CULTURAL RESOURCES ASSESSMENT
FOR THE
LILYBLAD SITE REMEDIATION PROJECT
TACOMA, PIERCE COUNTY, WASHINGTON

CONTAINS CONFIDENTIAL INFORMATION – NOT FOR GENERAL DISTRIBUTION

February 26, 2009

NWAA Report Number WA09-018

NORTHWEST ARCHAEOLOGICAL ASSOCIATES, INC.
SEATTLE, WASHINGTON

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LILYBLAD SITE REMEDIATION PROJECT
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Report Prepared for

The Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

By

Michele Parvey

February 26, 2009

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CULTURAL RESOURCES REPORT COVER SHEET

Author: Michele Parvey

Title of Report: Cultural Resources Assessment for the Lilyblad Site Remediation Project

Date of Report: February 26, 2009

County (ies): Pierce Section: 35 Township: 21N Range: 3E
Quad: Tacoma North 7.5' 2Acres:

CD Submitted? □ Yes ☒ No PDF of Report? □ Historic Property Export Files? □

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 #:

ABSTRACT

Northwest Archaeological Associates, Inc. conducted a cultural resources assessment for the Washington State Department of Ecology's proposed Lilyblad property cleanup action in Tacoma. The proposed project will install additional dual-phase extraction wells to de-water the subsurface soil to depths of approximately 10 feet below ground surface. Manifold pipes will connect the well fields and route the extracted fluids to a remedial equipment compound for treatment. Field investigations were limited to a site visit because extensive fill placement and industrial development prohibit sub-surface investigation. However, extensive background research and examination of bore logs provided by the Department of Ecology were conducted to determine the potential for damage to significant cultural resources. Current project plans dictate the use of direct-push technology to install the extraction wells, resulting in no removal of sub-surface sediments. Pipe trenches will be excavated entirely in fill. No further archaeological investigation is recommended for the project based on current project plans. However, if these plans are modified to include excavation of native tideflat deposits, or if trenching results in disturbance of the contact layer between fill and native deposits, archaeological monitoring is recommended.

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INTRODUCTION

The Washington State Department of Ecology (DOE) is planning remediation for hazardous materials on a parcel in the Tacoma Tide Flats industrial area. In order to proceed with the clean-up, the DOE prepared a Cleanup Action Plan (CAP), issued an Enforcement Order for the implementation of the final CAP, and has prepared a State Environmental Policy Act (SEPA) assessment for the Lilyblad Site. Northwest Archaeological Associates, Inc. (NWAA) has prepared this assessment to address Item #13, historical and cultural preservation, on the SEPA Environmental Checklist. The assessment also meets requirements established by the City of Tacoma for cultural resources/archaeological investigations for actions involving improvements for sites located within the 1873 Puyallup Tribe of Indians Land Claims Settlement Survey Area.

Project Location

The Lilyblad Site is located at 2244 Port of Tacoma Road, in Section 35, Township 21 North, Range 3 East, Willamette Meridian, Pierce County, Tacoma, Washington (Figure 1). The 1.98-acre parcel is located on the Tacoma Tide Flats industrial area and consists of the Lilyblad property and parts of the adjacent Port of Tacoma Road, PW Eagle, Nelson, and Saul properties (Figure 2).

Project Description

Industrial activities conducted in the past on the Lilyblad property resulted in releases of hazardous substances to the soil and groundwater. DOE found the site to be a threat to human health and the environment and an Agreed Order was signed, and later amended, requiring remediation of the Lilyblad and neighboring properties to clean up contaminated soils.

The proposed cleanup action will use new and existing dual-phase extraction (DPE) wells to de-water the subsurface soil down to the aquitard/native tide flat deposits (approximately 10 feet below ground surface). The DPE System will consist of 73 extraction wells, separated into nine distinct DPE fields. Eight manifold pipes will connect the DPE fields routing the extracted fluids to a remedial equipment compound for treatment (DOE 2008). DPE wells, roughly 12 inches in diameter, will be installed using direct push technology to a depth of 10 feet below ground surface. Trenches for the manifold pipes will be 2 feet wide and excavated to roughly 28 inches below ground surface (Figure 2).

Previous Documentation and Agencies Contacted

An examination of previous project reports, ethnographic and ethnohistoric documents, archaeological and historic resources databases, the National Register of Historic Places, and the Washington State Heritage Register was conducted at the Washington State Department of Archaeology and Historic Preservation (DAHP). Technical inquiry letters were sent to Judy Wright, Puyallup Tribal Historian, and Thomas Edwards, cultural Regulatory Specialist for the Puyallup Tribe of Indians (Appendix A). Additional geological, ethnohistoric, historical, and archaeological information, maps, and photographs were examined at the University of Washington Libraries, and Northwest Archaeological Associates, Inc. library. Twenty cultural resources investigations have been previously conducted within one mile of the project, including an overview of Pierce County (Avey 1985), and an overview of the city of Tacoma (Palmer & Palmer 1996) (Table 1). Investigations were conducted for U.S. Oil (Berger and

Figure 1. Project location.

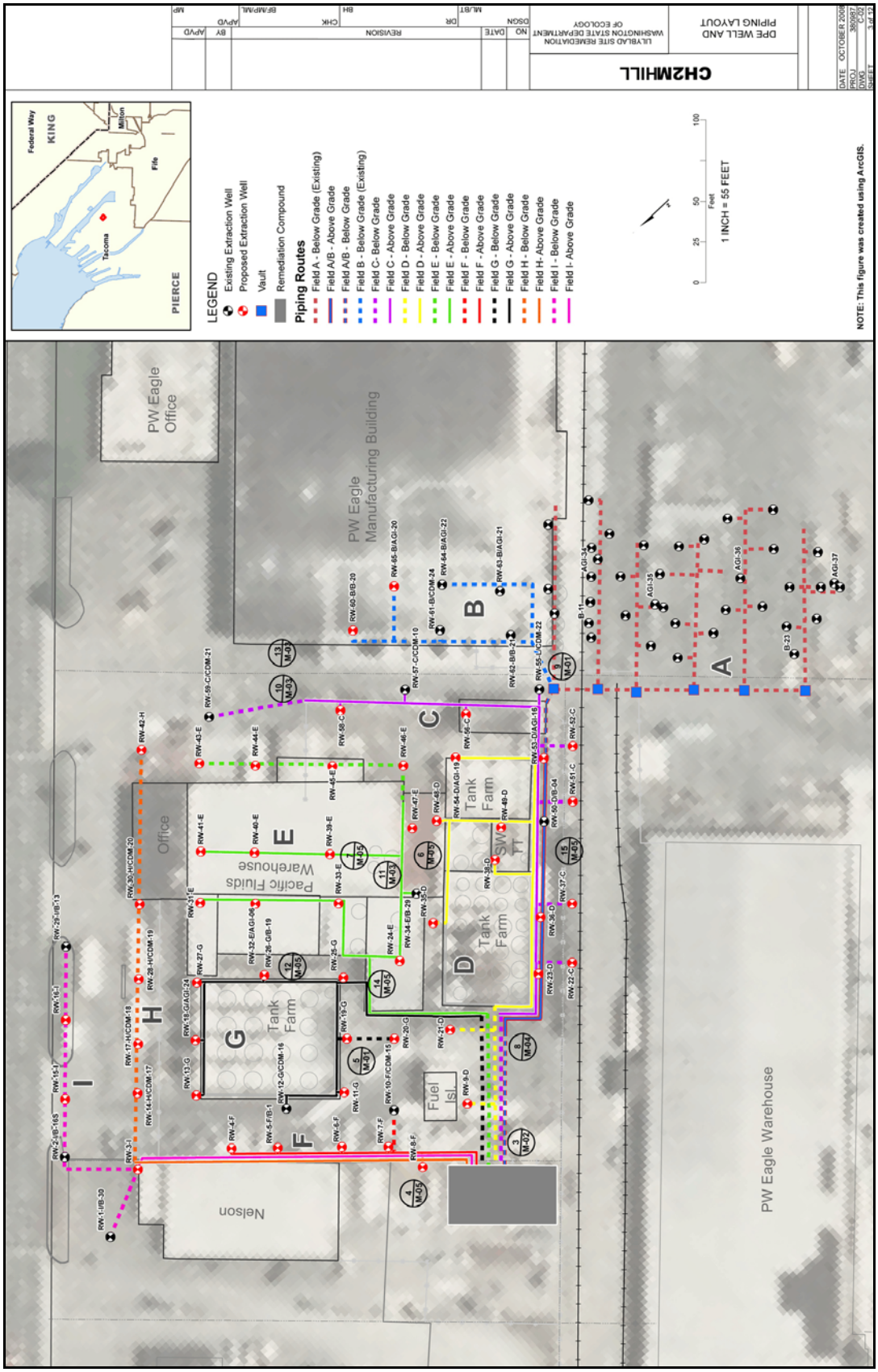

Figure 2. Lilyblad site with DPE Well and Piping layout (courtesy DOE).

Table 1. Cultural Resource Investigations Within One Mile of the Project.

AUTHOR	DATE	PROJECT	RESULTS*
Parvey, M.	2009	Addendum to the Cultural/Archaeological Investigations Technical Memorandum for U.S. Oil & Refining Co.'s Dock Modifications for the Crude Handling Efficiency Project	None, Report unavailable at DAHP
Parvey, M.	2008	Summary of 2007 Archaeological Monitoring Activities for the Gog-Le-Hi-TE II Mitigation Action Area.	None
Chambers, J.	2007	Cultural Resources Assessment for the 1501 Taylor Way Project, Tacoma, Pierce County, Washington	None
Berger, M. and J. Chambers	2007a	Cultural Resources Assessment for the Transfer Line Replacement Project, Tacoma, Pierce County, Washington	None
Berger, M. and J. Chambers	2007b	Cultural Resources Assessment for the US Oil & Refining Co's TK 2002 Replacement, Biofuels Blending & Storage, and Asphalt Railcar Loading Projects, Tacoma, Pierce County, Washington	None
Parvey, M.	2007a	Cultural/Archaeological Investigations Technical Memorandum for The Port of Tacoma's East Blair One Terminal Project	None
Parvey, M.	2007b	Summary of 2006 Archaeological Monitoring Activities for the Blair Inner Reach Turning Basin Expansion Area and Southwest Corner Cutback	None
Berger, M. and J. Chambers	2006	Cultural Resources Assessment for the Tacoma Grinding Plant Project, 1220 Alexander Avenue, Tacoma, Pierce County, Washington	None
Cooper, J.	2006	Archaeological Survey of the Proposed City of Fife Pacific Highway East Port of Tacoma Road to Alexander Avenue East Improvement Project, Pierce County, WA	None
Chambers, J.	2006a	Phase 1: Cultural Resources Assessment for the Port of Tacoma's Lincoln Avenue Grade Separation Project, Pierce County, Washington	None
Chambers, J.	2006b	Cultural Resources Assessment for the Concrete Technology Corporation's New Hollow Core and Crane Project, Pierce County, Washington	None
Chambers, J.	2006c	Archaeological Monitoring for Lincoln Avenue Grape Separation Project, Tacoma, WA	None
Miller, H. and B. Bowden	2006	Hylebos Bridge Rehabilitation Project: Historic, Cultural, and Archaeological Discipline Report	None
Parvey, M.	2006	Cultural/Archaeological Investigations Technical Memorandum for U.S. Oil & Refining Co.'s Dock Modifications for the Crude Handling Efficiency Project	None
Parvey, M.	2005a	Cultural Resources Assessment for the Port of Tacoma's Blair Waterway Infrastructure Improvements Project and Gog-le-hi-te II Mitigation Action Area, Pierce County, Washington	None
Parvey, M.	2005b	Cultural Resources Assessment for the Port of Tacoma's Barge Slip Fill Project, Pierce County, Washington	None
Kent, Ronald J.	2004	Cultural Resources Reconaissance Survey for the U.S. Army Corps of Engineers Puyallup River Flood Control Project, Tacoma, Pierce County, WA	None
Palmer & Palmer	1996	Report of Archaeological Resources survey of the City of Tacoma	None
Avey, M.	1985	Pierce County Cultural Resource survey Archaeology - Phase I	None
Munsell, D.	1976	The Wapato Creek Fish Weir (45-PI-47)	45-PI-47

*Cultural resources identified within 0.5 miles of the project.

Chambers 2007a, 2007b; Parvey 2006, 2009), the Port of Tacoma (Chambers 2006a, 2006c; Parvey 2005a, 2005b, 2007a, 2007b, 2008), bridge renovations (Miller and Bowden 2006), road improvements (Cooper 2006), flood control (Kent 2004) and other construction and renovation projects (Berger and Chambers 2006; Chambers 2006b; Chambers 2007).

The Wapato Creek Fish Weir (45PI47) was first identified during dredge operations on the Blair Waterway in 1970, roughly 0.25 miles northwest of the project. The upper-most portion of the fish weir was encountered below roughly 7.5 feet (2.3 meters) of industrial fill and an additional 6.5 feet (2 meters) of alluvium. The cultural material includes remains of a fish weir and netting, and cedar bark hat, dated to between 510 and 290 years old (Munsell 1976). No additional archaeological sites or historic structures are within 0.5 miles of the project.

GEOLOGY AND TOPOGRAPHY OF THE PROJECT

The topography and surface deposits of the lower Puget Sound region are the result of multiple continental glaciations that extended south from Canada through the Puget Lowland and along the western edge of the Cascade Range. By about 13,600 years ago Puget Sound was ice-free as a result of glacial retreat brought about by climatic warming (Borden and Troost 2001; Porter and Swanson 1998). The project is situated on the South Tacoma Channel, a glacial outwash channel extending from Commencement Bay to the town of Steilacoom (Thorson 1980). The land around Commencement Bay, including the project area, experienced sequential marine, alluvial, and deltaic deposition as the land rose once the weight of glacial ice was removed (Dragovich et al. 1994).

About 5,700 years ago, the ancient Puyallup River valley was buried under the Osceola Mudflow which originated on the summit and northeastern flank of Mount Rainier when a large section of the volcanic edifice collapsed (Dragovich et al. 1994). As a result of this massive lahar, the ancient Puyallup delta front, formerly located near the present city of Puyallup, prograded rapidly, reaching the general project vicinity around 4200 BP (Barnhardt et al. 2003). Infilling continued creating the extensive tideflats described by early settlers.

The modern landscape in the project vicinity has been extensively changed by historic industrial development. Wapato Creek was widened and dredged to become the present day Blair Waterway. Dredge spoils and fill were brought in to build up the surrounding landscape and fill in a side channel of Wapato Creek, once located at the south end of the project. The archaeological investigation of 45PI47 identified approximately 2.3 meters (7.5 feet) of fill on top of intact alluvial deposits (Munsell 1976). Bore holes excavated within the project and surrounding vicinity identified a 1 to 4 feet thick (6 to 7 feet thick under the PW Eagle building) of structural fill overlying a 2 to 8 feet thick layer of dredge spoil fill on top of the native tidal flat deposits (DOE 2007). Bore holes excavated within the project boundary identified fill (structural and dredge spoils) to depths ranging between 7.5 and 13 feet below ground surface, overlying native tide flat deposits (Figures 3 and 4).

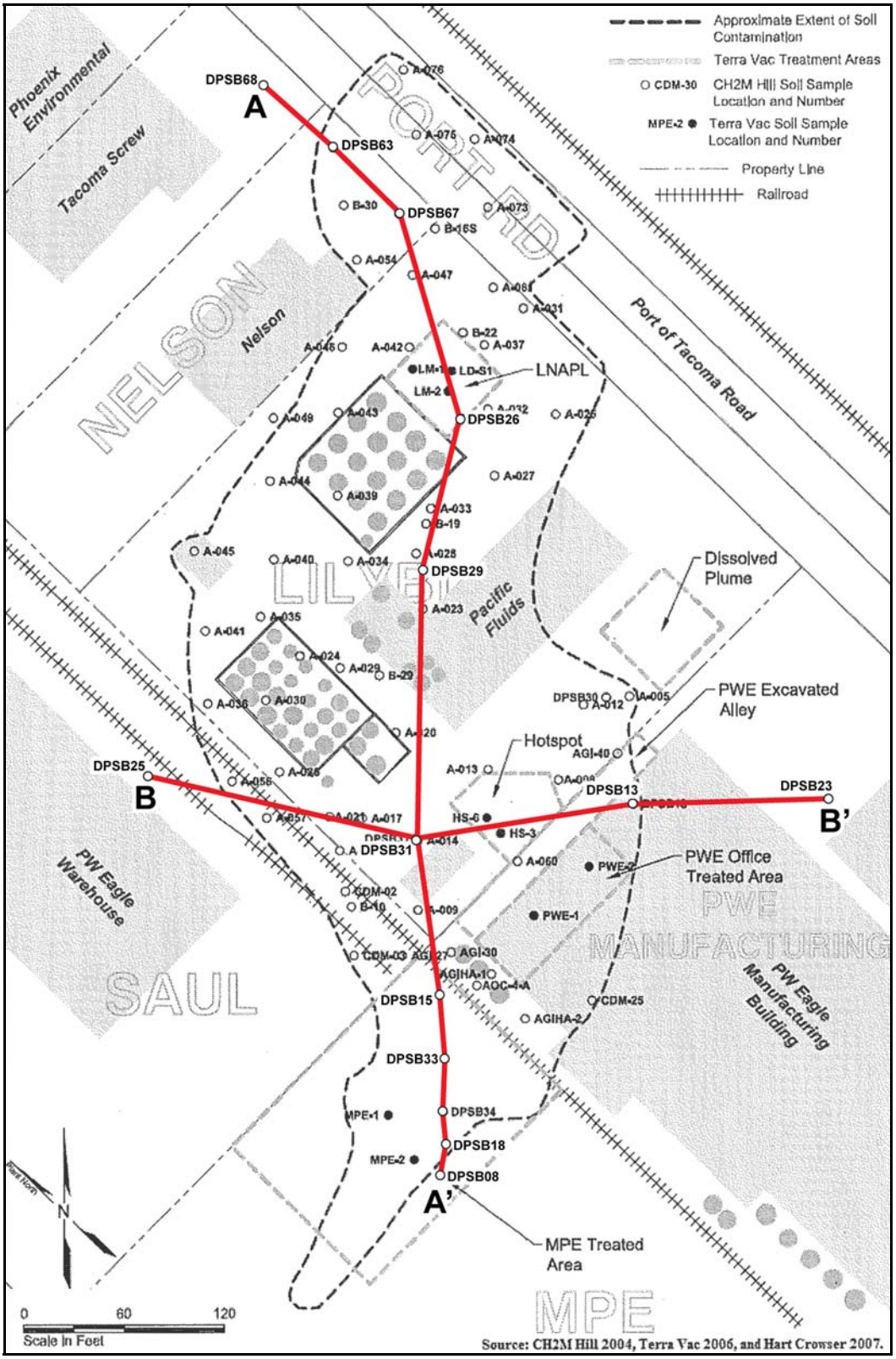

Figure 3. Lilyblad site map showing borehole and profile locations (courtesy DOE).

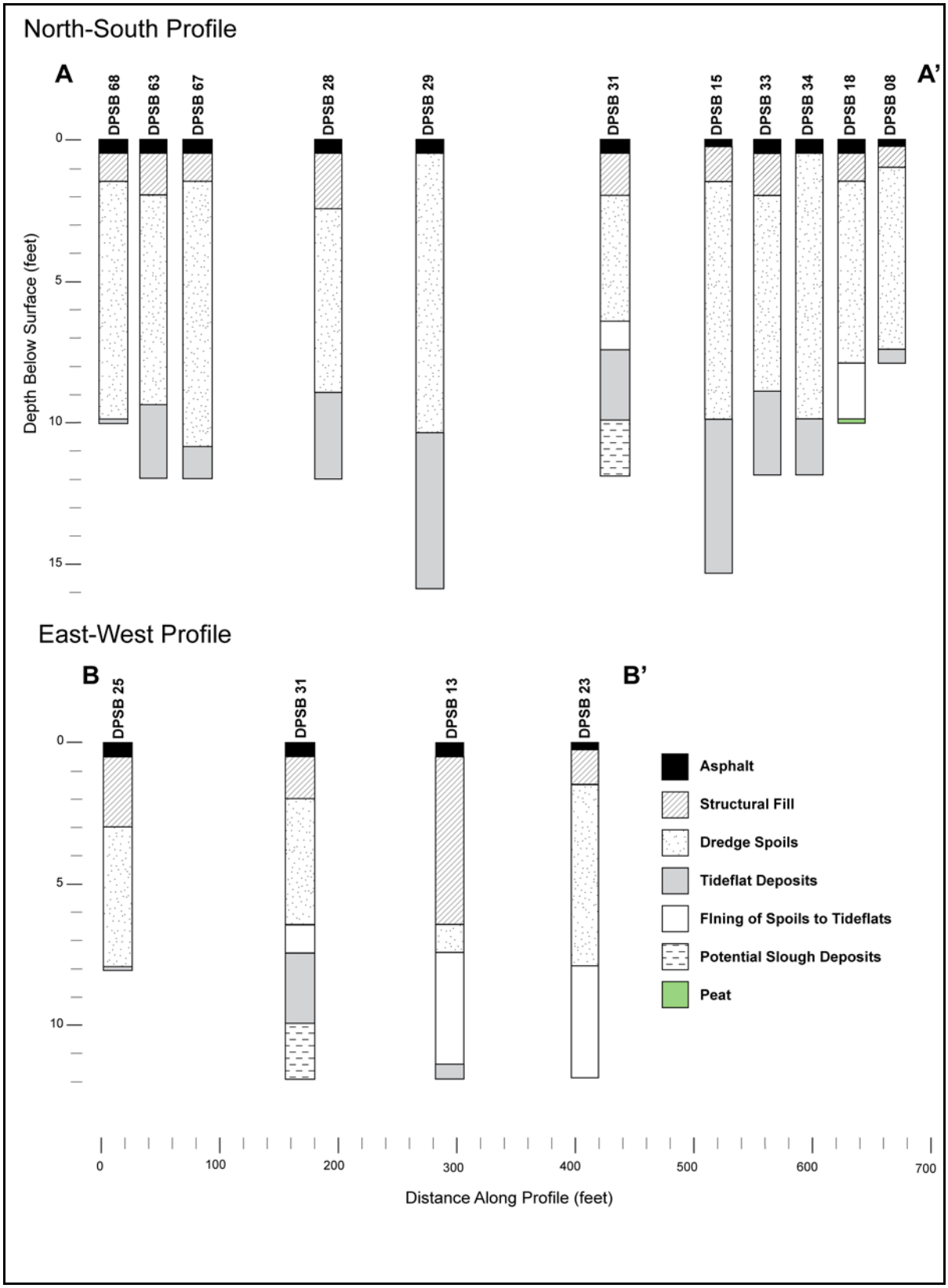

Figure 4. Cross-section of selected boreholes on the Lilyblad site.

CULTURAL SETTING

Evidence for habitation of the southern Puget Lowlands extends back at least 11,000 years ago, however, the mid-Holocene age of creation and stabilization of the Puyallup River delta means that there is no potential for evidence of these earlier cultures in the project area. Instead, any cultural material that may be present is likely to have resulted from use of the area after 4200 BP.

The project is within the traditional territory of the Puyallup Indians. Early ethnographers reported Puyallup villages on the Puyallup River as well as camps around Commencement Bay (Haeberlin and Gunther 1930; Smith 1940). Marian Smith (1940:9-10) reported a village named *kalkalaq*^{u} at the mouth of Wapato Creek "just above the grasslands", roughly 0.75 mile north northeast of the project location. Commencement Bay provided plentiful food resources including shellfish along the shore and fish as well as harbor seal, sea lion, and dolphins were present in the bay. The place name *asx*^{w}*wop* is translated as "where the seals haul out" for a shallow inlet between the mouth of the Puyallup River and the mouth of Wapato Creek (Waterman 2001:249). Salmon and steelhead were caught in Commencement Bay, but most were obtained as they migrated up the Puyallup River and its tributaries to spawn. Salmon were caught in weirs, traps, and nets and with spears, leisters, and gaff hooks (Gibbs 1877; Lane 1973; Meeker 1905; Smith 1940). The archaeological remains of a fish weir, netting, and a basket hat (45Pl47) were found on the south bank of the Blair Waterway roughly 0.25 miles east northeast of the project. Wapato Creek, called *qa'lqaləq*^{w} for "making many turns" (Waterman 2001:249), once flowed into Commencement Bay through a channel later enhanced for use as the Blair Waterway.

Euroamerican settlement of the Commencement Bay area began in the early 1850s. The Puyallup Reservation was established under the terms of the 1854 Medicine Creek Treaty (Ruby and Brown 1986). Executive orders issued in 1857 and 1873 enlarged the original reservation to include lands on the south and east sides of Commencement Bay, including the project location (Harmon 1995:232; Morgan 1979:172; Ruby and Brown 1986:166; Puyallup Indian Commission 1892). The Medicine Creek Treaty also provided for the allotment of land parcels to individuals residing on the Puyallup Reservation and by 1892 land encompassed by the project had been allotted to Joe Young and Leluiton "Tommy Bill" (Figure 5). Transportation related construction on tideflats along the western shore of Commencement Bay began soon after the Northern Pacific Railroad (NPRR) completed a line from Kalama to Tacoma in the 1870s (Wood 1968). By 1910 all of the land in and around the project had left Native American ownership and was platted into multiple parcels (Figure 6).

The present Blair Waterway is a direct result of improvements to local waterways, in this case Wapato Creek, by the Port of Tacoma, which was established in 1918. Initially the Port focused on creating a series of waterways, including the Blair (Wapato) Waterway which extended south from Commencement Bay to approximately 11th Street, approximately 0.9 miles northwest of the project. Dredging of the Blair Waterway continued in the 1930s, further expanding and deepening the channel (Palmer and Palmer 1996:67-68). The material removed during these operations was redeposited on the tideflats and along waterways to build up the local landscape. By the early 1940s, development along the Blair Waterway, north of the project, included a grain elevator, piers, wharves, and naval shipyards (Palmer and Palmer 1996:68).

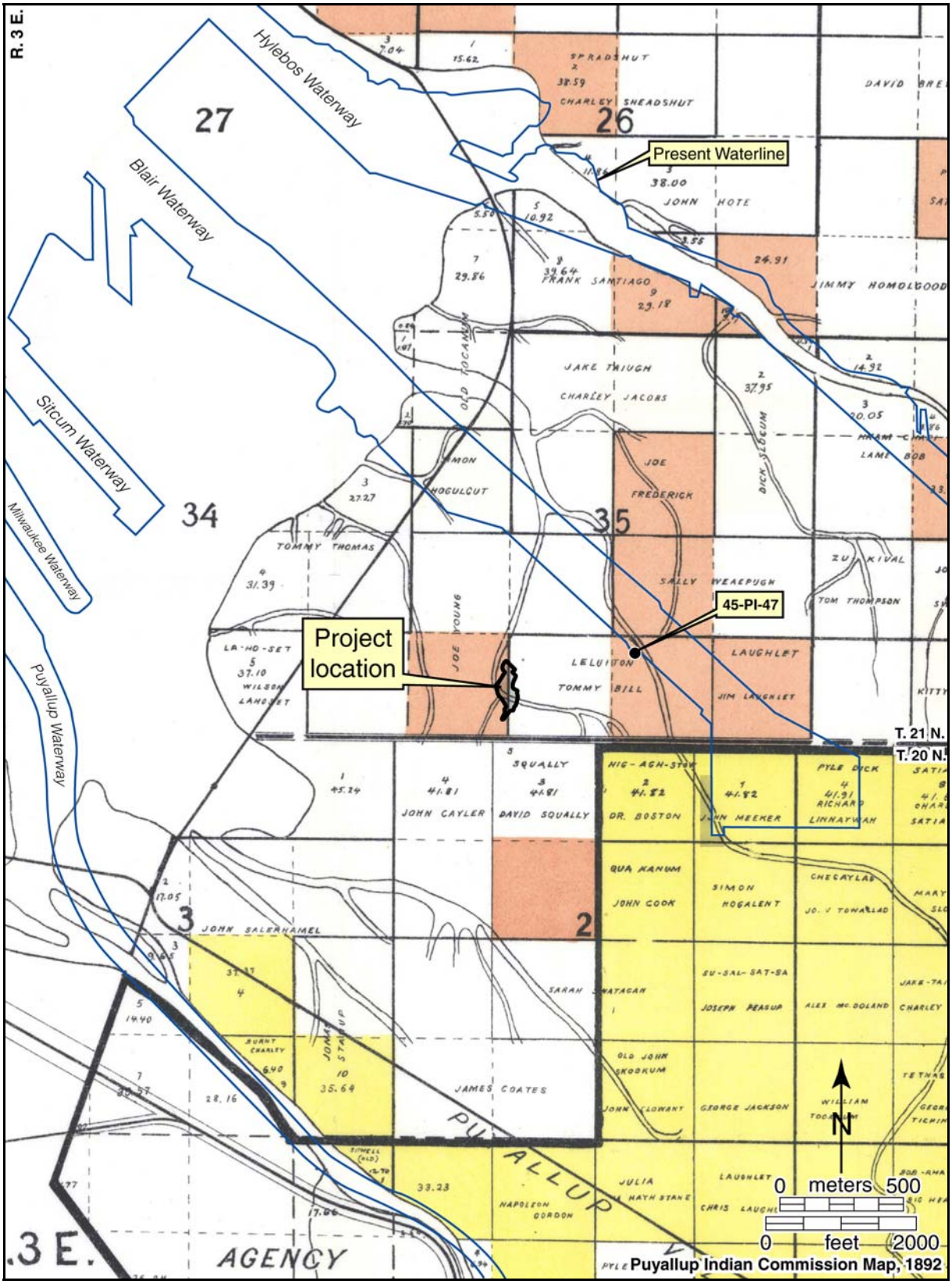

Figure 5. Puyallup Reservation map, 1892, showing allotments and the pre-development shoreline.

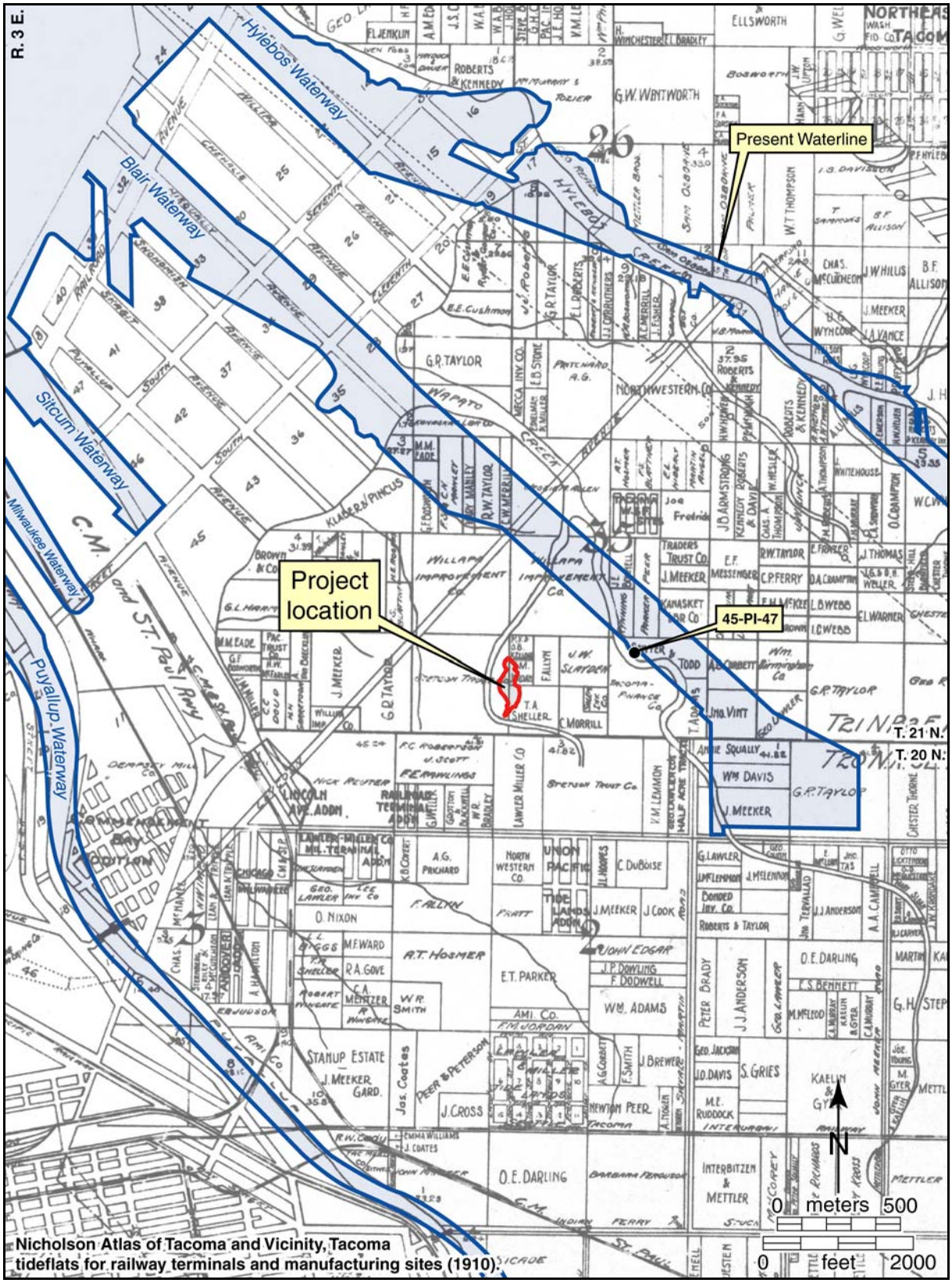

Figure 6. Nicholson map showing land ownership in the project vicinity, 1910.

Land encompassed by the project remained platted as part of the Port of Tacoma Industrial Development District (Metsker 1940). By 1966 the waterway had been extended south of Lincoln Avenue (USACE n.d.).

Based on historic maps, the project parcel has been part of the Port of Tacoma Industrial Development District since at least 1940 (Metsker 1940). Industrial development of the project parcel began in the late 1950s when Western Plastics Corporation (currently PW Eagle Manufacturing, Figure 7) began manufacturing plastic plumbing pipe (Ramsey 1987). The majority of the project parcel is a facility currently operated by Pacific Functional Fluids (Figure 8). This portion of the parcel was initially developed in the 1960s for use by Garrett Freight Lines, which remained in operation until about 1970. Lilyblad Petroleum Inc. began operation of the facility in 1972 as a distributor of gasoline, diesel, solvents and other petroleum products, until purchased by Pacific Functional Fluids in 2003 (DOE 2007).

FIELD RECONNAISSANCE AND CURRENT CONDITIONS

The project location was visited on February 12, 2009. The location is currently covered with asphalt and/or concrete, and houses the large industrial complexes associated with Pacific Functional Fluids and PW Eagle Manufacturing (Figures 7 and 8). Sub-surface investigations were limited to examination of bore-hole logs provided by DOE, and other sources of documented fill placement in the area.

Figure 7. Overview of PW Eagle complex, view to the southeast.

Figure 8. Overview of Pacific Functional Fluids complex, view to the northwest.

Assessment of Probable Adverse Impacts

The project is on landscape that has been substantially altered from the original by dredging, fill placement, and extensive industrial development. The proposed site remediation, as currently designed, is not likely to cause adverse impacts to culturally significant archaeological sites or historic period buildings. There is no evidence that historic development took place at the project location prior to 1955 and none of the properties comprising the project retain significant historic-period structures. The proposed site remediation will not remove sediment below previously established levels of structural fill and/or dredge spoils. Although DPE wells may extend into native tideflat deposits, sediment will not be excavated due to use of direct-push technology.

RECOMMENDATIONS

Current project plans do not call for sub-surface excavation below fill and no further archaeological investigation is recommended. However, if project plans change such that sub-surface excavation below fill is required then it is recommended that an archaeological monitor be on site prior to disturbance of native tide flat deposits. The potential for pre-contact cultural materials, such as that identified at 45PI47, is moderate to high, particularly at the south end of the project where a side channel of Wapato Creek once flowed (Figure 5).

Plan for Unanticipated Discovery

In the event that cultural resources are encountered during any phase of the proposed project, work should be temporarily suspended at that location and it is the responsibility of DOE to alert the City of Tacoma Historic Preservation Office and the DAHP of the discovery. If the discovery is attributable to Native American, the Puyallup Tribe will be notified.

As a general policy, and as far as practically feasible, all cultural resources and buried human remains will be avoided and actively preserved. "Cultural resource" is defined here to mean both isolated artifacts and intact cultural deposits and may include the remains of pre-contact, ethnohistoric, and historic activities and occupations. Cultural resources may include but are not limited to pre-contact materials such as concentrations of fire-modified rock, faunal remains, burned or stained sediment, and chipped and/or groundstone tools. Historic materials may include concentrations of domestic debris such as glass and ceramic from past discard events. Collection of these materials by employees, construction personnel or others with access to the project is prohibited.

If discovery occurs, the Project Engineer will ensure that construction does not continue in the vicinity of the discovery and will notify the City of Tacoma Historic Preservation Office and the DAHP, as well as retain a qualified archaeologist to assist in the evaluation of the discovery. If the discovery is associated with Native Americans, the Puyallup Tribe will be notified. If cultural materials are significant, a treatment plan will be developed through consultation among DOE, the City of Tacoma, the DAHP, and if applicable, the Puyallup Tribe. Work will not resume in the area of the discovery until authorized by the Tacoma Historic Preservation Office.

Human Remains

At the time that any bone that may be human, or any funerary object, is discovered, project activities in the vicinity will cease immediately. DOE will notify the Pierce County Sheriff and the Pierce County Medical Examiner.

1. The Medical Examiner will assume control over the remains and determine if the remains are forensic or non-forensic.

2. If the Medical Examiner determines the remains are non-forensic, the DAHP will take jurisdiction over the remains. The State Physical Anthropologist will determine if the remains are Native American.

3. The DAHP will handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

4. Exposed human remains and any associated or non-associated funerary object(s) will be treated with respect. Prior to disposition, these remains and/or funerary objects will be protected in accordance with the wishes of the Puyallup Tribe. No additional excavation of these remains and/or funerary object(s) will take place without Tribal and DAHP consent, and no exposed remains or funerary object(s) will be left unattended in the field unless the Tribe requests otherwise.

Contact List

Northwest Archaeological Associates, Inc.
Office . . . . . (206) 781-1909

Pierce County Medical Examiner
Eric L. Kiesel . . . . . (253) 798-6494

Pierce County Sheriff
Paul Pastor . . . . . (253) 789-4721

Puyallup Tribe
Judy Wright, Cultural Resources . . . . . (253) 573-7835
Jeffery Thomas, Cultural Resources . . . . . (253) 573-7800
Tribal Office . . . . . (253) 573-7800

State of Washington Department of Ecology
Ha Tran 360-407-6064

Tacoma Historic Preservation Office
Reuben McKnight . . . . . (253) 591-5200

Washington State Department of Archaeology and Historic Preservation
Stephenie Kramer, Assistant State Archaeologist . . . . . (360) 586-3083
Guy Tasa, State Physical Anthropologist . . . . . (360) 790-1633

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APPENDIX A: Tribal Correspondence

Northwest Archaeological Associates, Inc.
Cultural Resources Management Services
5418 20th Avenue NW, Suite 200, Seattle, WA 98107

February 10, 2009

Thomas Edwards, Cultural Regulatory Specialist
Historic Preservation Department
Puyallup Tribe of Indians
3009 East Portland Avenue
Tacoma, WA 98404

RE: Cultural Resources Assessment for the Lilyblad Site Remediation Project, Pierce County, WA.

Dear Mr. Edwards,

Northwest Archaeological Associates, Inc. (NWAA) has been retained by the Department of Ecology to conduct a cultural resource assessment for the proposed Lilyblad Site Remediation Project located in the Port of Tacoma in Pierce County (Township 21N, Range 3E, Section 35, Willamette Meridian) (please see attached map). The project area is an approximate 2-acre industrial area where underground trenching and groundwater intercept will be carried out. The property, situated along the Port of Tacoma Road, is occupied by two industrial firms, Pacific Functional Fluids and JM Eagle, as well as the currently vacant Nelson property. Most of the site is paved or covered with buildings, and there are a number of remedial wells installed throughout the project area. Geotechnical information indicates that the site contains structural fill, believed to be derived from dredging of nearby waterways, up to depths of 10 feet or more.

No impacts to cultural resources are anticipated because ground disturbance is not expected to reach below depths 10 feet and will remain within the fill layer. However, because of the proximity of the project area to archaeological site 45-PI-47, we are contacting you to inquire if the Puyallup Tribe has any concerns for cultural resources in or near the project area. If so, please contact us at your earliest convenience so these locations can be taken into account during planning. We look forward to hearing from you regarding this project. We respect any concerns the Tribe may have about sharing sensitive information with us, and we will be happy to work with you regarding these concerns. This letter is a technical inquiry and is not intended to replace government-to-government consultation required by state and federal regulations.

The project manager for this assessment is Michele Parvey. Please feel free to contact either of us by phone or email if you have questions or comments.

Thank you for your attention to this matter.

Respectfully,

Jessie Piper

Jessie Piper

cc: Judy Wright, Tribal Historian - Puyallup Tribe

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