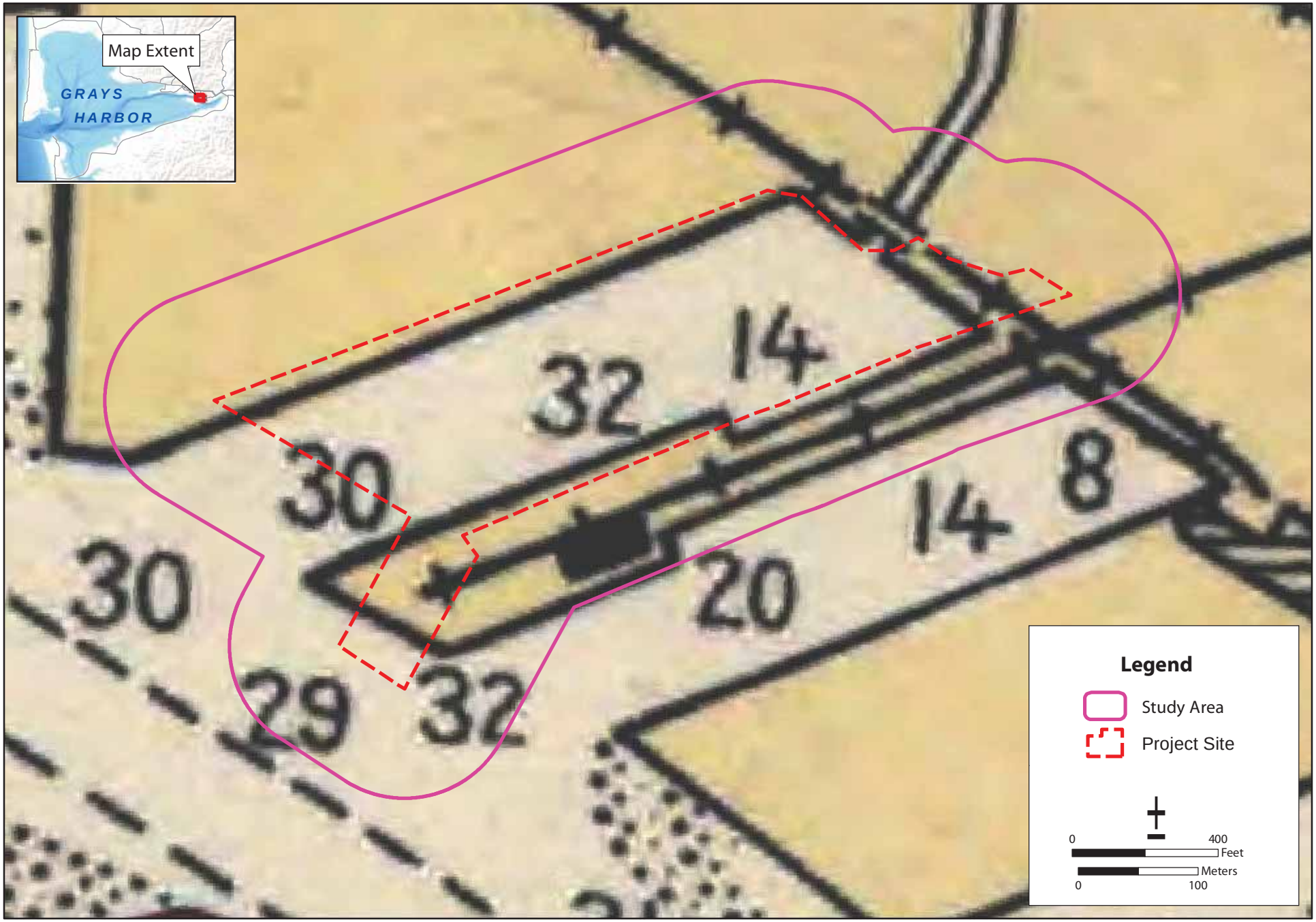
In February 1989, USACE prepared the *Final Supplemental Environmental Impact Statement for the Grays Harbor Navigation Improvement Project*. The study described Slip 1 as an abandoned terminal slip measuring approximately 28.0 acres in size. The Port had diked the slip in 1984 and the area was being used as a disposal area for dredge materials. Frye Creek flowed into the upper end of the slip, but had been diverted around the disposal area. It also reported that prior to diking, the slip had a maximum depth of -30 feet MLLW (-48 feet below the current ground surface) with a mean depth of -10 feet MLLW (-28 feet below the current ground surface), and the volume of fill was expected to measure approximately 585,000 cubic yards of silty material (U.S. Army Corps of Engineers 1989:3-3, 3-15).

Available literature supports the conclusion that nearly the entire Imperium project site was dredged beginning in the 1920s to create Slip 1. Slip 1 was subsequently diked and filled beginning in 1983, with work completed in 1992 Boersema 2013:11–12).

Geotechnical investigations in the Imperium study area performed by GeoEngineers in 1995–1996 and 2006 revealed that granular fill extends from the ground surface to a depth of 1.5 meters (5 feet) below the ground surface. The granular fill is underlain by dredge fill, which is described as extending to a depth of around 23 meters (75 feet) below the ground surface, although this appears to be significantly deeper than the depth of the dredged slip reported by USACE in 1989. Native fine alluvium was documented below the dredge fill to a terminal excavated depth of 39.5 meters (130 feet). Previous geotechnical investigations performed by GeoEngineers in the vicinity indicate that native fine alluvium would transition into dense alluvial gravels and sands – inferred to be glacial outwash, at depths ranging from 39.5 meters (130 feet) and 43 meters (140 feet) (Heller and Phelps 2014).

Based on a review of historic documents and geotechnical data, ICF has concluded that dredging performed in the early-twentieth century appears to have removed the predevelopment ground surface of the Imperium project site to a depth of at least -28 feet below the ground surface. Starting in the early 1980s, the dredged area was backfilled to the elevation of the current ground surface. As a result, it is unlikely that archaeological deposits in primary depositional context would be encountered to a depth of -28 feet below the ground surface in the Imperium study area.

ICF's archaeological review and supplemental research on the Imperium study area revealed no documented archaeological sites and limited potential for encountering as-yet undocumented archaeological sites. The Imperium study area was subject to widespread and deep dredging during the early-twentieth century, and was subsequently filled during the late twentieth century. None of the proposed ground-disturbing activities in this area, except one, are expected to disturb sediments at a depth greater than was previously disturbed and removed during the prior dredging activities. Only the proposed driving of piles is anticipated to encounter undisturbed native sediments. However, no sediments would be excavated as part of this activity.



Sources: Site Design, Skillings Connely, 2014; Coast Geodetic Survey Gray's Harbor, WA, 1928.

Figure 6-7
Overlay of Historic Coast Geodetic Survey Map (1928) and Imperium Study Area
Westway and Imperium Expansion Projects

Archaeological Investigations

ICF archaeologists J. Tait Elder and Anna Robison-Mathes performed an archaeological field survey within the Imperium study area on April 24 and April 27, 2015. Weather conditions on these days were sunny and dry. The field survey consisted of the excavation of three geoarchaeological borings and nine mechanical trenches (Figure 6-8). No archaeological deposits or buried terrestrial surfaces were identified during the archaeological field survey.

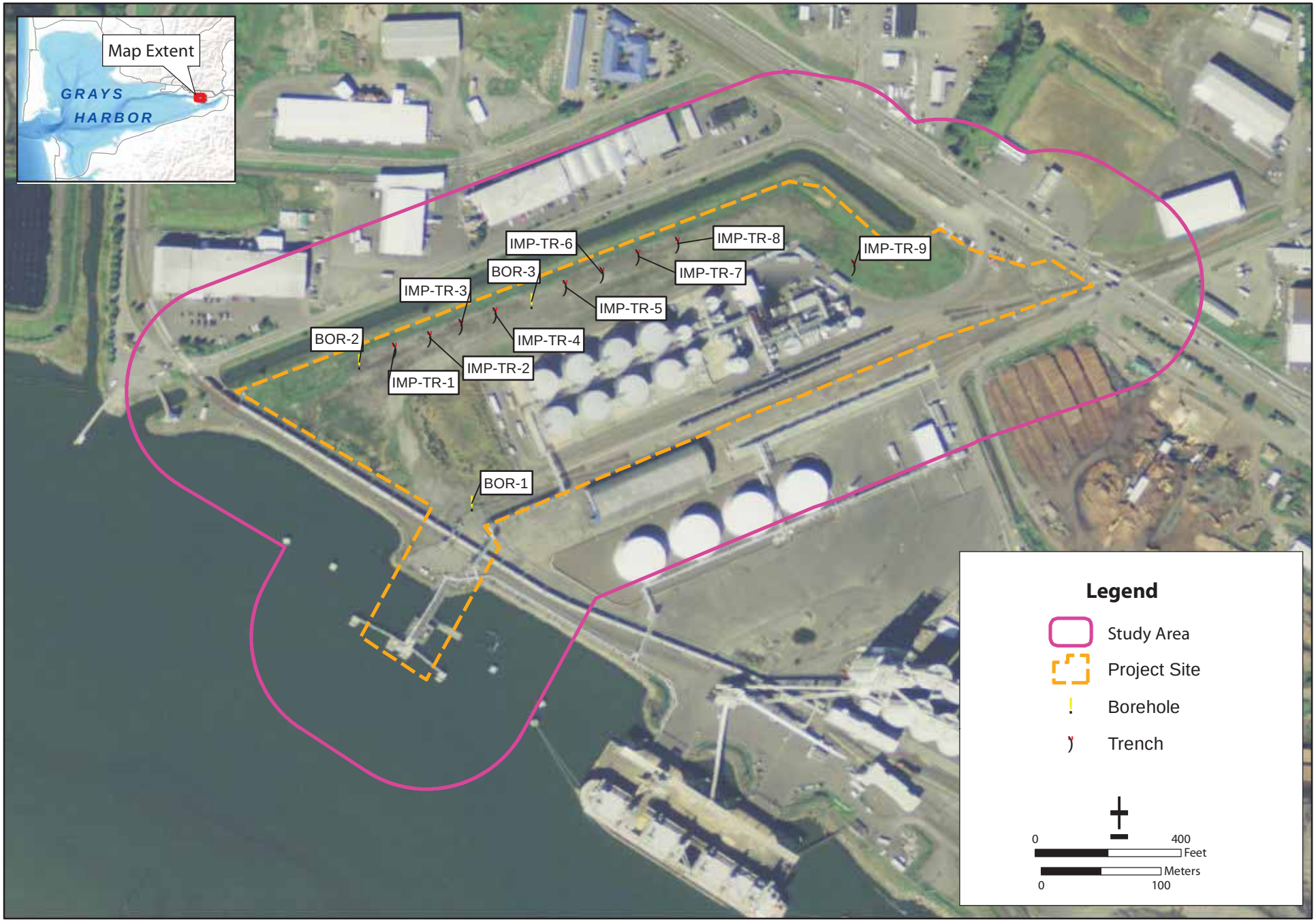
Review of the sedimentary and stratigraphic data obtained during the field survey revealed two deposits with differing inferred origins during the field survey. These deposits are described in Table 6-3 in the vertical sequence in which they were encountered. Figure 6-9 depicts the stratigraphic relationship and relative thickness of the deposits across the Imperium study area, while Figure 6-10 depicts the distribution of boreholes relative to the former Slip 1 footprint.

Table 6-3. Deposits Identified in the Imperium Study Area and their Inferred Depositional Environment

Field Designation	Description	Inferred Depositional Environment
Undifferentiated Fill	Laminated to massive loose saturated very dark gray silt, sandy silt, or sand, occasional decomposing organics, angular gravels, wood debris, sawn and wood fragments, sparse shell unidentified shell fragments.	A combination of mass and hydraulic filling.
Intertidal Flat	Laminated firm saturated grayish brown to dark gray silt with trace sand, occasional lenses of fine sand and detrital organics, sparse in-situ *Macoma* sp. valves.	Low-energy tidally influenced deposition prior to the historic era.

Undifferentiated fill was identified at the ground surface in all geoarchaeological borings and mechanical trenches. This deposit extended below the maximum depth of all mechanical trenches, and ranged from 18 to 37 feet thick. Unlike the undifferentiated fill and deposits of unknown origin in the Westway study area, the undifferentiated fill in the Imperium study area frequently contained occasional angular gravels, woody debris with sawn wood fragments, and sediments with mixed or fractured structure, often in association with each other. These depths generally corroborated the sounding depths taken while Slip 1 was in use (U.S. Coast and Geodetic Survey 1928, 1948; Figure 6-9). In two trenches, individual valves from a historically introduced shellfish species, *Mya arenaria*, were identified within fill deposits (Elder 2006).

Native intertidal flat deposits were identified in all three geoarchaeological borings, but extended below the maximum depth of mechanical trenches in the locations where geoarchaeological borings and mechanical trenches were excavated in the vicinity of each other. Like the Westway study area, in-situ bivalves were identified in the intertidal flat deposits. Although the lower interface of the intertidal flat deposits were not established within the Imperium study area, a previous geotechnical study that occurred in the study area indicates that *native fine alluvium* (inferred here to be a proxy or intertidal flat deposits) are located as deep as 130 feet below the current ground surface (Heller and Phelps 2014).



Sources: Site Design, Skillings Connely, 2014; ESRI Imagery, 2014.

Figure 6-8
Imperium Trench and Borehole Locaitons
Westway and Imperium Expansion Projects

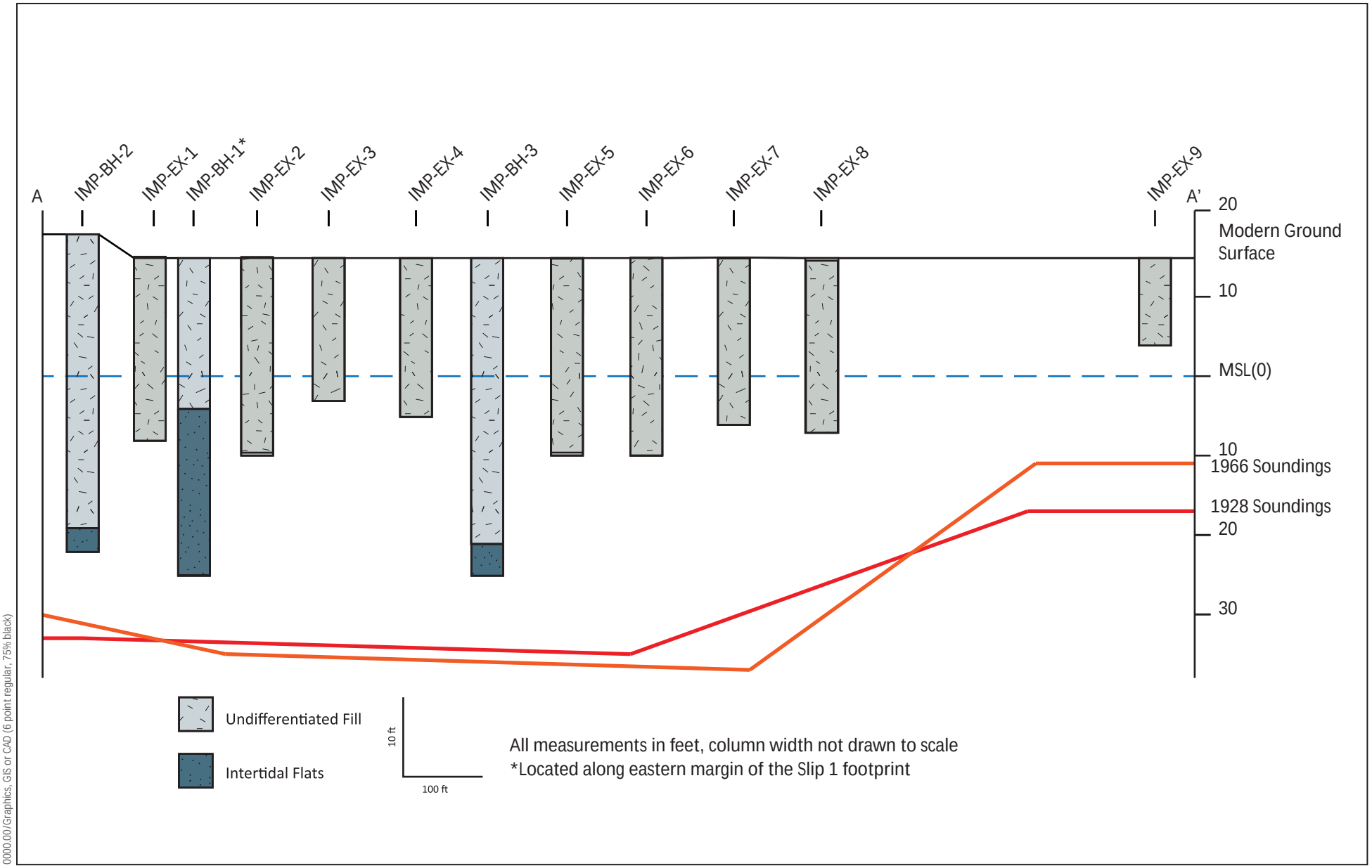


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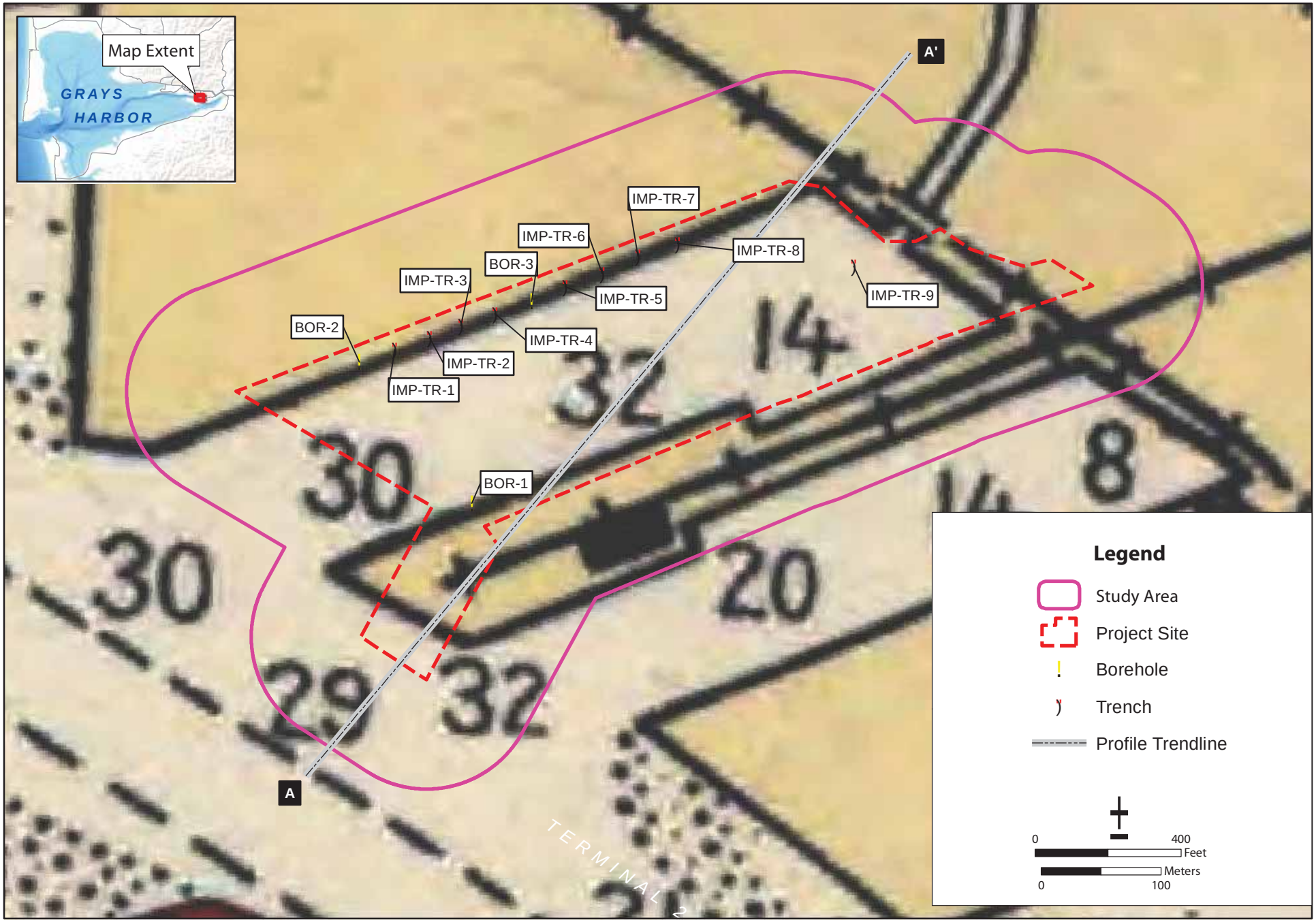
Figure 6-9
Imperium Geologic Fence Diagram
Westway and Imperium Expansion Projects



Sources: Site Design, Skillings Connely, 2014; Coast Geodetic Survey Gray's Harbor, WA, 1928.

Figure 6-10
Imperium Trench and Borehole Locaitons with Profile Trendline
Westway and Imperium Expansion Projects

Summary

Subsurface investigations revealed no buried surfaces or archaeological resources in the Imperium study area. Unlike the Westway study area, undifferentiated fill deposits in the Imperium study area retained the attributes necessary to differentiate them from the underlying intertidal flat deposits. Undifferentiated fill ranged from around 17 feet thick along the eastern margin of the Imperium study area to between 36 and 37 feet thick along the central portion of the Imperium study area. Native intertidal flat deposits were identified below undifferentiated fill in all three instances where subsurface investigations extended below the depth of fill. Although the lower interface of the intertidal flat deposits were not established in the Imperium study area, it is inferred that the terminal depth of the native intertidal flat deposits range from 120 to 130 feet below the ground surface (Heller and Phelps 2014; Phipps 2010).

Historic Resources Survey

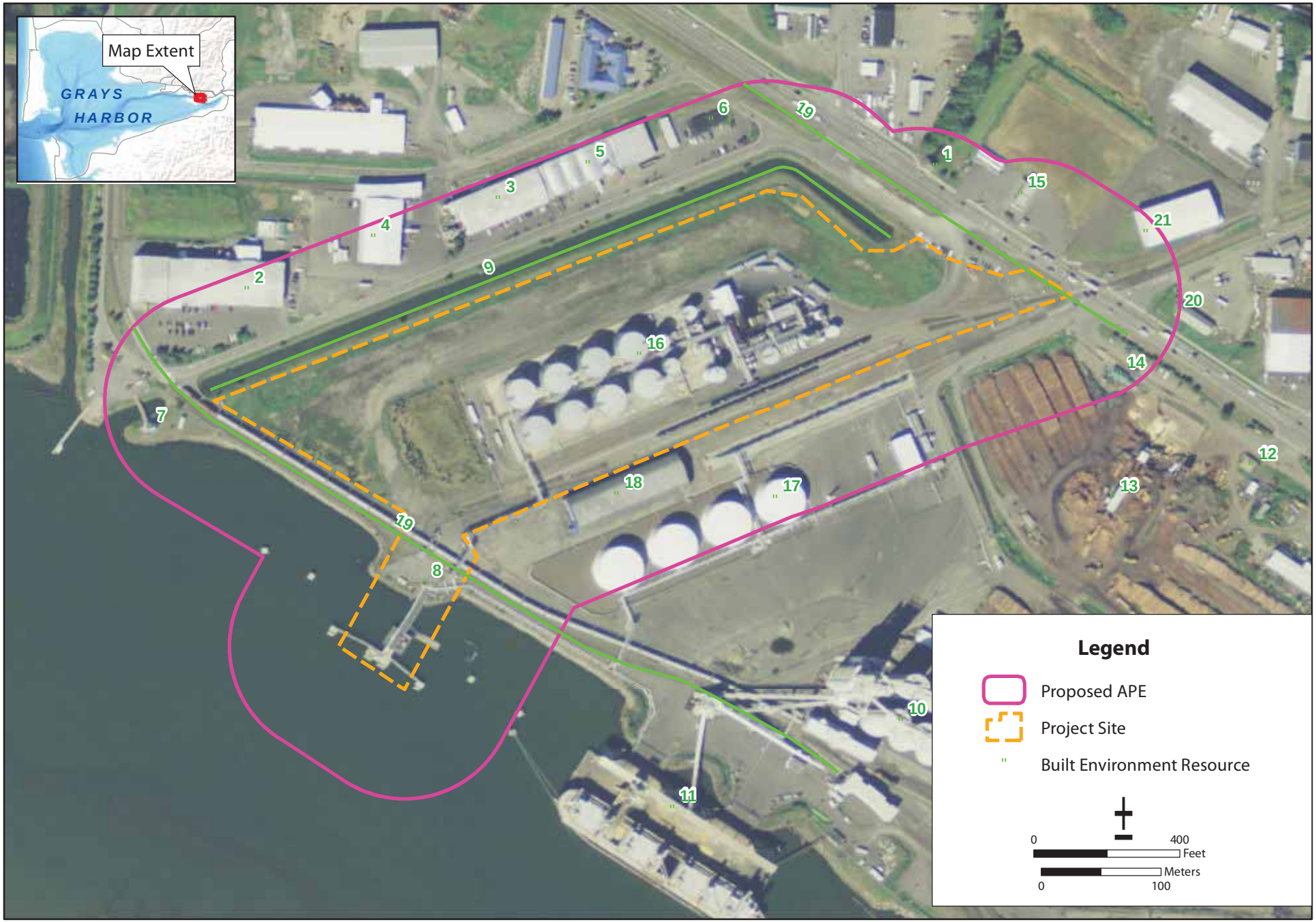
The historic resources survey of the Imperium study area identified 18 buildings and structures (Figure 6-11; Table 6-4). Based on Grays Harbor County tax assessor data and field observations, four of these properties were identified as being 45 years of age or older. Of the four, the literature review revealed that two of these properties were identified and evaluated by a previously completed cultural resources studies and recorded in WISAARD (Schneyder et al. 2010). ICF newly evaluated the other two properties for the current study.

DAHP determined that the previously evaluated properties are not eligible for listing in the NRHP, within the past five years. ICF's review of these resources corroborates these evaluations.

ICF evaluated the other two newly identified properties and concluded that none appear eligible for listing in the NRHP. These properties include the following:

- Paneltech Products, Inc. Warehouse. The property contains a one-story industrial warehouse at 2999 John Stevens Way, currently occupied by Paneltech Products, Inc., and associated with the company's adjacent office building. The warehouse was constructed in the mid-1940s, sometime before 1948.
- Warehouse E. The property contains a one-story industrial warehouse building at 3128 Port Industrial Road, currently occupied by Westway. The building was first built as a warehouse for the Port's Marine Terminal No. 1. The existing structure was constructed in 1962 at twice its current length. The building's eastern half was removed during a renovation in 2009 and the exterior cladding replaced. These changes appear to have occurred during construction of the Westway facility.

ICF found no evidence to suggest that either of these properties are associated with events that have made a significant contribution to the broad patterns of history, nor with the lives of significant persons, in the local community, the state/region, or the nation. They exhibit common architectural styles and building types, and do not appear to embody characteristics or methods of construction that would warrant special recognition. Moreover, Warehouse E has been substantially altered with changes to its plan and exterior cladding, such that it does not appear capable of conveying historical significance. There is no evidence to suggest that either property is associated with a significant designer or craftsman. Finally, the properties are not considered to have the potential to be a principal source of historical information based on their common construction and building types.



Sources: Site Design, Skillings Connely, 2014; Aerial Imagery, ESRI Basemap, 2010

Figure 6-11
Identified Buildings and Structures in the Imperium Study Area
Westway and Imperium Expansion Projects

ICF concluded that all of the other properties in the Imperium study area are less than 45 years old. These properties were not evaluated for NRHP eligibility, due to their age, based on DAHP cultural resources reporting guidelines.

Table 6-4. Buildings and Structures Identified in the Imperium Study Area

ID	APN	Property Name	Address	Build Date	NRHP Evaluation
1	29902000200	Pump Station	2700 John Stevens Way, Hoquiam	1983	Less than 45 years
2	56402300000	Westport Shipyards	2850 John Stevens Way, Hoquiam	c2000	Less than 45 years
3	56402300000	Paneltech Products Inc./Warehouse G	2999 John Stevens Way, Hoquiam	c1995	Less than 45 years
4	56402300000	Paperstone Products	2999 John Stevens Way, Hoquiam	c2000	Less than 45 years
5	56402300000	Warehouse (Paneltech Products Inc.)	2999 John Stevens Way, Hoquiam	c1945	Not Eligible
6	56402300000	Longshore Federal Credit Union	3107 John Stevens Way, Hoquiam	1960	Not Eligible (Previously Evaluated)
7	56402300000	Port of Grays Harbor View Tower	John Stevens Way, Hoquiam	c1985	Less than 45 years
8	56402300000	Port of Grays Harbor Terminal 1	PGH Terminal 1	c1985	Less than 45 years
9	56402300000	Fly Creek (Channelized)	PGH Terminal 1	1983	Less than 45 years
13	29902000200	Local Manufacturing, Inc.	2421 Port Industrial Road, Aberdeen	c1985	Less than 45 years
14	29902000200	Local Manufacturing, Inc.	2609 Port Industrial Road, Aberdeen	c1975	Less than 45 years
15	29902000200	Petit Oil Company (Fueling Station)/ Coffeeman	2616 Port Industrial Road, Hoquiam	c2000	Less than 45 years
16	56402300000	Imperium Grays Harbor	3122 Port Industrial Road, Hoquiam	2006	Less than 45 years
17	56402300000	Westway Terminal Company	3128 Port Industrial Road, Hoquiam	2009	Less than 45 years
18	56402300000	Westway Terminal Company/Warehouse E	3128 Port Industrial Road, Hoquiam	1962/ 2009	Not eligible
19	56402300000 29902000200	Port of Grays Harbor Railroad Spur	N/A	c1995	Less than 45 years
20	29902000200	California Petroleum Corp. Warehouse	2519 W 1st Street, Aberdeen (aka 2421 W 1st Street)	c1925	Not Eligible (Previously Evaluated)
21	29902000200	Warehouse	2510 1st Street, Aberdeen	c1970	Less than 45 years

Notes:
c = circa; PGH = Port of Grays Harbor; N/A = not applicable.

Chapter 7
Impacts Analysis

This chapter analyzes the proposed actions' potential impacts on identified cultural resources in the study areas, based on the results presented in Chapter 6, *Results*. The proposed actions would be considered to have an adverse effect or impact, if it were to alter the characteristics of a cultural resource (archaeological, historic, or ethnographic) that is listed in or eligible for listing in the NRHP or WHR, or is otherwise protected by applicable state regulations. All qualifying characteristics of cultural resources are considered, including those that might have been identified subsequent to the property's original evaluation. Adverse effects might also include reasonably foreseeable effects caused by the proposed actions that could occur later in time, be farther removed in distance, or be cumulative.

Both of the proposed actions and the no-action alternatives were analyzed for their potential to have impacts on cultural resources identified in their respective study areas, and qualitative consideration of potential impacts on cultural resources in the proposed actions' associated transportation corridors. A discussion of cumulative impacts is also provided.

Westway Study Area

Proposed Action

The Westway proposed action would involve the construction of five new storage tanks, two new railroad spurs, containment walls and basins, and other new infrastructure. Rail access to the expanded facility would continue to be provided via the existing connection to the PS&P rail line, which itself connects with the BNSF railway main line in Centralia, Washington. Construction of the facility would require ground disturbance on the project site, consisting of mechanical excavation and grading to prepare the ground surface and pile driving to a maximum depth of 150 feet.

It is considered unlikely that the proposed action would encounter undisturbed native sediments or archaeological deposits in primary depositional context. Of the proposed action activities, only the piles would be driven to a depth that would encounter undisturbed native sediments. However, no sediments would be excavated to drive the piles and archaeological investigations designed to sample these sediments would be impractical because of the great excavation depth required. Therefore, no additional cultural resources studies are recommended.

No historic resources eligible for listing in the NRHP or WHR are known to exist in the Westway study area. Therefore, the proposed action would not be expected to affect any significant historic resources.

No archaeological sites are known to exist in the Westway study area and none were identified during subsurface archaeological investigations. Therefore, the Westway proposed action would not be expected to affect any archaeological resources. Based on the results of the subsurface investigations and landform history analysis, only the proposed driving of piles is anticipated to encounter undisturbed native sediments.

No-Action Alternative

Under the no-action alternative, the Westway proposed action would not occur. The use of the Westway study area would remain unchanged from its current conditions, retaining its current functions and use. However, unrelated to the proposed action, Westway anticipates expanding its existing methanol distribution facilities to accommodate an increase in bulk throughput of approximately 40 tons per year. This would entail installing a new vapor control unit. This construction is not expected to result in ground-disturbing activities. No historic resources eligible for listing in the NRHP or WHR are known to exist in the Westway study area. Therefore, the proposed action would not be expected to affect any significant historic resources.

Cumulative Impacts

No significant cultural resources were identified in the Westway study area, the proposed action is not expected to have impacts on cultural resources. Consequently, there would be no cumulative impacts on cultural resources.

Imperium Study Area

Proposed Action

The Imperium proposed action would involve the construction of nine new storage tanks, two new railroad spurs, the extension of five existing railroad spurs, and the construction of containment walls, containment basins, and other new infrastructure. Rail access to the expanded facility would continue to be provided via the existing connection to the PS&P rail line, which itself connects with the BNSF railway main line in Centralia, Washington. Construction of the facility would require ground disturbance on the project site, consisting of mechanical excavation and grading to prepare the ground surface and pile driving to a maximum depth of 75 feet.

It is considered unlikely that the proposed action would encounter undisturbed native sediments or archaeological deposits in primary depositional context. Of the proposed action's activities, only the piles would be driven to a depth that would encounter undisturbed native sediments. However, no sediments would be excavated to drive the piles and archaeological investigations designed to sample these sediments would be impractical because of the great excavation depth required. Therefore, no additional cultural resources studies are recommended.

No historic properties eligible for listing in the NRHP or WHR are known to exist in the Imperium study area. Therefore, the proposed action would not be expected to affect any significant historic resources.

No archaeological sites are known to exist in the Imperium study area and none were identified during subsurface archaeological investigations. Therefore, the proposed action would not be expected to affect any archaeological resources. Based on the results of the subsurface investigations and landform history analysis, only the proposed driving of piles is anticipated to encounter undisturbed native sediments.

No-Action Alternative

Under the no-action alternative, the Imperium proposed action would not occur. The use of the Imperium study area would remain unchanged from its current conditions, retaining its current functions and use. There would be no change in activities associated with the Imperium project site, and the physical settings of the study area would not be altered. Because no change in use would occur under the no-action alternative, no effects on any cultural resources would be expected as a result of the no-action alternative.

Cumulative Impacts

No significant cultural resources were identified in the Imperium study area, and the proposed action is not expected to have impacts on cultural resources. Therefore, there would be no cumulative impacts on cultural resources

Transportation Corridors

PS&P Rail Line

As described in Chapter 1, *Introduction*, the proposed actions would result in increased rail traffic along the existing PS&P rail line between the Port and Centralia, Washington, and the project sites. This rail line has not been surveyed to identify individual historic resources in its vicinity. However, it is possible that increased rail traffic under the proposed actions could affect historic resources located in close proximity to this route. Potential impacts would be expected to include visual and audible intrusions or vibrations caused by rail traffic related to the proposed actions. Affected resources might consist of railroad-related structures, single and multifamily residences, and commercial and industrial properties.

Despite possible visual and audible intrusions and vibrations, operational use of the railroad is not expected to adversely affect historic resources within its vicinity. The PS&P rail line is an existing, active railroad corridor that is already trafficked by a relatively high volume of railroad traffic between the Port and the BNSF main line in Centralia, Washington. The anticipated volume of railroad traffic required by the proposed actions is not expected to exceed existing amounts of noise and vibration already created by railroad traffic along this corridor. For this reason, it is considered unlikely that the proposed actions' operational activities would affect historic resources along the railroad in a manner that would adversely affect their historical significance.

No construction activities or ground disturbance related to the proposed actions are anticipated along the railroad. Therefore, the likelihood of the proposed actions affecting archaeological sites along this corridor is considered minimal.

Rail traffic is addressed in more detail in Section 3.15 of the EISs.

Grays Harbor Navigation Channel

As described in Chapter 1, *Introduction*, the proposed actions would result in increased tank vessel traffic along the Grays Harbor navigation channel. This increase vessel traffic could affect onshore cultural resources in the vicinity of the navigation channel as a result of incremental increase in

shoreline erosion or potential visual effects to onshore archaeological, historic, or ethnographic resources. An onshore resource would be visually impaired by vessel traffic along the navigation channel if the view from the resource to the water were considered a character-defining feature and a view-altering development were introduced that compromised the integrity of this feature. Onshore resources could be affected if shoreline erosion altered or destroyed the landforms on or in which resources are located.

Surveys have not been conducted to identify individual cultural resources along the navigation channel. However, affected resources might consist of single and multifamily residences, commercial and industrial properties, and archaeological sites or culturally significant properties, such as archaeological districts, village sites, rock shelters, pictographs/petroglyphs, shell middens/mounds, cemeteries/burials, lithic scatters, rock alignments/stacked rock features, and fish weirs/traps.

For most of these resource types, vessel traffic along the navigation channel would not be expected to negatively affect cultural resources, because the navigation channel is already trafficked by a relatively high volume of vessels. Increased vessel traffic under the proposed actions is expected to have little change in the overall degree and frequency of shoreline erosion and ephemeral changes in the visual landscape or viewsheds associated with cultural resources along the navigation channel, and not permanent changes to their settings or contexts.

For increased vessel traffic under the proposed actions to pose an adverse impact, the qualities of a cultural resource would need to be materially altered to the extent the resource is no longer considered significant. Even for resources for which the ocean view is a prominent and distinctive character-defining feature, the alteration of the view would not materially impact these resources to the extent that they would no longer be considered historically significant. Moreover, potential levels of shoreline erosion due to project operations is expected to be only incrementally greater from that already posed by natural processes and existing vessel traffic. It is therefore expected that no onshore cultural resources along the navigation channel would be adversely affected as a result of increase vessel traffic related to the proposed actions.

Vessel traffic under the proposed action is described in more detail in Section 3.17 of the EISs.

Chapter 8
Conclusions and Recommendations

Conclusions

No significant cultural resources were identified in the study areas. Therefore, neither proposed action is expected to have impacts on cultural resources.

Consideration of archaeological resources and subsurface archaeological investigations revealed no archaeological sites in the study areas and limited potential for encountering as-yet undocumented archaeological sites. Both of the study areas were subject to widespread and deep dredging beginning in the 1920s and were subsequently filled in the 1980s. Although the precise depth of fill could not be verified at the Westway study area based on the results of the subsurface archaeological investigations alone, the information obtained from both study areas revealed that all but one of the proposed ground-disturbing activities are unlikely to disturb sediments at a greater depth than was previously disturbed and removed during the dredging of Slips 1 and 2 or greater than the depth of filling over unvegetated intertidal flats during the twentieth century. Only the proposed driving of piles is anticipated to encounter undisturbed native sediments but no sediments would be excavated during this activity. Review of the local landform development history and deep borings excavated in both study areas reveals that the undisturbed deposits below the fill include intertidal flat and high energy alluvial deposits.

The historic resources survey conducted for the proposed actions identified a total of 21 buildings and structures in the study areas. Four of these properties were found to be 45 years of age or older. Of these four properties, two were identified by previously completed cultural resources surveys and determined not eligible for listing in the NRHP. ICF concluded that the other two resources do not appear eligible for listing in the NRHP.

Along transportation corridors associated with the proposed actions, potential impacts on cultural resources are considered low. The transportation corridors have not been surveyed. However, no ground disturbance is anticipated along these routes and the likelihood of the proposed actions affecting an archaeological site is considered minimal. The PS&P rail line and Grays Harbor Navigation Channel also both consist of existing, active transportation corridors that are already trafficked by a relatively high volume of traffic similar to that potentially associated with the proposed actions. The proposed actions are not expected to exceed existing thresholds for noise and vibration affects along the railroad corridors and visual effects or erosion along the navigation channels. For these reasons, it is considered unlikely that the proposed actions' operational activities would affect historic resources along the transportation corridors in a manner that would adversely affect their historical significance.

Recommendations

No further consideration of cultural resources is recommended for either the Westway study area or the Imperium study area, based on the results of this cultural resources study and assuming that the

depth of proposed ground-disturbing activities (excluding the driving of piles) does not exceed the depth of anthropogenic fill deposited in either study area during the twentieth century.

In the Westway study area, if the depth of proposed ground-disturbing activities would result in the excavation and exposure of subsurface deposits (i.e., not pile driving) greater than 15 feet below the current ground surface in the Westway study area, then it is recommended that the proponent for the proposed actions commit to having a qualified professional archaeologist monitor ground disturbing activities. If archaeological monitoring reveals fill deposits at greater depths than listed above, these results will be used to establish a 100 foot buffer around the location of the discovery in which no additional archaeological monitoring would be needed to the maximum depth at which fill deposits have been documented.

For both proposed actions, an Unanticipated Discovery Plan should be prepared and implemented to address previously unidentified archaeological resources should any be discovered during construction.

Chapter 9
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Attachment A

Agency and Tribal Correspondence

EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

May 31, 2013

Via Federal Express and Email

Brian Shay, City Administrator
City of Hoquiam
609 - 8th Street
Hoquiam, WA 98550
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Sally Toteff, Southwest Regional Director
Washington Dep't of Ecology
P.O. Box 47775
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Re: Imperium Bulk Liquid Facility Project: Mitigated Determination of Non-Significance

Dear Mr. Shay and Ms. Toteff:

The following comments are submitted on behalf of the Quinault Indian Nation on the proposed State Environmental Policy Act ("SEPA") Mitigated Determination of Non-Significance ("MDNS") for the Imperium Bulk Liquid Facility Project—the second crude-by-rail oil shipping proposal to be given an MDNS this spring. The Quinault Indian Nation is a sovereign tribal government that has federally-guaranteed treaty rights and other interests in Grays Harbor and the Chehalis River. We appreciate the opportunity to comment.

As we expressed in our comments on the Westway proposal, we are deeply concerned about this decision, which will effectively authorize the construction of another new oil shipping terminal in Grays Harbor. With the addition of up to nine new storage tanks of 80,000 barrels each, the proposal would give Imperium the capacity to store 720,000 barrels of crude oil and other petroleum products at any given time. The decision to authorize this type of facility, particularly given the acknowledgement that two additional facilities for crude-by-rail—amounting to **tens of millions of barrels of crude oil annually through Grays Harbor**—are also being proposed in the same area, poses **major environmental risks to the Grays Harbor community and the Quinault Indian Nation.**

The Quinault Indian Nation has usual and accustomed fishing areas in Grays Harbor and the Chehalis River, and tribal members' right to access currently-used fishing, hunting, and gathering sites will be impacted by increased vessel and rail traffic. Grays Harbor and the

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tributaries that feed it are critical nursery areas for many Quinault harvested species including Dungeness crab, an economically vital fishery on the coast of Washington. Additionally, an oil spill would devastate the fish, shellfish, eel grass, and cultural plant populations they rely on for commercial and subsistence harvest and cultural activities. Tribal members have always and continue to live and work in the Grays Harbor area. The Quinault Indian Nation is also concerned about the global warming impacts of this terminal. While Imperium acknowledges that approximately 45,211 metric tons/year of CO_2 equivalent will be generated annually (measured within Washington State borders) from rail, marine vessel, automobile, and Marine Vapor Combustion of this project alone, Imperium under-estimates rail transportation emissions by at least 68%, fails to account for all marine transportation emissions, and wholly fails to account for emissions from drilling, pumping, refining, and burning.

It is inconceivable that a decision to build an oil pipeline and associated oil shipping terminal would be reviewed without an environmental impact statement; the transport of crude oil by railcar does not lessen the significant environmental risks associated with this proposal. In many ways, this pipeline-on-wheels system is more risky than a conventional pipeline, as it involves continually mobile vehicles and a greater number of transfer points. At the same time, proposals to build coal export terminals in Washington are receiving full SEPA review, and many of the coal terminal impacts—increased rail and marine vessel impacts, impacts to marine and aquatic life, impacts to tribal treaty rights and cultural historic sites, life-cycle greenhouse gas emissions—are just as significant for this proposed crude-by-rail project.

Even with the proposed mitigation, there are probable and significant adverse environmental impacts from this project. For the reasons discussed below, MDNS and the proposed permits are inconsistent with SEPA and its implementing regulations, RCW 43.21C & WAC 173-11; the Shoreline Management Act and its implementing regulations, RCW 90.58 & WAC 173-27-180; and the City of Hoquiam code.[1] We strongly urge you to withdraw the inadequate MDNS for Imperium's proposal and suspend all permitting until this project is given closer scrutiny by the public and state and local decisionmakers through a complete environmental impact statement.

Moreover, proceeding with Imperium's proposal through a Mitigated Determination of Non-Significance on a Shorelines Management Act permit violates Washington law on financial responsibility for transport of petroleum products (RCW 88.40) and protection of ocean resources (RCW 43.143). Finally, Imperium's proposed crude-by-rail facility falls under the jurisdiction of Washington's Energy Facility Site Evaluation Council, not the City of Hoquiam and Ecology, and this project should be proceeding under the requirements and provisions of RCW 80.50.

[1] We also incorporate by reference the comments of Friends of Grays Harbor *et al.*

I. BACKGROUND

A. Imperium Proposal

Imperium Terminal Services, LLC has proposed to expand its existing bulk liquid storage terminal at the Port of Grays Harbor to accept, store, and then ship petroleum projects, including crude oil. The proposed project (on a 10.907 acre site) will result in a tank farm, rail spurs (approximately 6,100 feet of new track), pipelines, and new office, laboratory, and warehouse buildings. The Imperium proposal would accept crude oil brought to the facility by rail, store it in large tanks, and then load the crude onto ships and barges that would take it to U.S. refineries, presumably in Washington or California. The oil will come by train, most likely from North Dakota, Montana, and Alberta, Canada. Imperium proposes nine new storage tanks with the capacity to store a total of 720,000 barrels or 30,240,000 gallons.[2] With a capacity to receive 78,000 barrels per day, Imperium may ship almost 28.5 million barrels of crude oil per year. Imperium estimates that the terminal would add 730 train trips annually, equaling two, 105-car trains (one loaded with oil on the way in, one empty on the way out) per day. The company estimates 400 ship/barge transits through Grays Harbor per year. Imperium must obtain at least a Shorelines Management Act Substantial Development Permit and a Conditional Use Permit for its proposal.

B. Additional Crude-By-Rail Proposals

The Imperium project is one of three crude-by-rail projects being proposed for this area of Grays Harbor, the other two proposals being put forth by Westway Terminal Company and U.S. Development Group.

Westway Terminal Company has also proposed a crude-by-rail facility at Terminal 1. After a public comment period, the City of Hoquiam issued a Shorelines Substantial Development Permit for Westway on April 26, 2013. Quinault Indian Nation and five conservation organizations have appealed that permit to the Shorelines Hearings Board (SHB Nos. 13-012, 13-013). The Imperium MDNS admits that the Westway proposal has the potential for cumulative impacts, WAC 197-11-792, although the MDNS only discusses combined vessel and rail traffic impacts resulting from the two proposals. According to the MDNS, Westway's proposal adds 243 train trips and 120 vessel transits annually to the Grays Harbor/Hoquiam area; Westway estimates shipping at least 10 million barrels of crude oil annually.

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[2] One barrel of oil = 42 U.S. gallons. For "light" crude oil, such as that from the Bakken, the ideal rail tank car capacity is 30,000 to 32,000 gallons (or 714-761 barrels). Ass'n of American Railroads, *Moving Crude Petroleum by Rail* (Dec. 2012) at 8. Imperium estimates its tank car capacity at 743 barrels per car.

U.S. Development Group is proposing a crude-by-rail facility at Terminal 3. The MDNS does not mention or consider any impacts from this proposal. While the permit applications have not yet been submitted, the U.S. Development Group proposal is reasonably foreseeable. The Port of Grays Harbor website describes the U.S. Development proposal as a facility that would handle "multiple grades of crude oil" up to "50,000 barrels per day" (18.25 million barrels a year) with two 120-car unit trains every two days and 90-120 vessels transits per year, depending on vessel size. *See* http://www.portofgraysharbor.com/about/CBR-Project.php (last visited April 5, 2013).

It should be noted that crude-by-rail is a recent phenomenon. "As recently as 2008, U.S. Class I railroads originated just 9,500 carloads of crude oil. By 2011, this had jumped to 66,000 carloads, and in 2012 will exceed 200,000." Ass'n of American Railroads, *Moving Crude Petroleum by Rail* (Dec. 2012) at 1.

C. Interests of the Quinault Indian Nation

The Quinault Indian Nation is a signatory to the Treaty of Olympia (1856) in which it reserved a right to take fish at its "usual and accustomed fishing grounds and stations" and the privilege of gathering, among other rights, in exchange for ceding lands it historically roamed freely. Treaty rights are not granted to tribes, but rather are "grants of rights from them—a reservation of those not granted." *U.S. v. Winans*, 198 U.S. 371, 380-381 (1905). Treaty rights are akin to easements running with the lands or places they burden and include a right of access to those places. *Id*. at 381. As such, treaty rights are property rights within the meaning of the fifth amendment and cannot be "taken" without compensation. *Muckleshoot v. Hall*, 698 F. Supp. 1504, 1510 (W.D. Wash. 1988).

Treaties are the highest law of the land and create a special fiduciary duty and trust responsibility upon all agencies of the United States and states to protect treaty rights, including fishing rights. *Seminole Nation v. United States*, 316 U.S. 286, 297 (1942). These rights cannot be abrogated except by explicit Congressional authorization. Federal courts have consistently required the federal agencies and states to keep the treaty promises upon which the Tribes relied when they ceded huge tracts of land by way of the Treaties. *See, e.g., U.S. v. Winans*, 198 U.S. 371 (1905); *Confederated Tribes of Umatilla Indian Reservation v. Alexander*, 440 F. Supp. 553 (D. Or. 1977); *U.S. v. Oregon*, 718 F.2d 299, 304 (9th Cir.1983); *Muckleshoot v. Hall*, 698 F. Supp. 1504 (W.D. Wash. 1988); *Northwest Sea Farms v. U.S. Army Corps of Eng'rs*, 931 F. Supp. 1515 (W.D. Wash. 1996); *U.S. v. Washingto*n, 2007 WL 2437166 (W.D. Wash. 2007).

In a landmark court case known as the "Boldt decision," a federal court confirmed that Indian tribes have a right to half of the harvestable fish in state waters and established the tribes as co-managers of the fisheries resource with the State of Washington. *U.S. v. Washington*, 384 F. Supp. 312 (W.D. Wash. 1974). Specific to the Quinault Indian Nation, the Boldt decision

affirmed the Quinault usual and accustomed fishing areas include "Grays Harbor and those streams which empty into Grays Harbor." *Id*. at 374.

The Quinault have been called the Canoe people because of the primacy of the ocean, bays, estuaries, and rivers to every aspect of tribal life.[3] The Quinault Indian Nation's Division of Natural Resources manages all aspects of its many fisheries, both on and off the reservation. Quinault fishermen catch salmon, sturgeon, steelhead, halibut, cod, crab, oysters, razor clams, and many other species in Grays Harbor.

The Chehalis and the Humptulips Rivers and the Grays Harbor estuary into which they flow, provide the freshwater and marine habitat that support natural production for chinook, chum, and coho salmon and steelhead of critical importance to the Quinault Nation's Treaty-protected terminal river fisheries within Grays Harbor, managed jointly by the Quinault Nation and Washington State Department of Fish and Wildlife and governed by seasonal plans and agreements. Grays Harbor nourishes other species of fish important to the Nation's Treaty-protected fisheries such as White Sturgeon and Dungeness Crab. Grays Harbor produces numerous species of invertebrates and finfish that provide important prey to species and stocks utilizing Grays Harbor and adjacent marine areas.

Quinault weavers have gathered materials from the Grays Harbor area for many generations. Sweetgrass, cattail, and other grasses and willow gathered from the Bowerman Basin are used by the Quinault as a material in the traditional weaving of baskets and mats, and for ceremonial purposes. Weaving is as integral to contemporary Indian culture as it was in the past. For more detail, *see* K. James and V. Martino, *Grays Harbor and Native Americans* (1986), prepared for the U.S. Army Corps of Engineers (Contract #DACQ67-85-M-0093).

Bowerman Basin, located in Grays Harbor to the north of the proposed Imperium project, is one of the two major areas remaining in Washington with large sweetgrass populations. Sweetgrass is a key component, and participant, in the highly complex estuarine ecosystem processes. Its loss due to a potential oil spill would significantly impact juvenile salmonid and bird habitats, and estuary function, having huge negative implications for the Quinault.

The Quinault Indian Nation has an obvious and keen interest in protecting the fish and fish habitat that it relies on in Grays Harbor to exercise its federally-guaranteed treaty fishing rights, as well as the traditional areas used for gathering plants for traditional cultural use. Additionally, the Quinault Nation's treaty fishing right includes a right of access to its traditional fishing areas and any impact to that right is an unconstitutional taking of a property right. These collective federally-protected treaty rights must be considered and addressed—the State of Washington cannot take actions that impinge the Quinault Indian Nation's treaty rights.

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[3] *See, generally* Jacqueline M. Strom, Land of the Quinault (1990).

II. THE PROJECT'S SEPA ANALYSIS IS FATALLY FLAWED.

On May 2, 2013, the City of Hoquiam and Washington Department of Ecology (co-lead agencies for SEPA) announced that they had made a mitigated finding of non-significance for Imperium's proposal to build nine new storage tanks at the Port of Grays Harbor, a decision that exempts the proposal from full review under SEPA. At Imperium's request, the comment period was extended to June 3, 2013. The MDNS is deeply flawed in multiple respects and will not withstand review in an appeal. A decision to authorize the storage, shipping, and handling of millions of barrels of crude oil each year will have a number of critically important environmental impacts that must be fully evaluated in an environmental impact statement, along with a complete analysis of different alternatives and potential mitigation possibilities, if any.

A. Legal Requirements

SEPA requires an environmental impact statement ("EIS") for any action that has a "probable significant, adverse environmental impact." RCW 43.21C.031(1). Significance means a reasonable likelihood of more than a moderate adverse impact on environmental quality." WAC 197-11-794. To assist in determining whether an EIS is required, agencies conduct a "threshold determination." RCW 43.21C.033. If, in reviewing the project, the agency concludes that the project will not have a significant adverse environmental impact, it may issue a "determination of non-significance" and proceed without further review. Similarly, if significant adverse environmental impacts can be mitigated to reduce them to insignificance, a "mitigated determination of non-significance" is permissible. In contrast, if the threshold determination concludes that significant environmental impacts will result, the agency needs to conduct a full EIS that evaluates all of the environmental impacts, alternatives to the proposed action, and potential mitigation. SEPA authorizes, but does not require, the mitigation of adverse environmental impacts.

B. The MDNS Failed to Consider Cumulative Impacts From Three Crude-By-Rail Proposals.

The MDNS review was limited to the immediate environmental impacts of the construction work and operating the facility. It did, however, recognize one of the other two crude-by-rail terminal proposals (Westway) as having similar transportation pathways and timeframes; this led to a chart of aggregate transportation impacts from two projects only. The MDNS, however, limited most of its analysis to only the Imperium proposal. Where Westway was considered, it was only for its transportation (rail and marine vessel) impacts, but not others, including greenhouse gas emissions, impacts of marine life, impacts to Quinault treaty rights, or risks of oil spills.

There is no explanation why the third proposal (Grays Harbor Rail Terminal, a subsidiary of U.S. Development Group) was not considered. Like Imperium and Westway, U.S.

Development Group is proposing a crude-by-rail facility, with similar types of impacts from rail and vessel transportation, greenhouse gas emissions, impacts of marine life, impacts to Quinault treaty rights, and risks of oil spills. Although this proposal has not yet submitted its permit application, it is clearly foreseeable and being proposed in the same time frame. Information about the proposal is available on the Port of Grays Harbor website, and the Port recently granted a subsidiary of Grays Harbor Terminals a lease option.[4]

"Proposals are similar if, when viewed with other reasonably foreseeable actions, they have common aspects that provide a basis for evaluating their environmental consequences together, such as common timing, types of impacts, alternatives, or geography." WAC 197-11-060(3)(c)(i). Because the MDNS did not fully consider the indirect and cumulative impacts of the three crude-by-rail proposals for Grays Harbor, WAC 197-11-792, there are probable significant adverse cumulative environmental impacts associated with this project that require review in an environmental impact statement.

C. The MDNS Fails to Consider Direct, Indirect, and Cumulative Impacts of This Project on Water Quality and Aquatic Life.

The MDNS failed to adequately consider and mitigate the impacts of this project on streams, wetlands, fishing areas, shellfish beds, water quality, aquatic life, and migratory bird habitats, and the probable adverse impacts from this proposal on these marine and aquatic resources are simply too significant for an MDNS. Fry Creek lies on the north and west boundaries of the site; the Chehalis River borders the southwest side of the site. Fry Creek supports coho salmon and cutthroat trout; the Chehalis River is home to several fish species protected under the federal Endangered Species Act, 16 U.S.C. § 1531 *et seq.*, including bull trout, green sturgeon, and Pacific eulachon. Chinook, coho, and chum salmon and steelhead are found in Grays Harbor,[5] and the harbor is an important nursery and adult refuge for Dungeness Crab. Snowy plover (threatened) have critical habitat at Damon Point, due west of the Imperium site. Steller sea lions and bald eagles also live in the area.

Juvenile salmon, which use near shore environments for migration and rearing, may also be disrupted by increased vessel traffic. With the increase of vessel traffic, turbidity and suspended sediments could increase, interfering with fish feeding capabilities. The use of the area by Pacific eulachon or smelt for near shore movement, schooling, and spawning will be

[4] *See* http://www.thenewstribune.com/2013/04/10/2551234/port-of-grays-harbor-open-to-oil.html.

[5] Coho and chinook salmon originating from Grays Harbor and its tributaries are heavily harvested by the ocean salmon fisheries from Oregon up to Southeast Alaska. The status of Grays Harbor coho and chinook salmon are important components of United States-Canada Treaty considerations. *See* http://www.psc.org/pubs/Treaty/Treaty.pdf.

harmed. During terminal operations, noise and artificial light will harm all the fish that use the near shore environment. Protection of near-shore estuary areas is vital for the survival and recovery of juvenile chinook and coho salmon. "En route to the ocean the juveniles may spend from a few days to several weeks in the estuary, depending on the species. The highly productive estuarine environment is an important feeding and acclimation area for juveniles preparing to enter marine waters." Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmon, 70 Fed. Reg. 37,160, 37,161 (June 28, 2005).

Gray whales are also often seen in Grays Harbor. The National Marine Fisheries Service notes that current threats to gray whales includes collisions with vessels, impacts for commercial development, and local catastrophic events.[6] The MDNS assessed none of these impacts on gray whales.

The Grays Harbor National Wildlife Refuge is also at risk from this proposal. From late April through early May, hundreds of thousands of shorebirds concentrate on the muddy tideflats of Grays Harbor estuary—one of four major staging areas for shorebirds in North America and one of the largest concentrations of shorebirds on the west coast, south of Alaska. Shorebirds gather here in the spring to feed, store up fat reserves, and rest for the non-stop flight to their northern breeding grounds. From June through October, shorebirds return to the estuary in lesser concentrations on their way south during the longer fall migration period. Thousands of shorebirds stay for the winter.

The potential for the introduction of invasive species, including through ballast water, was not assessed, even though tens of thousands of cubic meters of ballast water per visit will be discharged by the shipping vessels. Hull fouling presents a similar danger of invasive species introduction.

Probable, significant impacts to the marine and fresh-water aquatic environment from operation of the facility include oil spills (discussed further below), polluted runoff, and the impacts of the new pollutant loads on aquatic life.

The proposed project and its cumulative effects to connected upstream freshwater habitat have also been omitted. In the unfortunate event that a crude oil spill or leak did happen via storage tanks or rail, the impacts could cumulatively affect fresh water habitat. The Chehalis, Humptulips, Wishkah, Johns, Elk, and Hoquiam rivers are tidally influenced by Grays Harbor. Water moves from Grays Harbor into these drainages and periodically creates a back water effect into its tributaries. Pollutants would make their way into freshwater systems and disperse in the same manner as saltwater.[7] These rivers provide vital habitat for all life stages of salmonids and

[6] *See* http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/graywhale.htm.

[7] Beverage, J. & Swecker, M., Estuarine Studies in Grays Harbor Washington (1969).

other fish; the effects to fish habitat from a crude spill could be irreversible. Local, state, federal, and tribal entities contribute millions of dollars a year to protect and restore declining estuarine and freshwater habitat, yet the cumulative effects over time by this project could directly compromise these efforts.

D. The MDNS Does Not Adequately Address, Let Alone Mitigate for, the Risk of an Oil Spill From Rail Cars or Marine Vessels.

Crude oil spills into marine and fresh waters can destroy salmon, eulachon, sturgeon, Dungeness crab, and bivalve shellfish habitat. Importantly, oil spill response plans were not provided before issuance of the MDNS and are not required until prior to operation—after construction of the facility. Without those plans, the true impact of an oil spill is impossible to assess. For example, there is no information provided in the MDNS or SEPA checklist about wind, tide, or current modeling with respect to clean up of an oil spill.

The MDNS also fails to evaluate or mitigate for spill threats and responses along the entire rail line; its mitigation measures simply call for an already required spill response plan and ensuring that equipment caches are positioned near as-yet-to-be-determined sensitive areas. MDNS at 9. As the rail line crosses fish-bearing streams numerous times, an oil spill into non-marine waters poses a significant environmental risk.

Generally, the MDNS relies on the existence of federal and state emergency spill response plans to mitigate for a possible oil spill. But mitigation that is merely "compliance with applicable law" can only be adequate for a MDNS where there is an actual analysis of whether those laws are actually sufficient to mitigate the identified risk. There is no actual analysis of applicable law in this MDNS. Moreover, at least three admitted major factors exist that cannot be addressed by this "paper" mitigation, leaving probable significant adverse environmental impacts unaddressed. First, oil spill response tugs in Neah Bay and the Columbia River will take time to arrive in Grays Harbor if response is necessary. As the MDNS admits, "response tugs at Neah Bay and Columbia River could provide assistance, however, response times will depend on tug availability and weather conditions." MDNS at 9. Second, the necessary oil spill response programs may not be sufficiently funded in the future. Third, this project is proposed within a tsunami hazard zone,[8] yet potential tsunami risks are only mentioned as "covered" by the Grays Harbor County evacuation planning and risk management plan. MDNS at 8.

The MDNS analyzes rail traffic from the Washington/Idaho border and significant vessel traffic out of Grays Harbor, giving the impression that most, if not all, of the petroleum product

[8] *See, e.g.*, http://www.emd.wa.gov/hazards/documents/haz_TFS_Hoquiam.pdf; http://www.co.grays-harbor.wa.us/info/dem/index.asp.

passing through the facility will be crude oil coming from the Bakken play in North Dakota.[9] Crude oil is a serious pernicious toxin, and when released into air, water, and soil, it has devastating effects on fish, the aquatic environment, and wildlife.[10] Crude oil spills are more difficult to clean-up than refined oil products. Crude oil is heavier and thicker; it lasts longer in the environment, coating vegetation, debris, and wildlife. Crude oil can also get trapped in sediments, rocks, and other debris, which allows the oil to be remobilized into the environment days, weeks, and even months after a spill incident.[11] A spill of crude oil[12] would wreak devastating harm on Grays Harbor's estuaries, fish populations, and aquatic ecosystem.[13]

E. Increased Marine Vessel Impacts Pose a Probable Risk of Significant Environmental Impact and Will Disrupt Tribal Fisheries.

The Quinault actively fish in Grays Harbor and the Chehalis River, including in the waters adjacent to the Imperium site. Quinault fishermen will be directly impacted by increased vessel traffic associated from this project. The Quinault Nation is particularly concerned about the potential for catastrophic impacts to fish and shellfish habitat if an oil spill were to occur in or near the waters of their usual and accustomed fishing areas. Increased large vessel traffic will impact Pacific eulachon by harming larval fish that have recently been confirmed in the waters

[9] Appendix D to Imperium's SEPA Checklist reproduces the Material Safety Data Sheets for B100 Biodiesel, vegetable oil, used cooking oil, extra fancy tallow, ethanol, methanol, Bakken crude oil, jet fuel, kerosene, petroleum naphtha, unleaded gasoline, No. 2 diesel fuel, No. 6 fuel oil, and vacuum gas oil.

[10] *See, generally* http://www.epa.gov/hpv/pubs/summaries/crdoilct/c14858ca.pdf.

[11] *See* http://okaloosa.ifas.ufl.edu/MS/OilSpillFactSheetAlaska.pdf; http://dujs.dartmouth.edu/winter-2012/oil-spills-severity-and-consequences-to-our-ecosystem#.UWgvDy7n_ug.

[12] Alberta tar sands crude—diluted bitumen—is even more difficult to clean up, especially in an aquatic environment, as it is heavier and can sink to the bottom. Unlike Westway, Imperium has not stated that its crude oil might come from Alberta, Canada. Alberta tar sands oil is very different from other crude oil, as it is "a highly corrosive, acidic, and potentially unstable blend of thick raw bitumen and volatile natural gas liquid condensate. *See* http://www.nrdc.org/energy/tarsandssafetyrisks.asp; http://cahr.uvic.ca/nearbc/documents/2009/Alberta-Tar-Sands-Industry-Pollute.pdf; http://www.pnas.org/content/106/52/22346.full.pdf. Alberta tar sands oil is also heavier, making it much harder to clean up after a spill.

[13] *See generally* http://pipeupagainstenbridge.ca/images/uploads/resources/pipelines-and-salmon-in-northern-bc-report.pdf.

of the lower Chehalis River.[14] Larval eulachon will inevitably suffer mortalities from large propellers associated with tankers and tugs that are part of this proposed project.

The increased use of the pier with boats and tugs will have shading impacts, which in turn affects marine vegetation like eel grass and macro algae. Marine vegetation is vital to the marine species found in Grays Harbor for spawning, forage, and refuge habitat.[15]

The increased shipping traffic brings with it an increased risk of collisions, groundings, spills, discharges, and accidents during vessel fueling. Increased vessel traffic in Grays Harbor and the surrounding waters will disturb native populations and salmon and eulachon. One mitigation measure calls for a Vessel Traffic Impact Analysis to determine "the potential for impacts that may result from changes or increases in vessel traffic in Grays Harbor." MDNS at 12. However, this analysis is only required prior to the applicant receiving a certificate of occupancy. The City and Ecology should have required this analysis up-front, in order to review and evaluate the probable, significant risks to the environment caused by increased vessel traffic.

Although the MDNS avers that fishing access will not be affected, the additional rail and vessel traffic make this assumption unlikely. The MDNS's mitigation measure of required tug escort for outbound make it more likely that fisheries will be disturbed and negatively impacted. If a U.S. Coast Guard security zone is eventually required, such a zone would have an even greater negative impact on fishing access and the tribal fishery.

F. The MDNS Fails to Consider Archeological and Cultural Impacts.

The checklist submitted by Imperium on February 22, 2013 incorrectly states there are no historically significant sites near the project location. *[Text containing sensitive information was removed].* The Quinault have a deep interest in protecting and preserving historic archeological sites.

The Quinault also exercise their treaty gathering rights in the Grays Harbor area, including Bowerman Basin and the Grass Creek area to the north, to collect grasses, reeds, and

[14] U.S. Army Corps of Eng'rs/Quinault Indian Nation joint study of eulachon habitat and distribution in Grays Harbor, 2012-continuing.

[15] Parametrix, Port of Grays Harbor Industrial Development District Property #1—Eelgrass/Macro Algae Survey (2006).

willows for traditional cultural uses. An oil spill in Grays Harbor would devastate this culturally significant area. *See* discussion above at section I.C. The MDNS fails to disclose or discuss any impacts to these treaty gathering rights.

G. The MDNS Fails to Adequately Address Impacts to Public Safety and Local Economics From Increased Rail Traffic.

The impacts to public safety run the gamut from increased train traffic and vehicle accidents, increased derailments and concomitant emergency response, travel time delays at specific intersections (including the economic impacts of those delays, and impacts to/delay of emergency services (fire, police, EMT).

Threats from frequent long trains at rail crossings all along the route from North Dakota/Alberta and near the project area will mean delayed emergency medical service response times; and increased accidents, traumatic injury and death. A 105-unit train is almost a mile long, and this proposal would significantly increase the daily number of trains along the rail route. These trains will bisect multiple communities along the route, leading to significant traffic delays and potential safety issues at grade-crossings. The delay of only a few minutes for an emergency response vehicle can mean the difference between life and death for citizens in these rural communities.

The MDNS (at 11) contains a chart that sets out the number of vessel and train transits per year expected from the Imperium and Westway proposals. This chart is incomplete, as it is missing the Grays Harbor Terminal proposal increases. Yet the MDNS fails to use this incomplete chart when assessing rail traffic. On the next page, the "Rail Traffic" discussion focuses on two additional unit trains every day (the Imperium estimates), with no discussion or even acknowledgment of the additional rail traffic from any of the other projects. Even without the Grays Harbor Terminal numbers, there will be an estimated 18 additional trains a week (nine loaded and unloaded)—much more than the Freight Rail Plan 2013 that "identifies infrastructure enhancements for an increase of three to seven loaded trains per week." MDNS at 11.

One mitigation measure calls for a Rail Transportation Impact Analysis to determine "the potential for impacts directly caused by changes and increases in rail traffic on local vehicular traffic and other rail commodities." MDNS at 12. However, this analysis is only required prior to the applicant receiving a certificate of occupancy. The City and Ecology should have required this analysis up-front, in order to review and evaluate the probable, significant risks to the environment caused by increased rail traffic. As with the Vessel Traffic Impact Analysis, the requirement that a rail impact analysis be prepared after permits are approved cannot serve SEPA's goal of analyzing and understanding project impacts before projects are fully built.

In addition, the MDNS fails to examine or even require post-approval examination of the rail impacts from all three crude-by-rail proposals combined with anticipated rail impacts from proposed coal export terminals.

Unless mitigated with significant capacity additions, the addition of the massive increases of crude oil and coal train traffic is likely to present significant adverse impacts on other users of the rail line, including grain and fruit shippers, intermodal users, ports, industries, aircraft manufacturers and passenger rail—all of who are critically dependent on timely and affordable access to the rail system.[16] Existing state studies indicate that coal rail traffic alone is already having a significant negative impact on the ability of Washington shippers to access markets where coal traffic from the Powder River Basin is dominating the rail lines. These reports also confirm that the railroad prioritizes unit trains, such as crude oil trains, over other shippers. The MDNS fails to analyze any impacts on northwest shippers if inbound and outbound freight traffic is diverted or eliminated due to the competition with crude-by-rail trains.

The economic impacts of the increased rail traffic associated with this project must also be reviewed. Issues here include the impact of dramatic increases in train traffic on real estate values and damage to property from oil leaks, diesel emissions, vibration, and noise. There are also serious concerns relating to the impact of such a massive increase in rail traffic on other non-oil shippers of freight by rail, including ports and shippers of agricultural products. These same issues may dramatically affect passenger rail interests. These significant rail traffic increases are likely to create major impacts on communities affected by vehicle traffic problems related to delays at non-grade separated railway crossings, which will affect non-rail freight mobility, access to ports, retailers, tourist centers, and employers.[17]

H. The MDNS Fails to Fully Disclose and Consider All Climate Impacts From Greenhouse Gas Emissions.

SEPA and its implementing regulations explicitly require consideration of direct and indirect climate impacts. *See* RCW 43.21C.030(f) (directing agencies to "recognize the world-wide and long-range character of environmental problem); WAC 197-11-444 (listing "climate" among elements of the environment that must be considered in SEPA review). SEPA regulations also explicitly direct that environmental impacts outside the jurisdiction of the deciding agency should be considered. WAC 197-11-060(c). Crucially, agencies are required to assess both the direct and indirect impacts of the proposal.

[16] *Heavy Traffic Ahead*, http://www.heavytrafficahead.org/.

[17] Freight rail congestion has become an important issue with respect to coal trains; an increase in crude-by-rail traffic would cause the same choke-points, but the MDNS did not address this issue. *See* http://earthfix.opb.org/communities/article/northwest-railroads-already-congested/.

In recent years, state and federal agencies have made efforts to better define how climate analysis should be performed, and to provide tools to enable agencies to meaningfully assess and mitigate the greenhouse gas contribution of proposed projects. For example, in late 2008, Ecology and the State's Department of Community, Trade and Economic Development (CTED) issued a "comprehensive plan to address the challenges and opportunities of climate change." (2008 Climate Plan).[18] That plan recognized the increasing pressure on local governments to better identify climate impacts in their SEPA analyses, and noted that SEPA analysis provided an opportunity to evaluate climate impacts of government decisions and to identify changes to proposals to reduce or mitigate those impacts. *Id.* at 50.

Also in 2008, a governor-appointed working group provided a list of recommendations on how to ensure that climate change is considered in meeting SEPA's directives.[19] Notably, those recommendations identified the following categories of greenhouse gas emissions to be considered pursuant to SEPA: a) off-site mining of materials purchased for the project; b) transportation of raw materials to the project, and transport of the final product offsite; c) use of products sold by proponent to consumers or industry, including "emissions generated from combustion of fuels manufactured or distributed by the facility." *Id.* at App. D.

Ecology recently issued SEPA guidance for its own consideration of greenhouse gas emissions.[20] Accordingly, that Guidance makes clear that SEPA requires climate to be considered in its environmental analysis. Ecology's Guidance proposes that SEPA documents consider whether the proposal will significantly contribute to greenhouse gas concentrations, and states that "[i]f the emissions are proximately caused by the project, they should be disclosed regardless of their location." *Id.* at 4. The Guidance proposes that projects qualitatively disclose greenhouse gas emissions of at least 10,000 metric tons/year and quantitatively disclose greenhouse gas emissions for projects expected to produce an average of 25,000 tons/year of CO_2 equivalent.

Ecology has also provided a "table of tools" that can be used to calculate emissions from projects.[21] That Table, in turn, lists various sources of emissions from projects, methods to calculate those emissions, and options to mitigate them. Direct "Scope 1" emissions include trains and boats. *Id.* at 1. Scope 3 emissions include "emissions from the future combustion of fossil fuels," which are defined to include "emissions that will result from the combustion of fossil fuels transported, distributed or imported as a result of the project (*e.g.*, natural gas pipeline)." *Id.* at 2.

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[18] *Available at* http://www.ecy.wa.gov/pubs/0801025.pdf.

[19] *Available at* http://www.ecy.wa.gov/climatechange/2008CATdocs/IWG/sepa/103008_sepa_iwg_report.pdf.

[20] *Available at* http://www.ecy.wa.gov/climatechange/sepa.htm.

[21] *Available at* http://www.ecy.wa.gov/climatechange/sepa.htm.

Here, Imperium reviewed its greenhouse gas emissions in its SEPA Checklist at pages 7-9 to arrive at a total greenhouse gas emission estimate of 45,211 metric tons CO_{2e} annually. However, Imperium began and ended its greenhouse gas emission analysis at Washington's state borders. However, "[i]n assessing the significance of an impact, a lead agency shall not limit its consideration of a proposal's impacts only to those aspects within its jurisdiction, including local or state boundaries." WAC 197-11-060(4)(b).

Imperium's failure to calculate and consider the full rail greenhouse gas emissions violates SEPA. "For projects with ongoing operations that include transporting products from outside the state, such as a port, a more thorough and perhaps more defensible analysis would include the transportation emissions from the source location outside of Washington to the final destination if either is known and the extent to which either is known." Guidance for Ecology at 4. Because the rail emissions will have a significant environmental impact, the MDNS is invalid.

On the outbound marine vessel side of the equation, Imperium's SEPA Checklist again uses the state border (here the nautical three mile boundary). Clearly, the transportation of the crude oil to a refinery in Washington or California will be a much longer journey and will emit many more tons of CO_{2e} per year.

The MDNS also fails to calculate the greenhouse gas emissions of drilling, pumping refining the crude oil, and ultimately burning the refined product. A life-cycle analysis (well to wheel) was not done.

Because the MDNS fails to account for the actual greenhouse gas emissions from the Imperium proposal, and because those emissions will have a significant and detrimental environmental impact, the MDNS is invalid.

I. The MDNS Failed to Address Climate Change Impacts, Including Ocean Acidification.

In February 2012, Washington Governor Christine Gregoire convened the Washington State Blue Ribbon Panel on Ocean Acidification to chart a course for addressing the causes and consequences of acidification. The Governor charged the Panel to:

- Review and summarize the current state of scientific knowledge of ocean acidification,
- Identify the research and monitoring needed to increase scientific understanding and improve resource management,
- Develop recommendations to respond to ocean acidification and reduce its harmful causes and effects, and
- Identify opportunities to improve coordination and partnerships and to enhance public awareness and understanding of ocean acidification and how to address it.

The Panel released its report and recommendations in the document Washington State Blue Ribbon Panel on Ocean Acidification (2012): Ocean Acidification: From Knowledge to Action, Washington State's Strategic Response, H. Adelsman and L. Whitely Binder (eds). Washington Department of Ecology, Olympia, Washington.[22]

In November 2012, Governor Christine Gregoire issued an Executive Order[23] acknowledging the particular harm that ocean acidification, caused by increased emissions of greenhouse gases into the atmosphere, inflicts on Washington. "[I]t is critical to our economic and environmental future that effective and immediate actions be implemented in a well-coordinated way and that we work collaboratively with federal, tribal, state, and local governments, universities, the shellfish industry, businesses, the agricultural sector, and the conservation/environmental community to address this emerging threat. The Executive Order specifically directs "[t]he Office of the Governor and the cabinet agencies that report to the Governor to advocate for reductions in emissions of carbon dioxide at a global, national, and regional level." Despite this directive, the MDNS fails to address any impacts of this proposal for crude oil shipping on ocean acidification.

J. The MDNS Should Not Segment Connected Actions Into Separate Analyses.

SEPA prohibits agencies and project proponents from segmenting a single project into multiple separate decisions in order to avoid a comprehensive analysis. WAC 197-11-060(3)(b) ("Proposals or parts of proposals that are related to each other closely enough to be, in effect, a single course of action shall be evaluated in the same environmental document."). Imperium may be segmenting its action here.

First, Imperium has proposed no in-water work on its dock at this time. Given the significant expansion of Imperium's operation, the different requirements for loading crude oil onto barges and ships, and the company's own estimates of up to two outbound vessels (Panamax class with 350,000 barrel capacity) and two outbound barges (25,000 to 150,000 barrel capacity), it seems likely that Imperium will need to upgrade its dock in the future. In-water dock work would require separate, federal permits. If likely dock repair or upgrade associated with this project is foreseeable, it should be included here, and not segmented into a separate, later analysis.

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[22] *Available at* https://fortress.wa.gov/ecy/publications/SummaryPages/1201015.html. The technical summary (Feely, R.A., T. Klinger, J.A. Newton, and M. Chadsey (2012): Scientific Summary of Ocean Acidification in Washington State Marine Waters. NOAA OAR Special Report) is *available at* https://fortress.wa.gov/ecy/publications/SummaryPages/1201016.html.

[23] *Available at* http://www.governor.wa.gov/execorders/eo_12-07.pdf.

Second, completion of this project involves a number of other agencies and approval decisions, as listed in the MDNS at pages 3-4. The impacts of these various permits should not be viewed in isolation but rather aggregated in a single, comprehensive environmental impact statement that explores all of the direct, indirect, and cumulative impacts of the Imperium proposal to build and operate a crude oil shipping facility.

K. The MDNS Violates RCW 88.40—Transport of Petroleum Products—Financial Responsibility.

Washington State law recognizes that "oil and hazardous substance spills and other forms of incremental pollution present serious danger to the fragile marine environment of Washington state." RCW 88.40.005. Because of this significant environmental danger, RCW 88.40.025 requires that Imperium "shall demonstrate financial responsibility in an amount determined by [the Department of Ecology] as necessary to compensate the state and affected counties and cities for damages that might occur during a reasonable worst case spill of oil from that facility…." The financial responsibility calculations must include the amount of oil that could be spilled, cost of cleaning up the spill, frequency of operations at the facility, and damages that could result from a spill. *Id.* The MDNS contains no such discussion, analysis, or evidence.

L. The MDNS Violates the Ocean Resources Management Act, RCW 43.143.

The Washington legislature has also found that "Washington's coastal waters, seabed, and shorelines are among the most valuable and fragile of its natural resources," and that some uses of Washington's coastal waters, seabed, and shorelines "may pose unacceptable environmental or social risk at certain times." RCW 43.143.005. Grays Harbor is among the particular portions of Washington's coast called out for special protection from oil or gas exploration, development, or production. RCW 43.143.010. RCW 43.143.030 sets forth specific planning and project review criteria for projects along Washington's coast, and calls for "special protection provided for the marine life and resources of … Grays Harbor estuaries," *id.* at 43.143.030(2)(d), as well as all reasonable steps to avoid and minimize impacts on tribal fishing, *id.* at 43.142.030(2)(e). The MDNS fails to mention, discuss, or follow the Ocean Resources Management Act.

M. City of Hoquiam Should Transfer Lead SEPA Authority to the State, and a Complete EIS Should Be Prepared.

For the reasons discussed above, this project needs a "time out" for further evaluation and analysis, public input, appropriate dialogue among all stakeholders, and consultation with the Quinault Indian Nation. SEPA explicitly prohibits the City of Hoquiam from allowing any action which would either have an adverse environmental impact or that would limit the choice of alternatives while a valid EIS is being prepared. WAC 197-11-070(1). We ask that you

withdraw the MDNS and hold off from issuing any permits related to this project until SEPA is fully satisfied.

The Imperium project requires a complete EIS that fully evaluates the environmental impacts of the crude-by-rail project, reasonable alternatives to that project, and mitigation options. The EIS should encompass all related portions of the project and should include other agency permitting actions related to the project. The EIS should also consider the indirect and cumulative impacts of the other two proposed crude-by-rail projects; alternatively, the Department of Ecology could review these projects as similar actions under WAC 197-11-060(3)(c). The EIS should do an emissions analysis of transporting oil via rail and marine vessel and also include emissions from drilling, pumping, refining, and burning—a true life-cycle analysis of greenhouse gas emissions as well as other air toxics like mercury.

III. IMPERIUM'S PROPOSAL MUST BE REVIEWED AND APPROVED BY THE WASHINGTON UTILITY TRANSPORTATION COMMISSION UNDER RCW 80.50.

The State of Washington, through the passage of RCW 80.50, assigned the selection, review, and development of energy facility sites to the Energy Facility Site Evaluation Council ("EFSEC"). The stated policy of this law is "to recognize the pressing need for increased energy facilities, and to ensure through available and reasonable methods, that the location and operation of such facilities will produce minimal adverse effects on the environment, ecology of the land and its wildlife, and the ecology of state waters and their aquatic life." RCW 80.50.010.

EFSEC has jurisdiction over facilities that have "the capacity to receive more than an average of fifty thousand barrels per day of crude or refined petroleum … which has been or will be transported over marine waters…." RCW 80.50.020(12)(d). Imperium's proposal, with a 720,000 barrel capacity, meets this definition of a covered facility.

Imperium's position is that this proposal does not trigger EFSEC jurisdiction because it is an expansion that would yield a net increase in receiving capacity of less than 50,000 barrels per day. "A unit train typically has 105 tank cars, each of which can carry up to 743 barrels for a total of 78,000 barrels per unit train. Currently we have 64 spots for unloading rail cars, yielding a capacity to receive 47,500 barrels per day. The expansion would add capacity to unload up to an additional 41 rail cars per day (i.e., an entire unit train of 105 cars), thus adding an incremental capacity to receive approximately 30,500 barrels daily." Letter from John Plaza, Imperium, to Stephen Posner, EFSEC (March 19, 2013).

Imperium's position misreads Washington law. In order to trigger EFSEC jurisdiction, a facility must have the capacity to receive an average of 50,000 barrels of crude a day, not a lower expectation based on unit train length. Plans can change, yet there will be no further state review if Imperium begins to receive more crude oil. Additionally, Imperium's proposed storage capacity is 14 times greater than the jurisdictional threshold set in RCW 80.50.020(12)(d); this

proposal, even though it is an expansion, should be proceeding under the EFSEC's jurisdiction, procedures, and environmental review requirements.

* * * * *

Thank you for the opportunity to comment. We would be pleased to meet with you and discuss these comments further if such a discussion can help avoid appeals and litigation on this project's permits and SEPA review.

Sincerely,

Kristen L. Boyles
Attorney for the Quinault Indian Nation

cc: Governor Jay Inslee
Dr. Mary Alice Heuschel, Chief of Staff
Governor's Office
(via U.S. Mail)

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

April 7, 2014

The Honorable David Burnett
Chehalis Confederated Tribes
420 Howanut Road
Oakville, WA 98568

Dear Chairperson Burnett:

The Washington State Department of Ecology (Ecology) is a co-lead agency with the City of Hoquiam for the environmental reviews of the Imperium Bulk Liquid Facility Project (Imperium) and Westway Terminal Tank Farm Expansion Project (Westway) proposals in Grays Harbor under the State Environmental Policy Act (SEPA). The City of Hoquiam is the nominal lead for the SEPA process, which means the City's processes and procedures are being used for the public notice, comment periods, and appeals.

As you will recall, these two projects were previously considered by the co-lead agencies in earlier SEPA and permitting processes. The permits were issued and then both SEPA and the local shoreline permits were appealed by the Quinault Indian Nation and other organizations. Those permits were vacated by the Shorelines Hearing Board in November 2013. The companies re-applied in January 2014, and asked the co-lead agencies to conduct Environmental Impact Statement (EIS) processes prior to consideration of permits. The co-lead agencies are now beginning those new environmental review processes for each proposal.

Ecology and Hoquiam are holding a joint scoping period for these EISs, with a 47 day expanded scoping period beginning April 10, 2014, and ending May 27, 2014. We invite you to provide comments on what the EISs should analyze. In addition to the opportunities for providing comments as described below, direct government-to-government consultation can be arranged if requested.

Imperium and Westway are proposing expansions of their existing facilities at the Port of Grays Harbor. If built, the Westway terminal expansion would receive, store and ship crude oil with a maximum throughput of 17,855,000 barrels per year. The Imperium terminal, if built, would receive, store and ship additional oils, including crude oil and biodiesel, with a maximum throughput of 30,000,000 barrels per year. The company's environmental checklists with details on the proposals are on the project website at http://www.ecy.wa.gov/geographic/graysharbor/terminals.html.

The co-lead agencies will consider all comments regarding the scope of the EISs, and determine what should be included in each scope. The co-lead agencies have the responsibility to ensure that these proposals receive objective and thorough review in the EIS process, consistent with the requirements of SEPA and its related regulations.

Scoping is an important step. It is during the scoping process that tribal governments, other agencies and organizations, and the public are invited to comment on what should be covered in the EIS document and in what detail, to include: reasonable range of alternatives; potentially affected resources (e.g., stormwater, wetlands, air emissions, marine waters, noise, traffic) and the extent of analysis for those resources; significant unavoidable adverse impacts; and measures to avoid, minimize and/or mitigate effects of the proposals.

As mentioned earlier, the expanded 47 day scoping period begins April 10, 2014, and ends on May 27, 2014. Scoping comments will be accepted by the methods below:

Oral Comments: Oral comments will be accepted during two public scoping meetings:

1. Hoquiam: April 24, 2014, at Hoquiam High School Commons, 501 W. Emerson Avenue, Hoquiam WA. The meeting will start at 5 p.m. and end at 9 p.m. The public comment period will start at 6 p.m. and end at 9 p.m.

2. Centralia: April 29, 2014, Centralia High School Commons, 813 Eshom Road, Centralia WA. The meeting will start at 5 p.m. and end at 9 p.m. The public comment period will start at 6 p.m. and end at 9 p.m.

Electronic Written Comments: Electronic written comments will be accepted through 5 p.m. Pacific Daylight time until May 27, 2014, via a web form at https://public.commentworks.com/cwx/westwayimperiumcommentform.

Other Written Comments: Other written comments will be accepted through May 27, 2014, via US Mail at the following address:

Imperium and Westway EISs
c/o ICF International,
710 Second Avenue, Suite 550
Seattle, WA 98104

Written scoping comments will also be accepted at scoping meetings listed above.

Additional information is available on Ecology's website at: http://www.ecy.wa.gov/geographic/graysharbor/terminals.html. Following scoping, a draft EIS will be prepared by a contractor under the direction of the co-lead agencies. The purpose of an EIS is to provide the public and agency decision makers with information on likely adverse effects of the proposed project, as well as reasonable measures to reduce those effects.

A draft EIS may take months to prepare. When available, it will be broadly announced and circulated so that tribes, other agencies, and the public have an opportunity to comment on its content, analysis, and accuracy. Public hearings will also occur during the public review of the draft EIS. The co-lead agencies will consider and respond to public comments in the final EIS.

If you have any questions or would like to arrange government-to-government consultation, please contact Sally Toteff, Ecology Southwest Regional Director at (360) 407-6307 or by email at sally.toteff@ecy.wa.gov.

Sincerely,

Maia D. Bellon
Director

cc: Glen Connelly, Natural Resources Director, Chehalis Confederated Tribes
Sally Toteff, Southwest Regional Director, Ecology
Tom Laurie, Executive Advisor for Tribal & Environmental Affairs, Ecology

Quinault Indian Nation
POST OFFICE BOX 189 ☐ TAHOLAH, WASHINGTON 98587 ☐ TELEPHONE (360) 276 - 8211

June 10, 2014

Maia Bellon, Director
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Director Bellon:

By this letter I request formal government-to-government consultation with you regarding the various aspects of the crude-by-rail proposals in Grays Harbor necessitating reviews or regulatory action by the Washington State Department of Ecology (DOE). As you are aware, the Quinault Indian Nation ("QIN") has federally-protected treaty rights in the Grays Harbor area and adjacent marine waters of the Pacific Ocean. These rights are jeopardized by the proposed storage and rail and vessel transport of crude oil.

Specifically, I wish to discuss the anticipated scope and timing of the EIS for Imperium and Westway, as well as potential permits and SEPA review for the proposed crude oil storage facility by U.S. Development Corp. Additionally, I request a response to the QIN's scoping comments submitted by Earthjustice on May 27, 2014 (Attached). Finally, I request to discuss DOE's response to the QIN's comments regarding the Grays Harbor Navigation Improvement Project Clean Water Act 401 certification and CZMA consistency (Attached).

Please contact my Executive Assistant, Rose Enos-Weedmark, at your earliest convenience, renos@quinault.org or 360.276.8215 ext. 333, to schedule a mutually agreeable time and location for consultation.

Thank you for your prompt attention to this request. I look forward to meeting with you soon.

Sincerely,

Fawn R. Sharp, President
Quinault Indian Nation

Enc.: QIN letter of June 4, 2014
Earthjustice Scoping Comments May 27, 2014

Quinault Indian Nation

POST OFFICE BOX 189 • TAHOLAH, WASHINGTON 98587 • TELEPHONE (360) 276-8211

September 16, 2014

Diane Butorac, Regional Planner
Southwest Region, Department of Ecology
300 Desmond Drive
Lacey, WA 98503-1274

Sent via email: dbut461@ECY.WA.GOV

Dear Ms. Butorac:

This letter is in follow-up to the government-to-government meeting on July 18, 2014, between Department of Ecology (Ecology) staff and the Quinault Indian Nation (QIN). At that meeting, Ecology offered to consider comments by the QIN on the Scope of Work for the EIS development by ICF International for the Westway and Imperium Renewables Expansion Projects, and we take this opportunity to provide our thoughts.

As you know, the QIN is represented by Earthjustice in its ongoing appeals of the Shoreline Substantial Development Permits and underlying Mitigated Determinations of Significance (MDNSs) for these projects. The Shoreline Hearings Board (SHB) granted the QIN summary judgment on the inadequacy of the MDNSs to consider the direct, indirect, and cumulative impacts of three proposed crude-by-rail projects in Grays Harbor. Earthjustice subsequently submitted extensive EIS scoping comments on QIN's behalf, many of which appear to have been ignored in the Scope of Work.

In its Summary Judgment Order, the SHB stated, "[T]he Co-leads should have considered the cumulative impacts from the USD project along with the cumulative impacts from Westway and Imperium in making their threshold determination. Their failure to do so makes the MDNS clearly erroneous." Amended Order on Summary Judgment, December 9, 2013, p. 26. Given this conclusion, the QIN is surprised the Scope of Work fails to include any analysis of cumulative impacts of the U.S. Development (USD) (now Grays Harbor Rail Terminal)

proposal. The QIN is also surprised at the utter absence of recognition and analysis of impacts to tribal treaty fishing and gathering rights, which we specifically address below.

Additional deficiencies include:

- The geographic scope of the analysis is limited to rail impacts between Centralia and Grays Harbor rather than from the source of crude oil to Grays Harbor, as we argued, and as is being analyzed by Ecology for the Gateway Pacific Terminal Project, or even Washington State borders, as originally analyzed in the checklists submitted by Imperium and Westway. Similarly, vessel impacts are only being analyzed three nautical miles away from Washington coast rather than the geographic extent of the ultimate destination, which QIN believes is more appropriate.

- Analysis of greenhouse gas emission impacts does not address or include consideration of NEPA guidance or Ecology SEPA guidance, or incorporate and address the commitments by the State of Washington to reduce emissions and increase the availability of low-carbon energy alternatives.

- Analysis of potential oil spills is limited to risk rather than analyzing the magnitude of potential impacts to plants/wildlife/economies from a potential oil spill.

- There is no analysis included that considers the unique properties of the crude oil proposed to be stored and transported for health risks, spill clean-up, and climate impacts.

Aside from these more global comments, we offer the following more specific comments by page number:

p. 11 EARTH

The Scope of Work states: "Project site soil data will be based on the available geotechnical reports. Natural Resources Conservation Service (NRCS) soil mapping and soil series information is not expected to be relevant as the project sites are on fill materials. Therefore, this soils information will not be collected and addressed unless **relevant**." (Emphasis added).

> **COMMENT**: There is no question that soils information **is** relevant because soils are mostly comprised of fill in the area of facilities. Furthermore, there is no contractual mechanism that addresses how this issue of relevancy is determined.

p. 13 AIR

COMMENT: The QIN believes analysis relating to hazardous air pollutants should be quantitative in addition to qualitative. Addressing these issues without quantitative studies or analysis is unreasonable given the magnitude and significance of the impacts.

Canada's largest oil-by-rail terminal in St. John, New Brunswick, has seen escalating air quality problems even though the operator Irving Oil Ltd. assured regulators it was unlikely to affect the environment. Data show that emissions of volatile organic compounds have spiked since the terminal was approved in 2012, impacting residents who reported odors from rail cars powerful enough to burn their eyes. A qualitative discussion of air quality impacts is critical for context and comparison with similar situations and for decision makers to properly address impacts.

p. 15 WATER

COMMENTS: The QIN believes analysis relating to water quality impacts should be quantitative in addition to qualitative. Addressing these issues without quantitative studies or analysis is unreasonable given the magnitude and significance of the impacts.

QIN disagrees that "No hydraulic modeling is required to support the floodplain assessment." Modeling is critical to understanding floodplain impacts from tsunamis in relation to the proposed projects.

p. 15-16 PLANTS

COMMENTS: The scoping document for the EIS inappropriately lacks discussion of spill impacts to plants, which are critical to the QIN's treaty gathering right. This should be analyzed in the EIS.

There is no direction for analysis of impacts to plants from carbon emissions and we recommend this be added.

p. 16-17 ANIMALS

COMMENTS: The scoping document for the EIS inappropriately lacks discussion of potential spill impacts to fish/marine mammals as well as analysis of impacts to animals from carbon emissions.

Most critically, there is no acknowledgement of fish being a treaty resource or that QIN and the State of Washington co-manage fish resources in Grays Harbor.

p. 17 ANIMALS

COMMENT: Analysis of wildlife impacts should not be limited to water river crossings. The analysis should be throughout the corridor. Deer and elk cross the tracks in many locations.

p. 20 NOISE

COMMENT: The QIN believes analysis relating to noise should be quantitative in addition to qualitative. Addressing these issues without quantitative studies or analysis is unreasonable given the magnitude and significance of the impacts.

p. 23 RECREATION

COMMENT: There is vague reference to areas "near" the proposed project sites, but no specific mention of Bowerman Basin, which is a National Wildlife Refuge and significant bird watching site.

pp. 23-25 HISTORIC & CULTURAL PRESERVATION

COMMENTS: This section inappropriately lacks recognition of and analysis of treaty rights and impacts to access of QIN fishers and harvesters of grasses from vessel traffic or spills, as well as consideration and analysis of fish as cultural resource. Consultation with tribes is contemplated the by co-lead agencies, but there is no inclusion of analysis of the information gathered from such consultation in the Scope of Work.

The analysis appears limited to existing data, which is inappropriate and short-sighted.

The Scope of Work assumes no archeological sites in the study area, which is likely false based on QIN information and experience.

pp. 26-30 RAIL TRAFFIC AND SAFETY

COMMENTS: Based on comments made by BNSF and PS&P employees and union representatives at public meetings, QIN recommends an anonymous survey of BNSF and PS&P railway workers to request additional information about railway use/management/ maintenance, etc. to independently verify existing data.

The assumption that "Estimated increased grade crossing delay from each project will not be large enough to warrant quantitative analysis of potential impacts on neighboring roadway intersections" inappropriately affirms an outcome rather than requests analysis to determine an outcome. Additionally, this assumption seems false in light of many public comments about concerns about delays at the Walmart/Gateway Mall entrances from increased traffic.

p. 41 COST-BENEFIT ANALYSIS

COMMENTS: The focus is geographically narrowed to the City of Hoquiam, which contradicts reliance on ECONorthwest Cost Benefit Analysis and review of information at County and State level per pp. 40-41.

There is no inclusion or consideration of the information raised in the cost benefit analysis prepared for Earthjustice by Natural Resource Economics in January 2014. More specifically, the Scope of Work inappropriately lacks analysis of economic or social impacts to QIN treaty rights from increased vessel traffic and limitations on fishing opportunity, and potential losses from oil spills.

Thank you for consideration of these comments. If you would like to discuss these comments or have any questions, please contact our attorney, Karen Allston, at (206) 713-8223 or kallston@quinault.org.

Sincerely,

Fawn R. Sharp, President
Quinault Indian Nation

cc: Allyson Brooks, SHPO

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 · Olympia, Washington 98504-7600 · (360) 407-6000
711 for Washington Relay Service · Persons with a speech disability can call 877-833-6341

October 16, 2014

The Honorable Fawn Sharp
Quinault Indian Nation
PO Box 189
Taholah, WA 98587

Dear President Sharp:

Thank you for your letter of September 16, 2014, with your comments and thoughts about the scope of work for the environmental impact statements (EISs) being developed for the expansion projects at Westway Terminal and Imperium Renewables in Hoquiam.

As a co-lead agency with the City of Hoquiam for these environmental reviews, the Department of Ecology (Ecology) is committed to thorough, transparent and impartial reviews of the significant environmental impacts of these proposals. We are following the State Environmental Policy Act (SEPA) and agency guidance. As you may know, the City of Hoquiam is the nominal lead for the SEPA processes, which means the City's procedures are being used to hire ICF International to assist in preparation of the draft EISs.

The scope of work is broadly worded and identifies tasks such as initial research and analyses necessary for the draft EISs. The scope of work is not intended to provide in-depth evaluations nor detailed information. Rather, it is a mechanism providing direction to our consulting firm. The co-lead agencies are in the early stage of preparing the draft EISs, and anticipate issuing them for review and comment in the first quarter of 2015.

Your letter expresses concern about the level of detail in the scope of work as well as highlighting aspects of the Shorelines Hearings Board decision. In particular, you question why the scope of work does not provide more specifics about analyses of cumulative impacts and of tribal fishing and gathering rights. Ecology is aware of the Shorelines Hearings Board conclusion in this matter and we intend to make every effort to prepare draft EISs that comply with it.

In regard to your inquiry about the U.S. Development proposal, the co-lead agencies intend to include it in the draft EIS cumulative impact analyses. The scope of work purposefully did not list projects to be analyzed. Rather, the scope of work directs consultants to carefully research and then identify all appropriate projects to be included in the analyses.

Another concern raised in the letter is about evaluating impacts to tribal rights. As mentioned earlier, the scope of work is broadly worded; the in-depth analyses will come later in the draft EISs. The scope of work calls for research into "resource areas" that are defined in the SEPA regulations. Because SEPA does not identify tribal treaty fishing and gathering rights as a

"resource area", the scope of work does not call these out as individual areas of study. Nonetheless, the scope of work acknowledges and refers multiple times to tribal fishing areas and fisheries, tribal lands, culturally significant resources and historic and cultural resources (see pages 17, 20, 21, 24, 25, 36 and 40). The draft EISs will include descriptions of tribal treaty rights and significant impacts will be identified within the resource area discussions.

To your inquiry about how the greenhouse gas impacts will be evaluated, the co-lead agencies will consult existing SEPA and National Environmental Policy Act regulations and guidance.

In response to concerns about how potential oil spills and risk will be analyzed, our consultants will model numerous spill scenarios. The scenarios will be used to identify potential impacts and where appropriate, to identify mitigation. Additionally, the draft EISs will evaluate the potential of increased exposure to hazardous materials, risk of fire or explosion, or risk of spills at the proposed project sites and during rail and vessel transport. Hazardous material exposure will be further discussed in other sections of the draft EISs. Chemical properties of all the proposed commodities being transported will be explained in the draft EISs. This includes crude oil, hazardous materials, and other commodities.

I appreciate your early feedback and look forward to further discussing these issues at our October 20 meeting. For additional technical communication, the co-lead agencies would like to meet with members of your staff and tribe to learn and gather additional information specific to the Quinault Indian Nation's interests. Ecology's project manager, Diane Butorac, is coordinating with your Natural Resource Director, Dave Bingaman, to schedule these meetings.

One final note, in your letter you reference a cost benefit analysis prepared for Earthjustice by Natural Resource Economics. I would appreciate receiving a link or a copy of this document for evaluation as part of our environmental review.

If you have additional questions during the environmental processes, please contact me at (360) 407-6307 or Paula Ehlers at (360) 407-0271.

Best Regards,

Sally Toteff

Sally Toteff
Southwest and Olympic Regional Director

cc: Maia Bellon, Director, Ecology
Dave Bingaman, Natural Resources Director, Quinault Indian Nation
Allyson Brooks, DAHP
Brian Shay, City Manager, City of Hoquiam
Tom Young, Attorney General's Office
Diane Butorac, Project Manager, Ecology
Paula Ehlers, Section Manager-SEA, Ecology
Tom Laurie, Executive Advisor for Tribal & Environmental Affairs, Ecology

Quinault Indian Nation

POST OFFICE BOX 189 • TAHOLAH, WASHINGTON 98587 • TELEPHONE (360) 276-8211

December 10, 2014

Maia Bellon, Director
Washington State Department of Ecology

Sent by email to: maia.bellon@ecy.wa.gov

Dear Director Bellon:

In light of a technical call between our respective staff on November 24th, by which the Department of Ecology (Ecology) and ICF representatives attempted to informally gather information about the Quinault Indian Nation's (QIN) treaty and cultural interests in Grays Harbor, I take this opportunity to explain how QIN will coordinate with Ecology in your EIS process related to the crude-by-rail facilities proposed in Grays Harbor.

First, I reiterate that the basis of our interest in cultural resources in Grays Harbor, including plants, fish, shellfish and their habitats, stems from our federally-guaranteed treaty rights as a signatory to the Treaty of Olympia (1856). The exercise of our reserved rights under that Treaty—fishing, shellfishing, hunting, and gathering—define us as Quinault people.

Treaties are the highest law of the land. Accordingly, we expect Ecology to respect and honor our rights and interests. It was in this spirit that QIN and the State of Washington committed to meaningful government-to-government consultation in the "Centennial Accord between the Federally Recognized Indian Tribes in Washington State and the State of Washington," August 4, 1989. The Accord was further memorialized in the "New Millenium Agreement" in 1999, by which we committed to: "Striving to coordinate and cooperate as we seek to enhance economic and infrastructure opportunities, protect natural resources and provide the educational opportunities and social and community services that meet the needs of all our citizens." It is under these frameworks that we intend to assist you in the collection of information to inform the EISs for Westway, Imperium, and U.S. Development's proposed crude storage facilities.

We recently worked with the Washington Department of Transportation (WSDOT) on an EIS for the 520 Pontoon Project, which entailed building pontoons in Grays Harbor and floating them out of the Chehalis River and Grays Harbor. This project resulted in impacts to treaty fishing rights. Those impacts were addressed by a Memorandum of Agreement between WSDOT and QIN, which was negotiated after several community and government-to-government meetings by which WSDOT gathered information to inform its EIS process and develop an appropriate mitigation package. I direct you to WSDOT's Model Tribal Consultation Process for NEPA as an example of a respectful way to conduct EIS analysis involving tribal rights:

http://www.wsdot.wa.gov/NR/rdonlyres/BF49CED8-B7C7-46A4-BA89-93153AB70FF3/0/TribalManual.pdf

As I have indicated to you in our prior government-to-government meetings, we expect meaningful engagement on an ongoing basis throughout the EIS process. In that spirit, we have provided extensive scoping comments that give you an indication of what impacts we believe these projects will have on our rights and interests. Continued dialogue and engagement will allow you, as an EIS co-lead agency, to focus on understanding and properly characterizing the impacts we have identified to date. To that end, meaningful engagement should occur at three levels: with our elected officials, our community, and our staff. We have 2,936 enrolled Quinault tribal members. Each and every one of them has a right to fish, harvest shellfish, and gather plants for cultural use.

It is highly appropriate for you to conduct community meetings on the Reservation to hear from those who exercise treaty rights in Grays Harbor. Those meetings should be coordinated through my assistant, Rose Enos (renos@quinault.org). Further coordination with QIN staff can now take place through our Director of Natural Resources, Dave Bingaman, who has returned to work after taking medical leave. Mr. Bingaman can coordinate meetings to ensure proper staff are present to answer specific questions. We expect agendas for those meetings to be jointly developed and we expect to understand the specific types of information and the level of detail you seek in advance of those meetings, rather than to be asked broad questions such as "tell us what cultural resources should be included in our analysis." We expect our scoping comments to inform your questions. Our cultural resources, which include plants, fish, shellfish and their habitats are in current, living and ongoing use by our Tribal members, which elevates their significance far beyond a checking of a box as "described" in an EIS. Please use this letter as guidance to gathering the information needed for a meaningful characterization and analysis of the impacts under discussion between the Quinault Nation and the State of Washington.

In the spirit of the Centennial Accord, we are committed to meaningful government-to-government consultation with Ecology through this EIS process. I look forward to further discussing this matter at our upcoming meeting on December 15, 2014.

Sincerely,

Fawn R. Sharp, President
Quinault Indian Nation

Cc: Sally Toteff, Regional Director, SWRO
Diane Butorac, Regional Planner, Southwest Region
Gordon White, Program Manager, Shorelands and Environmental Assistance
Tom Laurie, Tribal Liaison
Allyson Brooks, State Historic Preservation Officer
Lance Wollwage, DAHP

Attachment B

Historic Property Inventory Forms

Historic Inventory Report

Location

Field Site No. **DAHP No.**

Historic Name:

Common Name: Paneltech Products Inc.

Property Address: 2999 John Stevens Way, Hoquiam, WA 98550

Comments:

Tax No./Parcel No. 56402300000

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T17R09W	07			Grays Harbor	ABERDEEN

Coordinate Reference

Easting: 803131

Northing: 614511

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Westway-Imperium CR Survey **Date Recorded:** 04/21/2015

Field Recorder: Hetzel, Christopher

Owner's Name: Paneltech Products, Inc.

Owner Address: 2999 John Stevens Way

City: Hoquiam **State:** WA **Zip:** 98550

Classification: Building

Resource Status: **Comments:**
Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Historic Inventory Report

Description

Historic Use: Industry/Processing/Extraction - Manufacturing Facility

Current Use: Industry/Processing/Extraction - Manufacturing Facility

Plan: Rectangle

Stories: 1

Structural System: Concrete - Reinforced Concrete

Changes to Plan: Slight

Changes to Interior: Unknown

Changes to Original Cladding: Slight

Changes to Windows: Extensive

Changes to Other: Moderate

Other (specify): Addition added to northeast elevation.

Style:	Cladding:	Roof Type:	Roof Material:
Other - Industrial	Concrete - Poured Veneer - Stucco	Flat with Parapet Barrel Vault	Other

Foundation:	Form/Type:
Concrete - Poured	Industrial

Narrative

Study Unit	Other
Manufacturing/Industry Architecture/Landscape Architecture	

Date of Construction: 1945 Built Date

Builder:

Engineer:

Architect:

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance:

The existing warehouse building at 2999 John Stevens Way (APN: 56402300000) was evaluated at a reconnaissance level during a cultural resources study conducted for the City of Hoquiam and the Washington State Department of Ecology in association with two proposed development projects at the Port of Grays Harbor. The building was originally constructed in the mid-1940s, sometime before 1948. It appears to have been one of the first industrial manufacturing facilities built adjacent to the Port of Grays Harbor's Marine Terminal Number 1, following a boom in development in the vicinity in the postwar period and through the 1950s. A large rectangular addition was added to the building's northeast elevation circa 1970. In the early 1980s, the building was known as Port of Grays Harbor Warehouse 5-5. The building is currently occupied by Paneltech Products, Inc., which is a manufacturer of medium and high density phenolic overlays used in the production of wood panels.

ICF evaluated the warehouse building to determine its eligibility for listing in the National Register of Historic Places (NRHP). Based on NRHP evaluation criteria (36 CFR 60.4), the building is recommended as not eligible for listing in the NRHP. No evidence was found to suggest that the building is associated with events that have made a significant contribution to the broad patterns of history, nor with the lives of persons significant in the community. It was not the first industrial facility to be constructed in the vicinity, and its construction appears to be of a style and type typical of industrial manufacturing and distribution facilities from the 1950s that did not involve significant change or innovation. The building exhibits an industrial utilitarian design with a modernist elements, but does not appear to embody characteristics or a method of construction that would warrant special recognition. Furthermore, there is no evidence to suggest that the property is associated with a significant designer or craftsman. The building is not considered to have the potential to be a principal source of historical information based on its common construction and building type.

Description of Physical Appearance:

The property consists of a large industrial warehouse building, originally constructed in the mid-1940s. The building has a long rectangular plan with a northeast-southwest orientation, situated on a parcel between John Stevens Way and Ingram Street. A railroad spur at one time ran along Ingram Street immediately adjacent to the building's northwest elevation and the existing paved area southeast of the building was known as Murphy Street in the 1980s.

The building is one-story high and constructed of board-formed reinforced poured concrete. Its rectangular plan is comprised of two sections. The building's original massing is located to the southwest, while a large addition extends the building's length to the northeast. The addition was built at the northeast elevation sometime in the 1960s or early 1970s. It equals the building's original dimensions in height and width. The original massing has a barrel vault roof that has four sections. The addition has a flat roof. Both roofs feature low parapet walls and are clad with modern composite roofing. The exterior walls consist of finished board-formed concrete at the original massing and stucco cladding at the addition.

The southeast and northwest elevations of the building's original massing are each equally divided into 12 bays. The bays are delineated by simple concrete pilasters that extend the building's full height. Most of the bays on the southeast elevation feature groups of three and four rectangular window openings set in a two-over-two or two-over-one configuration. The window openings are interspersed by smaller pedestrian doors and three large overhead freight doors occupy three of the bays. The building's original upper windows have been replaced with non-original single-light fixed windows and the lower windows with tripartite sashes from the same manufacturer. The doors have also been replaced, and several door and window openings enclosed. Similarly configured windows characterize the building's northwest elevation, but with only one freight door opening. The addition is five bays wide and characterized by large two-over-two industrial windows in the three northernmost bays.

Major Bibliographic References:

Grays Harbor County Tax Assessor Records.

Jones Photo Historical Collection. http://www.jonesphotocollection.com/.

Photos

Southeast Elevation, Looking North
2015

Southeast Elevation, Looking North
2015

Southeast Elevation, Looking North
2015

Historic Inventory Report

Location

Field Site No. **DAHP No.**

Historic Name:

Common Name: Westway Terminal Company/Warehouse E

Property Address: 3128 Port Industrial Rd, Hoquiam, WA 98550

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T17R09W	07			Grays Harbor	ABERDEEN

Coordinate Reference

Easting: 803182

Northing: 613590

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Westway-Imperium CR Survey **Date Recorded:** 04/21/2015

Field Recorder: Hetzel, Christopher

Owner's Name: Westway Terminals

Owner Address: 365 Canal Street, Suite 2900

City: New Orleans **State:** LA **Zip:** 70130

Classification: Building

Resource Status: **Comments:**
Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

Historic Inventory Report

Description

Historic Use: Industry/Processing/Extraction - Industrial Storage

Current Use: Industry/Processing/Extraction - Industrial Storage

Plan: Rectangle

Stories: 1

Structural System: Platform Frame

Changes to Plan: Extensive

Changes to Interior: Intact

Changes to Original Cladding: Extensive

Changes to Windows: Extensive

Changes to Other: Extensive

Other (specify): Half of the original building has been removed.

Style:	Cladding:	Roof Type:	Roof Material:
Other - Industrial	Wood - Plywood Metal - Corrugated	Barrel Vault	Asphalt / Composition

Foundation:	Form/Type:
Concrete - Poured	Industrial

Narrative

Study Unit	Other
Manufacturing/Industry Architecture/Landscape Architecture	

Date of Construction:

1962 Built Date
1982 Addition
1976 Remodel
2009 Remodel

Builder:

Engineer:

Architect:

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance:

The existing building at 3128 Port Industrial Road (APN: 56402300000), known as Warehouse E, was evaluated at a reconnaissance level during a cultural resources study conducted for the City of Hoquiam and the Washington State Department of Ecology in association with two proposed development projects at the Port of Grays Harbor. The warehouse was originally constructed in 1962 by the Port of Grays Harbor at the Port's Marine Terminal 1. The building appears to have replaced or been constructed as an addition to older warehouse buildings that existed at the terminal at that time. Between 1976 and 1979, the structure was relocated a short distance northeast of its current location. Subsequent to this move, its length was extended with the construction of a large addition in the early 1980s, prior to 1984. During this period it was used for "transit storage" by the Port of Grays Harbor. In 2009, the building's length was again changed when it's northern half was removed to accommodate construction of the existing Westway Terminals facility. The warehouse is currently vacant.

ICF evaluated Warehouse E to determine its eligibility for listing in the National Register of Historic Places (NRHP). Based on NRHP evaluation criteria (36 CFR 60.4), the building is recommended as not eligible for listing in the NRHP. No evidence was found to suggest that the building is associated with events that have made a significant contribution to the broad patterns of history, nor with the lives of persons significant in the community. It has suffered extensive alterations that have substantially impacted its integrity and does not appear to embody characteristics or a method of construction that would warrant special recognition. Furthermore, there is no evidence to suggest that the property is associated with a significant designer or craftsman. The building is not considered to have the potential to be a principal source of historical information based on its common construction and building type.

Description of Physical Appearance:

The property consists of a large industrial warehouse building, originally constructed in 1962 and subsequently altered. The warehouse has a long rectangular plan with a northeast-southwest orientation. It is a tall one-story high and consists of braced frame wood construction set on a concrete slab foundation. The building has a tall barrel vault roof clad with modern composite roofing. Its exterior walls were previously clad with non-original, vertical corrugated metal siding. The siding remains intact on the building's southwest elevation. However, it has been removed from the northwest and southeast elevations, exposing a sheathing of plywood panels that now serves as the wall cladding in these locations. The warehouse's northeast elevation remains open from when the building's northern half was removed. The elevation is partially enclosed by a framed internal wall partition that is set back from the opening. Large freight door openings punctuate each of the warehouse's northeast, southeast, and southwest elevations. Each door opening is fit with a large industrial sliding door. A line of regularly spaced window openings, located under the eaves, characterizes the warehouses southeast and northwest elevations. The original windows have been removed and replaced with non-original two-light fixed windows.

Major Bibliographic References:

Grays Harbor County Tax Assessor Records.

Jones Photo Historical Collection. http://www.jonesphotocollection.com/.

Photos

Southwest Elevation, Looking Northeast
2015

Southwest and Southeast Elevations, Looking North
2015

Southeast Elevation, Looking North
2015

Southeast Elevation, Looking West
2015

Southeast Elevation, Looking West
2015

Southeast and Northeast Elevations, Looking West
2015

Interior, Looking West
2015

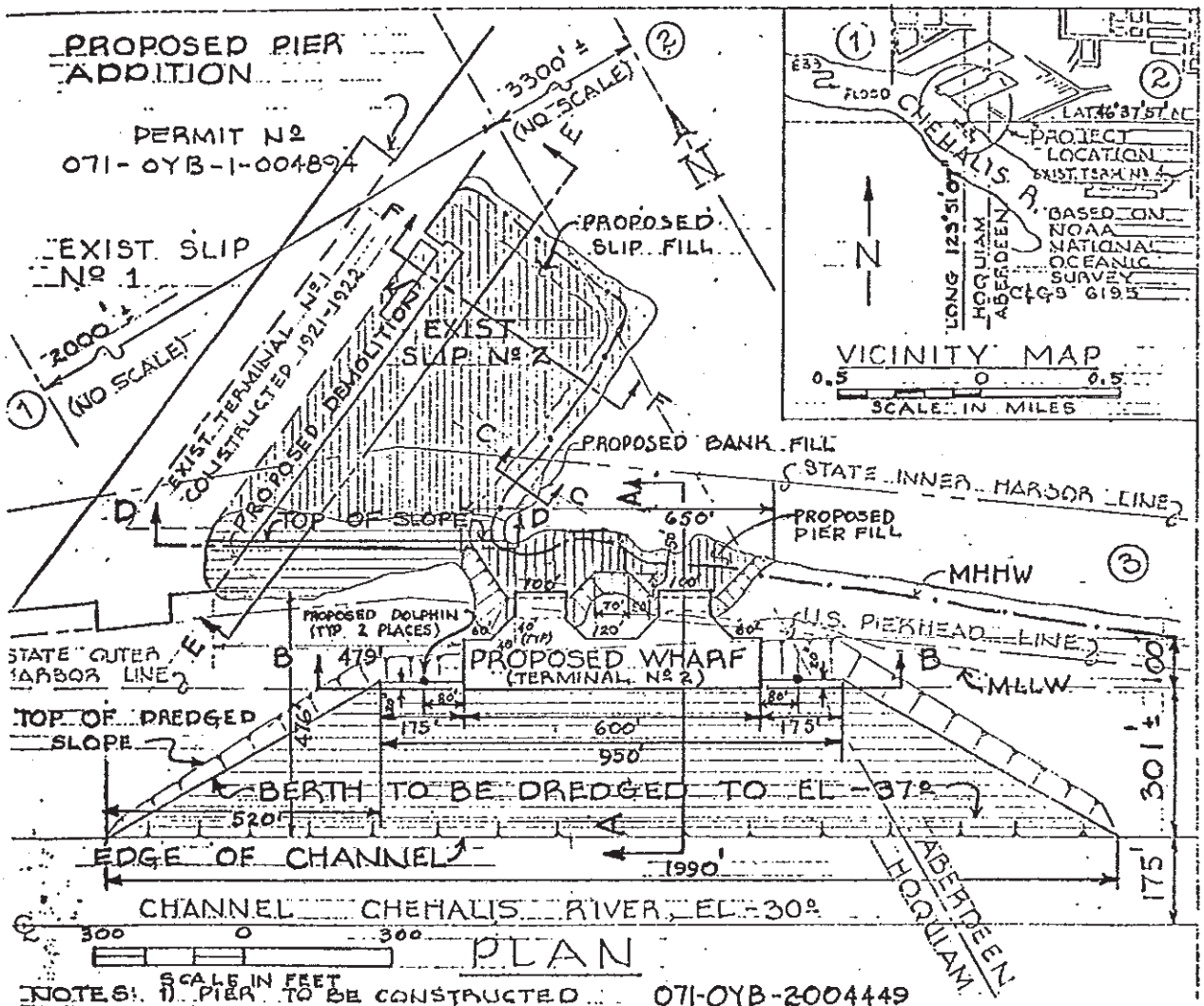
Attachment C

Cascadia Study of Westway Project Site

Attachment contains sensitive information and has been removed.

Attachment D

1978 Engineering Drawings for Terminal 2 Project



NOTES: 1) PIER TO BE CONSTRUCTED OF REINFORCED CONCRETE OVER STEEL AND CONCRETE PILING.
2) FOR DISPOSAL SITE OF DREDGED MATERIAL, SEE SHEET 5 of 5
3) ADJACENT PROPERTY OWNERS:
① ITT RAYONIER, P.O. BOX 299 HOQUIAM, WA. 98550
② BOISE CASCADE CORP. P.O. BOX 1170 ABERDEEN, WA. 98520
③ STATE OF WASHINGTON (DNR)
4) DATUM: MLLW = 0º

071-OYB-2004449

PROPOSED TERMINAL 2 PROJECT
IN CHEHALIS RIVER AT HOQUIAM/ABERDEEN, COUNTY OF GRAYS HARBOR STATE of WASHINGTON
APPLICATION BY PORT OF GRAYS HARBOR

REV. 8-4-78
SHT. 1 OF 5 DATE 10-28-77

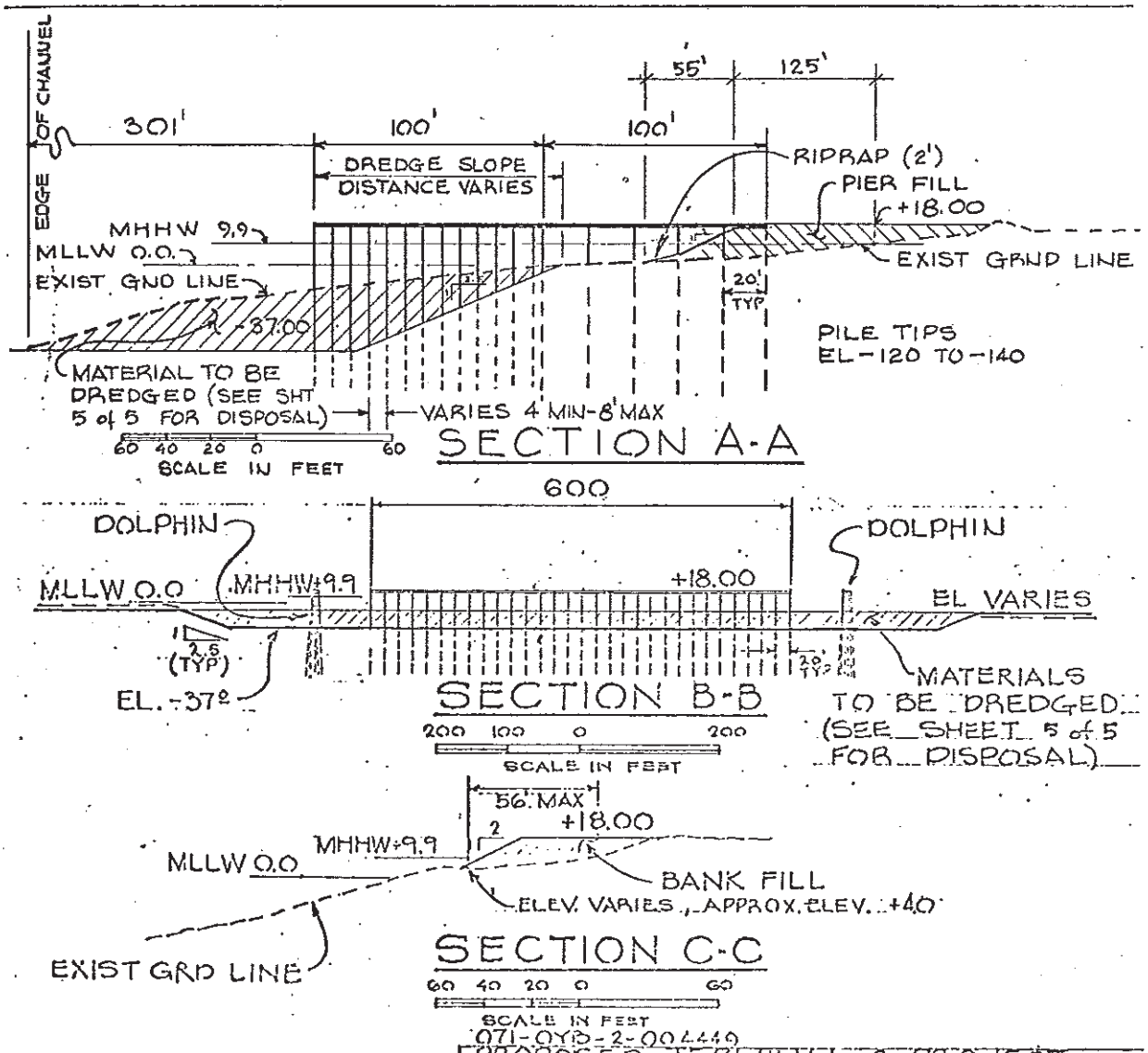
ITEM	FILL SOURCE	TYPE OF FILL	CU YDS	METHOD OF HANDLING
PIER FILL	REHANDLED DREDGED GRANULAR MATERIAL FROM NAVIGATIONAL FACILITIES ADJACENT TO TERMINAL № 4	CLEAN SANDY GRAVEL	31,000	COMBINATION OF BARGE, DUMP TRUCK & CLAMSHELL
BANK FILL	DO (DITTO)	DO	3,000	CLAMSHELL & DUMPTRUCK
DIKE FILL (STAGE I)	DO	DO	30,000	COMBINATION OF BARGE, DUMP TRUCK & CLAMSHELL
DIKE FILL (STAGE II)	DO	DO	30,000	CLAMSHELL & DUMPTRUCK
SLIP NO 2	DO, & INORGANIC, NON-POLLUTING MATERIALS SUCH AS BROKEN CONCRETE SLAB & ASPHALT PAVING FROM ON-SITE DEMOLITION		250,000	CLAMSHELL & DUMP TRUCK
SLOPE PROTECTION (RIP-RAP)	QUARRY	FRACTURED BASALT	15,600*	CLAMSHELL & DUMPTRUCK

ITEM	DISPOSAL	TYPE OF MATERIAL	CU YDS	METHOD OF HANDLING
BERTH DREDGING	SOUTH SHORE DISPOSAL SITE, SEE SHEET 5 of 5	SANDY SILT	250,000	HYDRAULIC DREDGE

071-OYB-2-004449

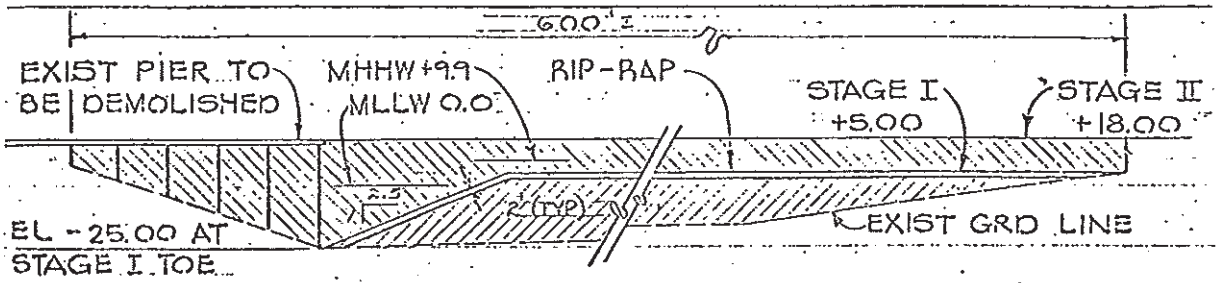
PROPOSED TERMINAL & PROJECT
IN CHEHALIS RIVER AT
HOQUIAM/ABERDEEN
COUNTY OF GRAYS HARBOR
STATE OF WASHINGTON
APPLICATION BY PORT OF GRAYS HARBOR
SHT 2 of 5 REV 8·4·78
DATE 10·28·77

* PIER FILL = 3,600 CY
DIKE STAGE I = 8,000 CY
DIKE STAGE II = 4,000 CY



071-OYB-2-004440

PROPOSED TERMINAL 2 PROJECT
IN CHEHALIS RIVER AT
HOQUIAM/ABERDEEN
COUNTY OF GRAYS HARBOR
STATE OF WASHINGTON
APPLICATION BY: PORT OF GRAYS HARBOR
REV. 8·4·78
SHT 3 OF 5 DATE 10:28:77

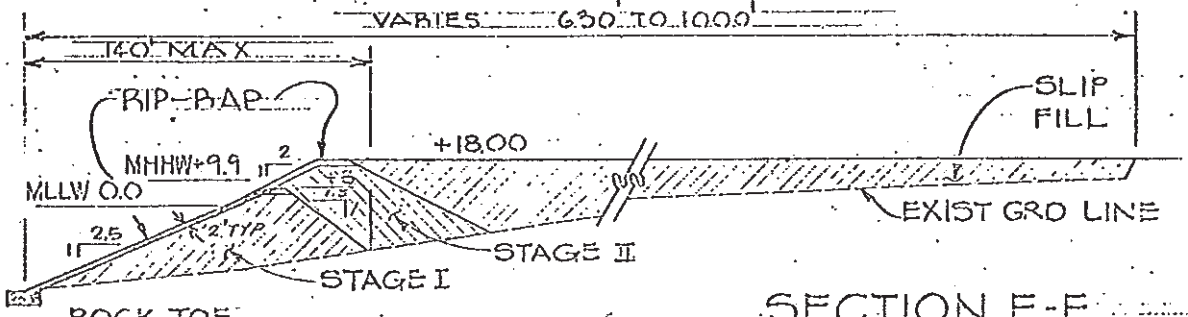


DIKE IS STAGED CONSTRUCTION (STAGE I & STAGE II). TIME INTERVAL BETWEEN STAGES IS 12 MONTHS.

SECTION D-D

60 40 20 0 60

SCALE IN FEET

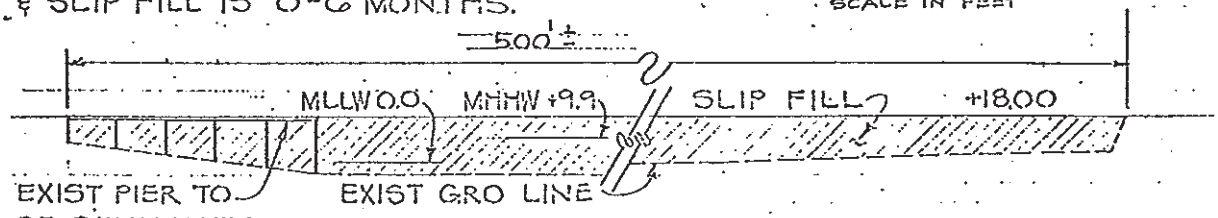


TIME INTERVAL BETWEEN STAGE II & SLIP FILL IS 0-6 MONTHS.

SECTION E-E

60 40 20 0 60

SCALE IN FEET



SECTION F-F

60 40 20 0 60

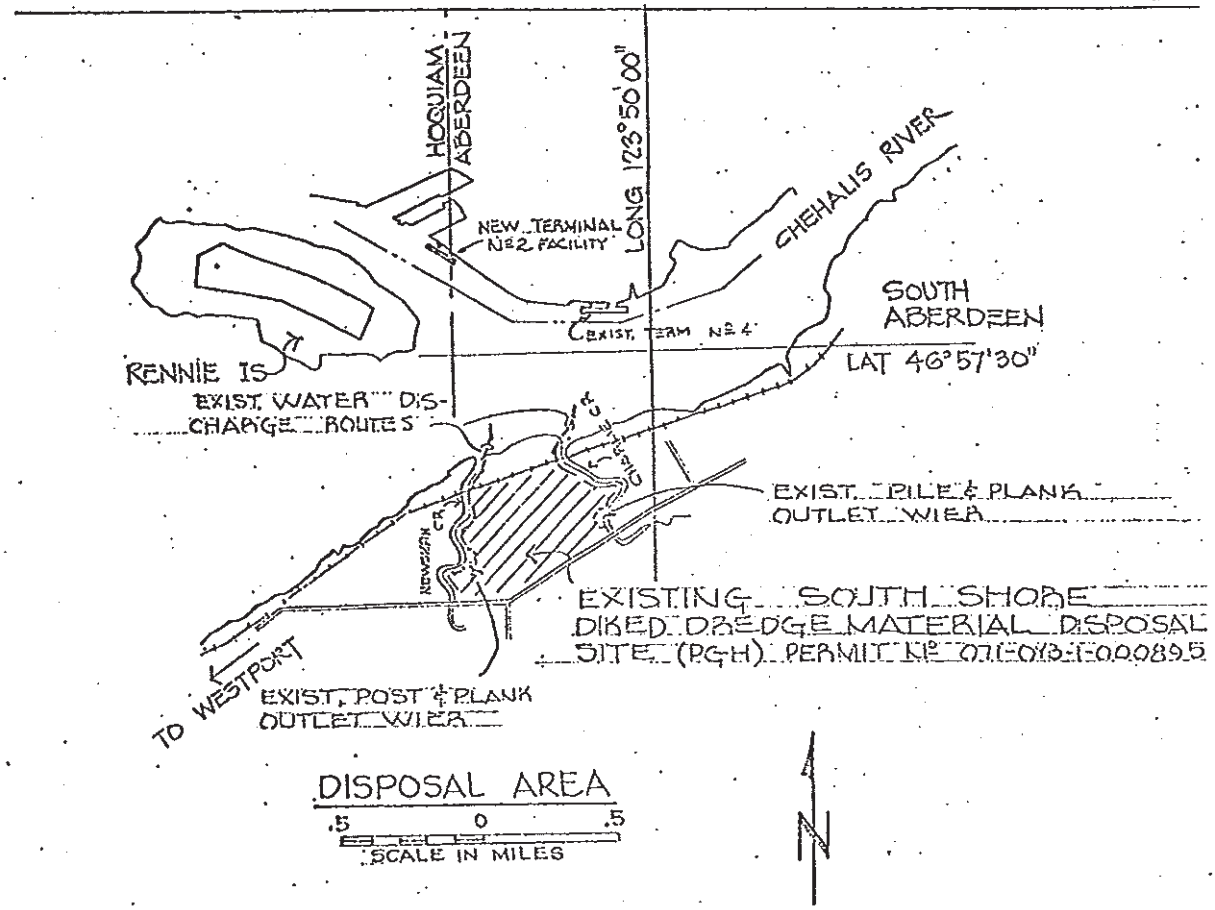
SCALE IN FEET

071-OYS-2-004449

PROPOSED TERMINAL 2 PROJECT IN CHEHALIS RIVER AT ABERDEEN/HOQUIAM
COUNTY OF GRAYS HARBOR
STATE OF WASHINGTON
APPLICATION BY: PORT OF GRAYS HARBOR

SHT 4 OF 5

REV. 8·4·78
DATE 10·28·77



071-0YB-2-00 4449

PROPOSED TERMINAL 2 PROJECT
IN CHEHALIS RIVER
AT HOQUIAM / ABERDEEN
COUNTY OF GRAYS HARBOR
STATE WASH
APPLICATION BY
PORT OF GRAYS HARBOR
SHEET 5 OF 5 DATE 10-28-77
REV 8-4-78

Attachment E

Cowan Study of Imperium Project Site

Attachment contains sensitive information and has been removed.

Attachment F

Subsurface Archaeological Investigations Plan

Westway and Imperium Terminals Services Expansion Projects
Subsurface Archaeological Investigations Plan
April 3, 2015

Goals

The goals of the subsurface archaeological investigations are as follows:

1. To assess the depth of previous dredging activities along the margins of the ship's slips that previously inhabited the area of potential effects (APE).
2. To assess the potential for encountering archaeological deposits if pre-development landforms are encountered during subsurface investigations.

Approach

To achieve the goals of the archaeological investigation, the following approach to fieldwork will be followed:

1. Twenty-four subsurface investigation units (twelve in each portion of the APE) will be excavated in the APE. Subsurface investigation units will include both mechanical trenches and geoarchaeological borings. The specific methods that will be used to perform each of the subsurface investigation types are summarized below.
    a. **Mechanical Trenches:** Mechanical trenches will be excavated in unpaved areas where buried utilities are unlikely to be encountered. It is anticipated that mechanical trenches will be primarily used in the Imperium portion of the APE because of widespread paved surfaces in the Westway portion of the APE. Mechanical trenches will be excavated to the maximum vertical reach of the excavator arm (24 feet) or until the sidewalls of the trench slump and the trench infills faster than it can be excavated. Trench dimensions will vary depending on local logistical factors, but will typically be around 20 feet long and 6 feet wide. When possible, all trenches will be excavated in successive shallow lifts.

    Two archaeologists will be present during the excavation of mechanical trenches; one will oversee excavations and inspect trench profile walls and the other will carefully inspect the spoils pile. A metal rake will be used to break-up any large peds to inspect them for archaeological materials. In instances where sediments appear to have contents that warrant additional inspection, a sample of the sediments in question will be screened through 0.25-inch hardware cloth.

    Once each excavation is completed, the mechanical trench will be photographed and plotted using a handheld global positioning system (GPS) unit. Trench contents, stratigraphy, depth to undisturbed native landforms, and other relevant information will be recorded on a standard trench summary form. All mechanical trenches will be backfilled and compacted to a level that is considered to be appropriate by the landowner.

b. **Geoarchaeological Borings:** Geoarchaeological borings will be used in paved areas and to supplement mechanical trenching. Therefore, it is anticipated that the majority of the geoarchaeological borings will be excavated in the Westway portion of the APE. Geoarchaeological borings will be excavated to a minimum depth of 40 feet below the ground surface unless impassible obstructions are encountered. Sediment samples will be continuously collected via the rotosonic or direct push sample collection method, and the internal diameter of the sampler tube will be no less than 2 inches.

   Archaeologists will perform a detailed analysis of each sediment sample. Sample attributes – such as color, grain size, gravel angularity, structure, interface, compaction, and notable inclusions, will be recorded and used to determine depositional context. Sample attributes will be analyzed at no less than two points for each sediment sample. If stratigraphic contacts are present, sediments will be analyzed at two additional points per contact – directly above and below each contact. This information will be recorded on a standardized bore log form. In the event that a more detailed analysis of sediment sample contents is needed, archaeologists will collect sub-samples for post-field analysis. The need for, and selection of, sub-samples will be determined by the principal investigator in the field.

   Upon completion of the analysis, each sediment sample will be photographed and the entire of the contents of the screened through 0.25-inc mesh. Upon completion, all borings will be mapped with a handheld GPS unit and refilled using a structurally appropriate substrate as directed by the landowner.

2. Subsurface investigations will be spaced at approximately 100-foot intervals along the northern central and southern margins of the APE where subsurface project-related ground disturbance is anticipated. To the extent possible, subsurface investigation units will be placed along the margin of the ship's slips that previously inhabited the APE.

3. In the event that possible archaeological deposits are encountered, ICF archaeologists may excavate additional subsurface investigations in the vicinity of the discovery in order to adequately assess and characterize the discovery. The nature and extent of the additional subsurface investigations would be determined by the principal investigator in the field. If the discovery is determined to not be archaeological, observations about the discovery will be recorded and the archaeological investigation will continue. If the discovery is determined to be an archaeological site, excavations will cease in the vicinity of the discovery until consultation with the State Historic Preservation Officer has occurred.

   If human remains are encountered, archaeological investigations will be halted at the location of the discovery and the Grays Harbor County sheriff and coroner will be contacted immediately. The remains will be protected in place by the archaeologist until the sheriff or coroner take

jurisdiction over them. If the remains are determined to be non-forensic by the sheriff or coroner, DAHP will take jurisdiction over the remains to determine whether they are Native American or non-Native American. If the remains are determined to be Native American, DAHP will identify the affected tribes and consult to determine the next steps for the treatment of the remains.

4. The results of the archaeological investigations will be integrated into the project's cultural resources discipline report. The report will summarize survey methods, findings, interpretations, and provide technical recommendations. The discipline report will be provided to DAHP upon completion of the project's draft Environmental Impact Statement.

Attachment G

Radiocarbon Analysis Tables

Designation	Depth (ft) Below MSL	Beta #	14C YBP	Error	Material Type	Source
AB-1a	1.4	263288	Modern	0	Organic	Phipps 2010
D-3	0.4	229689	80	40	Plant	Phipps 2008
L-6	9.6	229682	200	40	Twig	Phipps 2008
AB-1a	0.7	263289	250	40	Organic	Phipps 2010
15-03	6.6	20296	330	100	Wood	Peterson and Phipps 1992
B-2	2.2	229686	400	40	Twig	Phipps 2008
07-01	4.9	20308	620	70	Wood	Peterson and Phipps 1992
L-6	22.7	229683	620	40	Conifer Cone	Phipps 2008
04-01	3.3	20293	830	60	Peat	Peterson and Phipps 1992
AB-4	27.1	264293	1000	40	Organic	Phipps 2010
AB-2	20	263291	1130	40	Organic	Phipps 2010
02-04	16.4	20279	1360	70	Shell	Peterson and Phipps 1992
L-6	22.8	229684	1380	50	Wood Debris	Phipps 2008
AB-5	16.8	263295	1660	40	Organic	Phipps 2010
D-14	14.7	229681	2470	40	Conifer Cone	Phipps 2008
15-06	21.3	20297	3190	230	Wood	Peterson and Phipps 1992
05-06	16.4	20309	3380	80	Peaty	Peterson and Phipps 1992
03-11	47.6	20287	3570	80	Shell	Peterson and Phipps 1992
01-09	37.3	20957	4020	120	Shell	Peterson and Phipps 1992
17-04	9.8	20529	4120	80	Peat	Peterson and Phipps 1992
J-14	27	229688	4410	40	Wood Debris/Shell	Phipps 2008
08-02	41	20301	4740	100	Shell	Peterson and Phipps 1992
AB-1b	28.2	263290	4950	40	Organic	Phipps 2010
L-6	53.9	229685	5040	50	Wood Debris	Phipps 2008
06-03	41	20528	5080	90	Shell	Peterson and Phipps 1992
17-07	36	20530	5540	80	Peaty	Peterson and Phipps 1992
15-10	39.4	20527	5770	140	Peaty	Peterson and Phipps 1992
01-22	101.7	20284	6040	90	Shell	Peterson and Phipps 1992
03-14	62.3	20288	6170	80	Wood	Peterson and Phipps 1992
06-06	68.9	20306	6440	110	Shell	Peterson and Phipps 1992
AM-1	0.9	263298	7130	50	Organic	Phipps 2010

Designation	Depth (ft) Below MSL	Beta #	14C YBP	Error	Material Type	Source
03-16	72.2	20291	7320	390	Shell	Peterson and Phipps 1992
15-14	44.3	20299	7340	140	Peaty	Peterson and Phipps 1992
03-21	96.8	20289	7350	110	Shell	Peterson and Phipps 1992
17-12	65.6	20531	7530	80	Peaty	Peterson and Phipps 1992
AM-4	85.8	263300	7690	50	Organic	Phipps 2010
F-6	75.6	229676	7700	50	Wood Debris	Phipps 2008
AB-4	85.9	263294	7710	50	Organic	Phipps 2010
AM-2	87	263297	7720	50	Organic	Phipps 2010
AM-1b	93	263296	7780	50	Organic	Phipps 2010
17-16	95.1	20532	7930	120	Peaty	Peterson and Phipps 1992
02-20	96.8	20280	7990	90	Shell	Peterson and Phipps 1992
15-24	111.5	20300	8050	110	Wood	Peterson and Phipps 1992
D-6	79	229675	8060	50	Peat	Phipps 2008
F-6	85.1	229677	8250	50	Organic Sediment	Phipps 2008
F-6	100	229678	8380	60	Organic Sediment	Phipps 2008
03-30	141	20290	8730	100	Shell	Peterson and Phipps 1992
AB-3	114	263292	8860	50	Organic	Phipps 2010
H-6	70.3	229680	8870	60	Peat	Phipps 2008
B-2	119.4	229687	8890	60	Wood Debris	Phipps 2008
02-25	121.4	20281	8940	100	Shell	Peterson and Phipps 1992
AM-3b	127.6	263299	9150	50	Organic	Phipps 2010
F-6	119.8	229679	9160	80	Twig	Phipps 2008
02-35	172.2	20282	9700	130	Shell	Peterson and Phipps 1992
08-14	155.8	20304	10110	270	Shell	Peterson and Phipps 1992
01-39	187	20286	10760	90	Wood	Peterson and Phipps 1992
WW-9	72.5	411881	8840	30	Organic Sediment	current study

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