ClCUAL RESOURCES REPORT COVER SHEET

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Title of Report: Archaeological Monitoring Results for the BHP Billiton Canada, Inc. Proposed Grays Harbor Potash Export Facility Mitigation Area, IDD No. 1 and Historic Context for Mitigation Area, POGH Terminal 4

Date of Report: November 2018

County: Grays Harbor  Section: 10, 17, 18  Township: 17N  Range: 9W, 10W

Quad: Aberdeen, Hoquiam  Acres: 49.29

PDF of report submitted (REQUIRED)  ✗  Yes

Historic Property Export Files submitted?  ✗  Yes  ☐  No

Archaeological Site(s)/Isolate(s) Found or Amended?  ☐  Yes  ✗  No

TCP(s) found?  ☐  Yes  ✗  No

Replace a draft?  ☐  Yes  ✗  No

Satisfy a DAHP Archaeological Excavation Permit requirement?  ☐  Yes  #  ✗  No

DAHP Archaeological Site #: N/A
BHP Billiton Canada, Inc. (BHP) proposes to redevelop the Port of Grays Harbor’s (Port) existing Terminal 3 facility and adjacent parcels in Hoquiam, WA for the Grays Harbor Export Facility (proposed project), a bulk potash export facility. The project would require permits from the U.S. Army Corps of Engineers and, therefore, would be a federal undertaking. As a result, the project would need to be performed in compliance with Section 106 of the National Historic Preservation Act (NHPA). The project may also be subject to review under the National Environmental Policy Act (NEPA) and the Washington State Environmental Policy Act (SEPA). A cultural resources survey was performed in support of the project’s Section 106 of the National Historic Preservation Act (NHPA) obligations and cultural resources documentation requirements (Elder and Switzer 2017).

The project would result in impacts to wetlands, wetland and shoreline buffers, and aquatic habitats, therefore two off-site mitigation areas were selected. Proposed off-site mitigation area 1 is located in the undeveloped eastern portion of the project area, identified by the Port as Industrial Development District Site No. 1 (IDD No. 1), along Earley Industrial Way on the north shore of Grays Harbor and along the west bank of the Hoquiam River at its mouth in Sections 11 and 12, Township 17N, Range 10W, Hoquiam Quadrangle. The second proposed off-site mitigation area is the Port’s Terminal 4 (POGH Terminal 4) located east of IDD No.1 in Aberdeen at the mouth of the Chehalis River in Sections 17 and 18, Township 17N, Range 9W, Aberdeen Quadrangle (Figure 1.) Because the proposed off-site mitigation areas were not selected at the time, they were not covered in the 2017 cultural resources survey, although both mitigation areas will be included in the area of potential effects (APE) for the proposed project.
Figure 1
Proposed Off Site Mitigation Areas
Archaeological Monitoring for the BHP Billiton Canada, Inc. Proposed Grays Harbor Potash Export Facility

A comprehensive compensatory wetland and intertidal habitat mitigation project would be constructed at the IDD No. 1 area. The mitigation project would restore tidal hydrology to IDD No. 1 by removing fill and excavating tidal channels to create a mosaic of salt marsh habitat. The mitigation would create new wetland areas, and rehabilitate some existing low quality emergent wetland to high quality salt marsh. The project would also create enhanced forested and scrub shrub wetland buffer at the site. Additionally, the mitigation plan includes measures to maintain and improve the existing public access to the site by enhancing an existing pedestrian pathway around the perimeter of IDD No. 1. Two pedestrian bridges would be installed to cross the locations where the tidal channels enter and exit the parcel, and additional public amenities such as benches and viewing platforms will also be constructed within upland portions of the buffer. At the second off-site mitigation area, POGH Terminal 4, three wood piling complexes and a concrete and wood overwater structure would be removed.

Although ICF did not survey the proposed off-site mitigation areas during their 2017 cultural resources study for the project, environmental and cultural resources studies have previously been performed on the parcel that encompasses one of the proposed off-site mitigation area, IDD No. 1. The relevant results of these studies are provided below.

Similar to navigation channels in Grays Harbor and Hoquiam and Chehalis streambeds, historical photographs indicate that the northern portion of IDD No. 1 was converted to upland by dredging and placing lumber mill debris during the early 1900s (Blukis O. et al. 2007a). Geotechnical and engineering studies revealed that the intertidal area of IDD No. 1 was bulldozed in the mid-1960s and the entire IDD No. 1 parcel was dredged in the late 1970s (Henderson and Hogan 1978). Archaeological investigations in the northern margin of the parcel identified sediments, debris, and structural materials associated with a shingle mill facility along the northeastern margin of the parcel (Munsell 1976). These materials were not formally evaluated for the National Register of Historic Places (NRHP).

A subsequent archaeological study performed for the Washington State Department of Transportation (WSDOT) in 2006 in the northern margin of the parcel identified two historic-period archaeological deposits consisting of the remains of lumber mill operations and historic-period artifacts suspended in fill, possibly associated with the remains of industrial and residential activities. Both deposits were situated on, within, or beneath dredge fill in mechanically excavated trenches at depths ranging from 8.5 to 11 feet below the ground surface. Separation between the two cultural components was not distinct. Milled wood debris underlying dredge fill was identified in all ten excavated trenches, and were considered to be contributing to the site as part of the historic-period lumber mill operations (Blukis O. et al. 2007a). Based on the findings of these investigations, the entire parcel was documented as an archaeological site (45GH130), however the two historic-period deposits were only identified in the northern portion of IDD No. 1 (Blukis O. et al. 2007b). It was noted that archaeological remains would likely be sparse in the area that had been previously used for wet log-storage, which consists of most of the southern portion of IDD No. 1. While 45GH130 was recommended eligible for the NRHP by the cultural resources consultant (Blukis O. et al. 2007a), it was not formally evaluated by WSDOT and currently remains unevaluated. The proposed mitigation activities at IDD No. 1 would occur at depths not to exceed 12 feet below surface (fbs) and primarily in areas previously used for wet log-storage, which is to the south of the
location where the historic-period archaeological deposits were identified. Proposed ground disturbing activities within the northern margin of the parcel would not exceed 3-4 fbs.

BergerABAM retained ICF to provide archaeological monitoring services for 25 test pits for soil sampling and the installation of five (5) monitoring wells performed within the proposed IDD#1 off-site mitigation area between June 11 and June 13, 2018. No discrete archaeological deposits associated with 45GH130 were found and no National Register of Historic Places (NRHP)-eligible cultural resources were observed during June 2018 archaeological monitoring at the proposed IDD #1 off-site mitigation area for this project. This technical memorandum presents the methods and results of the archaeological monitoring effort at the proposed off-site mitigation area and also provides technical recommendations. Background information relating to regulatory context, environmental and cultural setting, and literature review can be found in the technical report prepared by ICF (Elder and Switzer 2017).

ICF’s 2017 cultural resources study for the project did not include identification or NRHP evaluation of historic built resources in the POGH Terminal 4 off-site mitigation area. No additional environmental or cultural resources studies have previously been prepared to evaluate NRHP eligibility of the three marine piling complexes, including the concrete and wood overwater structure that originally served as a crane platform, which would be removed from the mitigation area. As such, those built resources, which are older than 45 years old, were recorded and evaluated for NRHP eligibility on a DAHP Historic Property Inventory (HPI) form (Appendix B). Summary of that analysis as associated recommendations are included herein.

## Methods and Results

### IDD No. 1 Off-Site Mitigation Area

ICF archaeologist, Lauran R. Switzer, M.A., monitored ground-disturbing excavations that included borings for the installation of ground water monitoring wells and the mechanical excavation of test pits for soil sampling and characterization at the IDD No. 1 site. Justine James, Cultural Resources Specialist with the Quinault Nation, also monitored ground disturbing excavations on June 11, 2018. Drilling for monitoring well installation occurred on June 11, 2018 and the mechanical test pit excavation took place between June 11 and June 13, 2018. During this time, a total of five (5) ground water monitoring wells were installed to a depth of 15 (fbs) and 25 mechanical test pits excavated were excavated to a depth of approximately 12 fbs (Figure 2).

The archaeological monitor was on-site for the duration of the ground-disturbing activities and worked alongside the biological and soil scientists, drilling crews, and excavator operator to ensure the protection of any archaeological sites or isolates that were discovered during this time. Prior to the excavation of each proposed monitoring well and test pit, the archaeological monitor inspected access routes to ensure that no archaeological materials were disturbed during mobilization and demobilization. The archaeological monitor observed all excavations at a distance that was considered to be safe but adequate for the purposes of identifying archaeological resources, and maintained visual and audio contact with the work crew at all times in the event that excavations needed to be temporarily paused to inspect a possible unanticipated discovery.
No archaeological resources were found during monitoring well installation. Of the 25 test pits excavated, 10 test pits (TP-1, TP-2, TP-3, TP-4, TP-6, TP-7, TP-8, TP-9, TP-13, TP-19, and TP-24), contained dense deposits of historic-period dimensional lumber debris underneath hydraulic fill between 6 and 12 fbs, consistent with materials identified in the 2006 investigations (Blukis A.J. et al. 2007a). Test pits containing dimensional lumber were primarily located in the northern portion of the proposed off-site mitigation area just south of Earley Industrial Way. Redeposited loose, dimensional wood planking and pilings were observed at 5 fbs in TP-1, TP-4 and TP-9 (Appendix A, Photographs 1 and 2). TP-9 also yielded what appeared to be redeposited historic-period debris consisting of unarticulated brick and mortar, charcoal, ash, and burned dimensional lumber from 3 to 6 fbs (Appendix A, Photograph 3). TP-9 was located near the area of the historic-period shingle mill and isolated brick observed are likely associated with the burner that was demolished during the 1970s. No intact site components were observed. If intact components of 45GH130 were observed, monitoring would have ceased in the area.

The addition of land in IDD No. 1 is characterized by discreet fill events during the early twentieth century and again in the late 1970s (Blukis O. 2007a). Throughout the property, land was added using hydraulic filling, characterized by laminated sands and silts, overlying and including historic-period debris. In some areas, land was added by dumping and pushing imported and redeposited fill, characterized by sediments with a blocky texture, brownish yellow sand, and mottling. In the northern portion of the property, a layer of mixed milled and unmilled wood fragments of variable thickness overlies and is also mixed with fill sediments. Sediments observed across the project site from 0 to 12 fbs included brownish yellow sand, densely compacted silty to sandy angular basaltic gravels; quarry spalls, wood chips, sawdust, and milled lumber scraps; loose compacted mixed and blocky gray to bluish-gray silts, sands, and angular gravels with some test pits containing dense deposits of dimensional lumber; laminated silts indicative of hydraulic filling and consistent with observations during previous archaeological investigations.
Figure 2

Test Pit and Monitoring Well Locations

Archaeological Monitoring for the BHP Billiton Canada, Inc. Proposed Grays Harbor Potash Export Facility

Source: Bing Imagery, 2017.
POGH Terminal 4 Off-Site Mitigation Area

Background information relating to regulatory context, environmental and cultural setting, and literature review can be found in the technical report prepared by ICF (Elder and Switzer 2017). In 2017, ICF archaeologist Lauran Switzer performed a records search using the Washington Information System for Architectural and Archaeological Records Database (WISAARD) to identify previously documented archaeological, ethnographic, and historic resources within a one mile radius of the APE. The POGH Terminal 4 Marine Piling Complexes #1, #2, and #3 were not included among the previously documented resources.

ICF architectural historians January Tavel, MHP, and Andrea Dumovich, MA, conducted desktop analysis of the POGH Terminal 4 Mitigation Site via Google Earth aerial imagery. The Port of Grays Harbor provided reconnaissance-level field photography of existing conditions and historic photographs from the Port of Grays Harbor archives, which supported analysis of site integrity and preparation of an historic context to inform analysis of site significance. ICF architectural historians referenced the Pontoon Construction Project Draft Cultural Resources Discipline Report (ICF 2009), and conducted property-specific archival research – including examination of historic maps and documents – to support preparation of the historic context.

Resource Description

Marine piling complexes #1, #2, and #3 are located at the confluence of the north and south channel of Grays Harbor, at the mouth of the Chehalis River, in Aberdeen, WA (Figure 3). Pilings are clustered northeast of Rennie Island, along the shore west (complex #1, including the overwater crane platform) and east (complexes #2 and #3) of Port of Grays Harbor Terminal 4. Each of the three piling complexes are composed of clustered creosote-treated wood pilings that have been driven vertically into the tidal flat. Piling complex #1 is composed of approximately 180 creosote-treated wooden piles in three sub-clusters: a row of pilings adjacent to the west end of the Terminal 4 overwater structure, a 550-foot-long row of pilings more than 200 feet west of the western end of the Terminal 4 structure, and a cluster of pilings 77 feet west of the western end of Terminal 4 that supports a 2,147 square foot concrete overwater foundation that originally supported a crane that is no longer extant. Piling complex #2 is composed of approximately 23 pilings in a 150-foot-long row approximately 70 feet east of the Terminal 4 overwater structure. Marine piling complex #3 consists of approximately 1,165 creosote-treated wood pilings. The pilings are arranged in rows that create a rectangular mass approximately 160 feet long by 720 feet wide. Most of the piles that make up piling complexes #2 and #3 appear to be in poor condition, with broken, jagged top edges. While all three of the piling complexes appear to generally retain their original configurations in relation to the shoreline and Terminal 4 overwater structure, the individual piles are in poor condition. Existing conditions of marine piling complexes #1, #2, and #3 are illustrated in photos included in the DAHP Historic Property Inventory (HPI) form attached in Appendix B.
Legend

- Removal Boundary
- Piling Removal (1,368 Pilings)
- Overwater Structure Removal (2,147 sf)

**FIGURE 3**: Pile and Overwater Structure Removal - Terminal 4
Proposed Potash Export Facility

- +/- 180 Piling Field #1
- +/- 23 Piling Field #2
- +/- 1165 Piling Field #3

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the
Eligibility Conclusions

The marine piling fields #1, #2, and #3 were evaluated for NRHP eligibility under criteria A, B, C, and D, with recommendations as follows:

NRHP Criterion A

Properties can be eligible for listing in the NRHP under Criterion A if they are associated with events that have made a significant contribution to the broad patterns of our history and retain sufficient integrity to convey that significance. While the logging and associated shipping industry of Grays Harbor was the economic engine that facilitated the development of Aberdeen, WA, the height of productivity for those industries was 1900-1920. While marine piling complex #1 and the adjacent overwater crane platform, marine piling complex #2, and marine piling complex #3 are associated with the logging and shipping industries in Grays Harbor, they date the development of Terminal 4 by the Port of Grays Harbor from circa 1965-1973, more than 40 years later. Without a documented historic significance, analysis of integrity (the ability to convey historic significance), is not merited. Thus, the marine piling complexes #1, #2, and #3 are recommended not eligible for listing in the NRHP under Criterion A.

NRHP Criterion B

Properties may be eligible for listing in the NRHP under Criterion B if they are associated with the lives of persons significant in our past and retain sufficient integrity to convey that significance. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 were built by the Port of Grays Harbor, but the specific engineer associated with the design of the complexes is unknown. Research did not yield information that indicated the marine piling complexes to be associated with the lives of persons significant in our past. As such, regardless of its physical condition, the property cannot be said to convey historic significance. Therefore, the marine piling complex is recommended not eligible for listing in the NRHP under Criterion B.

NRHP Criterion C

Properties may be eligible for listing in the NRHP under Criterion C if they embody the distinctive characteristics of a type, period or method of construction, or if they represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components make lack individual distinction, and retain sufficient integrity to convey that significance. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 have no distinctive architectural characteristics that differentiate them from other marine piling complexes used to support lumber transport across the region. As such, this marine piling complex is recommended not eligible for listing in the NRHP under Criterion C.

NRHP Criterion D

Properties may be eligible for listing in the NRHP under criterion D if they have yielded, or may be likely to yield, information important in prehistory or history. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 do not provide information that cannot be
obtained through historic research and aerial photograph analysis. Therefore, the marine piling complex is recommended not eligible for listing in the NRHP under Criterion D.

Conclusions

**IDD No. 1 Mitigation Site**

The IDD No. 1 off-site mitigation area for the proposed project encompasses an area that contains a previously documented, but unevaluated site. The site, 45GH130, a historic-period refuse scatter and structural debris, was defined based on 10 trenches excavated for WSDOT in 2006 at the northern margin of the parcel to depths of 11 fbs (Blukis O. et al. 2007b). Although no trenches were excavated in the remaining portions of IDD No. 1 during the 2006 WSDOT investigations, the entire parcel was included in the site boundary. As a result of the limitations of previous investigations, it was unclear whether deposits associated with 45GH130 would be encountered by monitoring well and test pit investigations completed for the BHP proposed mitigation project. The investigations revealed that no such deposits were present at the depth of the proposed mitigation project-related ground disturbance in the areas included in the test pit and monitoring well installation investigations, nor did it identify any previously undocumented cultural resources. Therefore, the proposed mitigation activities at IDD No. 1 would not encounter any previously documented or undocumented archaeological resources.

**POGH Terminal 4 Mitigation Site**

The POGH Terminal 4 off-site mitigation area for the proposed project includes three wood piling complexes and a concrete and wood overwater structure that are older than 45 years old, which were not previously documented or evaluated for NRHP eligibility. Based the NRHP eligibility discussion above, marine piling complex 1 (including concrete and wood overwater structure, 2, and 3, are not recommended eligible for listing in the NRHP under Criteria A, B, C, or D.

Recommendations

Based on the results of the archaeological monitoring effort and NRHP eligibility evaluation for the three marine piling complexes, ICF recommends a finding of no historic properties affected under Section 106 of the NHPA and a finding of no cultural or historic resources impacted under SEPA if efforts are made to avoid possible intact components of IDD No. 1 (45GH130) during future project activities.

It is possible that as-yet unrecorded archaeological sites could be identified during future project-related ground disturbing activities at IDD No. 1, specifically below depths of 12 fbs. If ground disturbing excavations need to occur below this depth, archaeological monitoring is recommended.
References Cited

Blukis Onat, A., J. B. Phipps, K. James, K. Bernick, T. L. Cowan, and L. B. Lykowski
2007a  Cultural Resource Study Report of the Port of Grays Harbor Industrial Development
2007b  45GH130 Site Form. Hoquiam and Hooverville Industrial Tidelands. On file at
        WA DAHP.

Elder, J.T. and L.R. Switzer
        Harbor Potash Export Facility. Prepared for BergerABAM. On file at DAHP, Olympia, WA.

Henderson, G. W. and J. M. Hogan
1978  Report of Grading and Surfacing Requirements, Port of Grays Harbor, Industrial
        Development District No. 1, Hoquiam, WA. RLAI Project No. 210-06. Prepared by Roger
        Lowe Associates, Inc. Submitted to Port of Grays Harbor, Aberdeen, WA.

ICF
        Washington Department of Transportation. Seattle, WA.

Munsell, David A.
1976  Final Environmental Impact Statement: Port of Grays Harbor/Kaiser Steel Corporation,
        Permit Application No. 071-OYB-1-002533, Hoquiam, WA. US Army Corps of Engineers,
        Seattle District, WA.
Appendix A

IDD No. 1 Archaeological Monitoring Photographs
Photograph 1. Wood piling with dense dimensional lumber fragments
Photograph 2. Dimensional lumber in TP-4.
Photograph 3. Southern profile of TP-9 showing brick fragments, charcoal, ash, and dimensional lumber fragments.
Appendix B

Historic Property Inventory Form for POGH Terminal 4
Overwater Structure and Piling Complexes
Historic Property Report

Resource Name: Port of Grays Harbor Terminal 4 Marine Piling Complexes #1, #2, #3

Property ID: 717663

Location

Address: Aberdeen, WA, USA
Geographic Areas: Grays Harbor County, ABERDEEN Quadrangle

Information

Number of stories: N/A

Construction Dates:

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Historic Context:

Category
Resource Name: Port of Grays Harbor Terminal 4 Marine Piling Complexes #1, #2, #3
Property ID: 717663

Thematics:

Local Registers and Districts

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Project History

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Historic Property Report

Resource Name: Port of Grays Harbor Terminal 4 Marine Piling Complexes #1, #2, #3
Property ID: 717663

Photos

Figure 1. Sanborn Fire Insurance Company map of Aberdeen dated July 1914 (Sheet 1)

Figure 2. Aberdeen, in 1941.

Figure 3. Port of Grays Harbor Terminal 4 site, 1941.

Figure 4. Aberdeen, 1962.

Figure 5. Port of Grays Harbor Terminal 4 site in 1965

Figure 13. Marine Piling Complex #2 (left) and #3 (right), 2018.
Historic Property Report

Resource Name: Port of Grays Harbor Terminal 4 Marine Piling Complexes #1, #2, #3

Property ID: 717663

Figure 6. Port of Grays Harbor Terminal 4 site in 1966.

Figure 7. Aerial photograph of the Port of Grays Harbor Terminal 4 site, 1972.

Figure 8. Aerial photograph of the Port of Grays Harbor Terminal 4 site, 1972.

Figure 9. Aerial photograph of the Port of Grays Harbor Terminal 4 site, 1973.

Figure 10. Aerial photograph of the Port of Grays Harbor Terminal 4 site, 1973.

Figure 11. Aerial photograph of the Port of Grays Harbor Terminal 4 site, 1974.
Figure 12. Marine Piling Complex #2 (left) and #3 (right), 2018.

Figure 13. Marine Piling Complex #1, 2018.

Figure 14. Marine Piling Complex #1, 2018.

Figure 15. Marine Piling Complex #1

Figure 16. Marine Piling Complex #1, 2018.
Inventory Details - 11/27/2018

Common name: Port of Grays Harbor Terminal 4 marine piling complexes
Date recorded: 11/27/2018
Field Recorder: January Tavel
Field Site number: SHPO Determination

Detail Information

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Surveyor Opinion

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

Significance narrative: Historic Context

The following historic context includes content summarized from the Pontoon Construction Project Draft Cultural Resources Discipline Report (ICF 2009), along with supplementary research:

Euro-American Exploration and Settlement of Grays Harbor

In 1792, Captain Robert Gray first entered Grays Harbor to establish a fur trade for Boston merchants (Scofield 1993; Van Syckle 1982). William O’Leary (1821–1901) was the first Euro-American settler in Grays Harbor, arriving in 1848. Territorial status was granted to Washington in 1853 and, the following year, Chehalis County (changed in 1915 to Grays Harbor County) was established, triggering a steady increase in settlement in Grays Harbor (Wheeler 1937; Van Syckle 1982). The area’s first pioneers included dairy and cattle farmers (Douglas 1914; Wilkes 1845; Wilma 2006; Work 1912). In 1858, government engineers surveyed Township 17 North, which encompassed the mouth of the Hoquiam River. The township was opened to entry either by homestead or “cash entry at $1.25 per acre, quantity unlimited” and led to the founding of Hoquiam (Welsh 1942).

Grays Harbor Logging Industry

Harvesting and processing local natural resources, primarily timber, has defined the communities of Grays Harbor. Captain Asa M. Simpson, a prominent California lumberman who sought to expand his timber empire to the Pacific Northwest, was one of the first to exploit the economic potential of the local natural resources in Grays Harbor. Simpson sent George Emerson on a scouting trip to Grays Harbor, and in 1881
purchased the 300-acre James homestead at the mouth of the Hoquiam River. Simpson and Emerson’s purchase became the nucleus of the first sawmill on Grays Harbor, and was one of three original mills that launched what would become the harbor’s most dominant industry—the “Northwestern [Simpson-Emerson], the E.K. Wood, and the Lytle brother’s Hoquiam Lumber and Shingle Company” (Weinstein 1978).

In the early 1900s, the area was one of the most productive lumber ports on the West Coast. As a region enhanced by foothills heavy with fir, hemlock, cedar, spruce, and deep wide rivers, the area was quickly discovered by enterprising lumbermen. Benjamin C. Armstrong started the first sawmill in Grays Harbor on the bank of the Chehalis River early in 1852, employing three men who cut logs for settler’s homes (James c. 1916; Van Syckle 1980, 1982). Other small mills were soon established to supply lumber for the ever-expanding local communities. 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). In short time, the company was cutting 100,000 board feet of lumber daily, 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 diversified to include wood shingles and ship building. Growth continued with completion of the railway 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, Grays Harbor was among 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 the East Coast, Asian markets, and California builders (especially after 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. At the start of World War I, Grays Harbor was home to dozens of sawmills, long skidroads that fed the rivers and splash dams, and the ever-lengthening rail lines spanning from the river valleys to the retreating forests (BOAS 2007). Wood was used locally and elsewhere for all kinds of infrastructure, including the construction of roads, bridges, wharves, and support piling for structures on marshy terrain; wood was also made into pulp and paper products. 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. In 1891, the North Shore Electric Company was built on the tidelands west of the shingle mill (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). Alexander and Robert Polson of Hoquiam expanded a logging railroad into the largest milling operation on the harbor—which today is the ITT-Rayonier Corporation—and logging blocks and mill machinery from the Lamb Machinery Company were sold worldwide (BOAS 2007).

During the Great Depression of the 1930s, nine Grays Harbor mills ceased operations and closed due to the collapse in the housing industry (Pettit 1939; Van Syckle 1980). Despite the slowdown, this period saw significant technological advances in creating new wood products, such as plywood, from tree fibers. Grays Harbor became the leading plywood-producing center on the West Coast. In 1927, the E.M. Mills established the Grays Harbor Pulp Company in Hoquiam, and soon expanded it into a paper and plywood mill. In 1928, the Rayonier Corporation lumber yard was established immediately north of the Northwestern Lumber Company.
Despite the advancements of the plywood industries during the 1930s, the timber and lumber industries never regained their original momentum. Old-growth forests were decimated from years of unchecked harvesting and Washington hillsides remained bare decades later. In the 1940s, modern forest management practices emerged, including the Forest Practices Act of 1946, which promoted reforestation and harvest management in an effort to stabilize timber resources and the industry (Wilma 2006). Foreign demand and lower labor costs overseas posed a substantial threat to the industry. During Asia’s economic boom in the 1960s, Japan’s government subsidized mills were able to outbid the American mills time and again. Washington lost as much as 40 percent of its wood-processing capacity between 1965 and 1975 (Wilma 2006). Today, the lumber and wood products industry is Washington’s third largest manufacturing sector, accounting for 10 percent of all manufacturing output. As a part of Washington’s Gross State Product, the lumber and wood products industry has declined steadily between 1977 and 1997. By 2020, jobs within the industry are expected to decline by 3.5 percent (“Industry Profiles: Lumber and Wood Products” 2000).

Grays Harbor Shipping Industry

The primary method for getting finished lumber to Grays Harbor’s increasingly distant customers, prior to the development of railroads, was by boat. However, navigating the waters of Grays Harbor was no easy task. At low tide, approximately nine-tenths of Grays Harbor was exposed tideflats, making it nearly impossible for ships to access the shoreline (Davidson 1889). By 1889, A.B. Bowers, inventor of the hydraulic system of dredging and filling, had licensed the Grays Harbor Co. to use his patented equipment (Bowers 1899).

Dredging continued in Grays Harbor in order to provide safe passage for ships well into the twentieth century (War Department 1911:2626-2630, 1916:3248-3250, 1920:2950-2951). In fact, there were still calls for solutions to the problem in the 1920s. A Washington Congressman noted in 1920 that there were not enough sailing ships to transport all of the finished lumber in the harbor but freighters were unable to enter the harbor due to its depth (State of Washington 1920). That same year, plans were developed by the Grays Harbor port engineer to construct a $250,000 dredge with a “22-inch section type and operated by electricity” (“Marine Construction News of the Month: Port Improvements” 1920:1027). In recent years, dredging remains necessary on an annual to biannual basis in order to maintain the navigable waters of Grays Harbor (Soike 2009).

Given the quantity of lumber products to be shipped and the emphasis placed on the shipbuilding trade regionally, some of the country’s best-known shipbuilders were attracted to the region. The first vessel built in Grays Harbor, a schooner, was constructed in 1887 at the Northwestern mill in Hoquiam and designed by well-known West Coast shipbuilder Thomas McDonald. Ships built locally included “sleek three- and four masted schooners, and later...steam schooners...” (Van Syckle 1980). The San Francisco earthquake of 1906 created a large demand for lumber from Grays Harbor to rebuild the city and, therefore, increased demand for ships. Soon, finished lumber was transported to destinations around the world by ships built in Grays Harbor. During the 20 years before World War I, some 50 vessels were built at local yards (Van Syckle 1980). At the height of the war, “…the two Aberdeen shipyards, the Grays Harbor Motorship Company and the Grant-Smith Company had nearly 4,000 men on the payrolls” (Van Syckle 1980).

Friday, November 30, 2018 Page 8 of 14
Settlement and Development of Aberdeen

The land that would become Aberdeen, WA, was first settled in 1858 by Samuel Benn. Located east of Hoquiam, the 740-acre property was located at the confluence of the Wishkah and Chehalis rivers. In 1873, Benn sold a portion of his land to George W. Hume of Astoria to build a cannery. Soon after, Hume sold the cannery to the Aberdeen Packing Company. Recognizing the potential of the harbor’s vast timber resources, Benn had his property surveyed and filed for a plat in 1884. By 1886 the first cargo of lumber was shipped out of Aberdeen and, by 1889, the town had four sawmills (Ott 2009).

By the turn of the century, the lumber industry was turning Aberdeen into an industrial giant, with six sawmills, a stave factory, one cooperage, sash and door factories, salmon canneries, and two shipyards. In 1900 “…the mills’ daily output was 450,000 board feet of lumber…a staggering total of 250 million logs were delivered to the mills” (Weinstein 1978:25). However, the town’s infrastructure was not keeping pace. Much of the town was built on sawdust-covered tidelands prone to flooding at high tide. While some of the town’s commercial business were constructed of brick or stone, the majority of residences were wood buildings constructed on pilings and the streets consisted of wood planks. These structures proved vulnerable when downtown Aberdeen suffered two devastating fires – the first in 1902 and the second in 1903 (Ott 2009).

Aberdeen became one of the world’s leading lumber shipping seaports during World War I. Two shipyards in the town – Grays Harbor Motorship Corporation and Grant Smith-Porter – built wooden ships for the Emergency Fleet Corporation. In 1918, the Grays Harbor Motorship yard set a record for fastest ship construction when they built the Aberdeen, a 4,000-ton wooden ship with two propellers, in less than 24 days (Ott 2009). To support the logging and ship building industries, dredged from Grays Harbor up the Chehalis River began to provide improved deep-water access to Aberdeen. By the early 1920s, public wharfs were built. In 1924, Aberdeen was dubbed the “Lumber Capital of the World” in when it shipped its one billionth foot of timber (Ott 2009). However, consistent with the evolution of the lumber and shipping industries throughout Grays Harbor, ship logging and ship building have declined as the economic engines of Aberdeen through the twentieth century.

Terminal 4 Site Development

Located west of downtown Aberdeen and adjacent to Cow Point, the Terminal 4 Site has undergone substantial modification over time. According to a 1901 Sanborn map of Aberdeen, the historic shoreline was located north of the site. During that time, the J. Lindstroms Ship Yard was located south of Division Street (today known as S Division Street) and included an associated wharf that extended into Gray Harbor (slightly east of where Piling Field #3 is currently located) (Aberdeen Sanborn Map Co, 1901: Sheets 1 and 11). A 1906 Sanborn map of Aberdeen shows Hart Wood Lumber Co. was located on a wharf that extended southwest into the Grays Harbor (near or between where Piling Fields #2 and #3 are currently located) (Aberdeen Sanborn Map Co, 1906: Sheets 1 and 34). The mill employed 65 men and produced 75,000 board feet a day in 1906 ("In Southwestern Washington: Where Lumbering and Agriculture Go Hand-in-Hand” 1906). Hart Wood Lumber Co.’s wharf changed hands and was later associated with the Federal Mill Co.’s sawmill. While the number of employees increased to 80 men by 1912, the sawmill and wharf were largely unchanged except for the addition of a new sorting shed, several small outbuildings, and some additional dock space surrounding the mill.
In January 1916 Edward Hulbert purchased the Federal Mill and continued its operation under the name Hulbert Mill Company (Hunt and Kaylor 1917:334). Hulbert acted as president of the mill, with his son A. E. Hulbert serving as the manager. Edward Hulbert was also involved in, and owned an interest in, the American Mill Company which had been operating in the harbor since 1898. By 1917, the Hulbert Mill was consolidated into the American Mill Company holdings, but nevertheless continued to be operated separately and primarily by the Hulberts (Hunt and Kaylor 1917:334). After its consolidation, the mill was known as the American Mill B, although many still commonly referred to it as the Hulbert Mill (Fredericksen 1987; Sanborn Fire Insurance map 1928). In 1924, the American Mill B produced 121,000 board feet a day ("Lumber Production Billion and Half Feet" 1926).

As dredging to maintain the navigable waters of Grays Harbor persisted through the twentieth century, the associated spoils were used to fill tidal flats, including the shoreline between Hoquiam and Aberdeen at the site that would become the Port of Grays Harbor Terminal 4 (Historic Map Works, LLC 2018; Jones Photo Co. of Aberdeen Washington 1941; Metsker 1941; Metsker 1962). While the logging and associated shipping industries in Grays Harbor saw their production peak during the 1920s, it wasn’t until 1965-1966 that marine piling complexes #2 and #3 were constructed along the shoreline adjacent to Cow’s Point to serve as tethers for log rafts and shoreline barrier (Jones Photo Co. of Aberdeen Washington 1965, 1966). Construction of The Port of Grays Harbor Terminal 4 began in 1966 with eastern-most segment of the overwater concrete platform. Construction proceeded from east to west, with the center and western-most sections being built by 1973. The structure provided two deep-water marine berths equipped with on-dock rail spanning an approximately 1,400 feet long dock. In addition, a smaller overwater concrete platform supporting a small crane, used to load cargo, and marine piling complex #1, which was used to tether log rafts, were also completed by 1973 (Jones Photo Co. of Aberdeen Washington 1966, 1972a, 1972b, 1973a, 1973b).

Today, Terminal 4 serves as the Port of Grays Harbor’s main general cargo terminal (Port of Grays Harbor 2018).

NRHP and Eligibility Evaluation

The marine piling fields #1, #2, and #3 were evaluated for NRHP and WHR eligibility under criteria A, B, C, and D, with recommendations as follows:

NRHP Criterion A

Properties can be eligible for listing in the NRHP under Criterion A if they are associated with events that have made a significant contribution to the broad patterns of our history and retain sufficient integrity to convey that significance. While the logging and associated shipping industry of Grays Harbor was the economic engine that facilitated the development of Aberdeen, WA, the height of productivity for those industries was 1900-1920. While marine piling complex #1 and the adjacent overwater concrete and wood structure, marine piling complex #2, and marine piling complex #3 are associated with the logging and shipping industries in Grays Harbor, they date the development of Terminal 4 by the Port of Grays Harbor from circa 1965-1973, more than 40 years later. Without a documented historic significance, analysis of integrity (the ability to convey historic significance), is not merited. Thus, the marine piling complexes #1, #2, and #3 are recommended not eligible for listing in the NRHP under Criterion A.
NRHP Criterion B

Properties may be eligible for listing in the NRHP under Criterion B if they are associated with the lives of persons significant in our past and retain sufficient integrity to convey that significance. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 were built by the Port of Grays Harbor, but the specific engineer associated with the design of the complexes is unknown. Research did not yield information that indicated the marine piling complexes to be associated with the lives of persons significant in our past. As such, regardless of its physical condition, the property cannot be said to convey historic significance. Therefore, the marine piling complex is recommended not eligible for listing in the NRHP under Criterion B.

NRHP Criterion C

Properties may be eligible for listing in the NRHP under Criterion C if they embody the distinctive characteristics of a type, period or method of construction, or if they represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components make lack individual distinction, and retain sufficient integrity to convey that significance. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 have no distinctive architectural characteristics that differentiate them from other marine piling complexes used to support lumber transport across the region. As such, this marine piling complex is recommended not eligible for listing in the NRHP under Criterion C.

NRHP Criterion D

Properties may be eligible for listing in the NRHP under criterion D if they have yielded, or may be likely to yield, information important in prehistory or history. Marine piling complexes #1 (including the overwater crane platform), #2, and #3 do not provide information that cannot be obtained through historic research and aerial photograph analysis. Therefore, the marine piling complex is recommended not eligible for listing in the NRHP under Criterion D.

Physical description:

Marine piling complexes #1, #2, and #3 are located at the confluence of the north and south channel of Grays Harbor, at the mouth of the Chehalis River, in Aberdeen, WA (Figure 3). Pilings are clustered northeast of Rennie Island, along the shore west (complex #1, including the overwater crane platform) and east (complexes #2 and #3) of Port of Grays Harbor Terminal 4. Each of the three piling complexes are composed of clustered wood pilings that have been driven vertically into the tidal flat. Piling complex #1 is composed of approximately 180 wooden piles in three sub-clusters: a row of pilings adjacent to the west end of the Terminal 4 overwater structure, a 550-foot-long row of pilings more than 200 feet west of the western end of the Terminal 4 structure, and a cluster of pilings 77 feet west of the western end of Terminal 4 that supports a 2,147 square foot concrete overwater foundation that originally supported a crane that is no longer extant. Piling complex #2 is composed of approximately 23 pilings in a 150-foot-long row of pilings more than 200 feet west of the western end of the Terminal 4 structure, and a cluster of pilings 77 feet west of the western end of Terminal 4 that supports a 2,147 square foot concrete overwater foundation that originally supported a crane that is no longer extant. Piling complex #3 consists of approximately 1,165 pilings. The pilings are arranged in rows that create a rectangular mass approximately 160 feet long by 720 feet wide. Most of the piles that make up piling complexes #2 and #3 appear to be in poor condition, with broken, jagged top edges. While all three of the piling complexes appear to generally retain their original configurations in relation to the shoreline and Terminal 4 overwater structure, the individual piles are in poor condition.
Bibliography:

Andrews, Ralph W. 1957. This Was Sawmilling. Superior Publishing, Seattle, WA.


Historic Property Report

Resource Name: Port of Grays Harbor Terminal 4 Marine Piling Complexes #1, #2, #3

Property ID: 717663

Marine Engineering, Vol. 25, No. 12, December.


Sanborn Insurance Company, Milford Connecticut.


Van Syckle, Edwin. 1980. They Tried to Cut it All: Grays Harbor-Turbulent Years of Greed and Greatness. Friends of the Aberdeen Public Library, Aberdeen, WA.


Western Ways Inc. of Corvallis Oregon. 1972b. Terminal 4 (1972). Port of Grays Harbor Archives, Grays Harbor, WA


