

Notice of Preparation

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Public Notice Date: 2 September 2008
Expiration Date: 1 October 2008
Reference: PL-08-15
Name: Pier 23 Rehabilitation

Interested parties are hereby notified that the Army Reserve plans to prepare, pursuant to the National Environmental Policy Act Section 102(C), an environmental assessment (EA) for a proposed pier repair for the U.S. Army Reserve (Army Reserve), at Tacoma, Pierce County, Washington. The Army Reserve has engaged the U.S. Army Corps of Engineers, Seattle District (Corps), to prepare the EA for the proposed project.

Work is proposed to include the demolition of the first 600 feet of timber pier beginning at the shoreline, the remediation of sediment under and around the demolished portion of the pier, the potential removal of slag material adjacent to the pier, and the reconstruction of a new concrete section of the pier.

Due to new circumstances, this EA will supplement one finalized in December 2004 (USACE 2004a). See http://www.nws.usace.army.mil/ers/doc_table.cfm; scroll to Commencement Bay, Pier 23 Repair. The new circumstances include:

- development of a new alternative action: replacement of a section of pier (distinguished from pier repair)
- potential remediation of contaminated sediments underneath and adjacent to the pier as part of the project scope,
- the Endangered Species Act listing of southern resident orca as endangered in December 2005, and of Puget Sound steelhead as threatened in May 2007, and
- the designation of critical habitat for threatened Puget Sound Chinook salmon in September 2005, and for threatened Puget Sound bull trout in October 2005.

BACKGROUND

The Pier 23 property is located on the northwest end of the Port of Tacoma Industrial Yard, between the Hylebos and Blair Waterways along the Commencement Bay shoreline (T21N, R03E, Section 27).

The Pier 23 property is operated and maintained by the Army Reserve, which leases the 7.4 acres of submerged lands and 3 acres of uplands from the Port of Tacoma. The Army Reserve owns, controls, and has command of the pier structure, all facilities on the pier, and all structures and improvements on the upland property. Pier 23 and its associated facilities are required for military training. The pier facilities are used

primarily for Army watercraft maintenance and for the training of reserve soldiers. At full operational capacity, up to 400 reservists will utilize the Pier 23 facilities.

NEED AND PURPOSE

The Army Reserve acquired the Pier and a former warehouse from the National Guard in 1996, and a new uplands facility was constructed in December 2005. The pier was constructed prior to World War II, and has deteriorated to the point where it does not meet operational requirements, and is unsafe.

The deterioration of the pier structure has affected the Army Reserve's usage of the facilities at this site. Loads on the pier are limited by the timber deck (requiring truck weight limits), and mooring loads are limited by the deterioration of the piles supporting the bollard bases. The consulting engineer recommended that 5 of the 10 bollards along the timber portion of the pier not be used for mooring anything but very small boats. Some pilings were replaced in 2006.

In addition to deterioration of the pier, contaminated material and metal slag exists around and under the pier. Tests for contaminants in the sediment revealed petroleum hydrocarbons, zinc, arsenic, cadmium, copper, and mercury. Although testing results were not uniformly outside of criteria for all locations, the Army Reserve wishes to ensure the biological integrity of the submerged lands at the same time as the pier deterioration is addressed.

The purpose of the proposed project is to allow the Army Reserve to continue mooring and maintaining Army vessels at Pier 23.

DESCRIPTION OF PROBLEM

In 1994, while the pier was owned and operated by the Washington National Guard, an underwater inspection of the pier structure was conducted. At that time, approximately 10 percent of the 960 load-bearing timber piles had moderate to heavy deterioration with material loss varying from 75 to 95 percent. A number of these piles had lengths of complete section loss. The timber fender pile system was found to be in poor condition, with nearly 60 percent of the pilings moderately to heavily damaged by vessel impacts. A number of these piles were either completely missing or broken off at the waterline. The timber pile caps and stringers were in good condition with only six localized areas of moderate to heavy deterioration. The timber planks of the deck were typically sound and well secured; however, 287 of the individual planks had moderate to heavy weathering as indicated by cracking, splitting, abrasion damage, and soft wood fibers.

After the 28 February 2001 Nisqually earthquake, a structural analysis of the pier was conducted in 2001. The condition of the timber piles was found to be much worse than described in the 1994 inspection report. Missing piles were determined to have degraded the load capacity for the bollards (pile clusters with concrete caps used for mooring large vessels). One bollard was missing 38 percent of its piles, reducing its design line pull capacity by 40 percent. It is thought that piles weakened by marine borer attack may have snapped off during the earthquake.

Contaminated sediment is fine-grained material from elevation minus 15 feet (mean lower low water) to minus 20 ft MLLW, adjacent to the pier. The slag material is in the intertidal zone next to the sheet pile wall on the Pier 23 north shore property. It is a dark granular material that which has debris mixed in. The debris includes ceramics, wood, glass, and metal bolts, cables and pipes. The slag is hardened up to one foot below its surface, possibly due to metal oxidation. The slag is currently being evaluated to determine if it is posing an unacceptable risk to the marine environment based on comparison to established criteria.

ALTERNATIVES

Multiple alternatives were considered as follows.

Pier Replacement

Pier Replacement Alternative 1 - No Action

Under Alternative 1, the Army Reserve would not replace Pier 23. The deterioration of the pier structure would continue to affect the Army Reserve's usage of the facilities. As a result of the 2001 structural analysis, loads on the pier have been limited by the damaged timber deck (requiring truck weight limits), and mooring loads have been limited by the deterioration of the piles supporting the bollard bases. Five of the ten bollards along the timber portion of the pier cannot be used for mooring anything but very small watercraft. These limitations affect the Army Reserve's ability to safely moor watercraft, and carry out vessel maintenance and training activities. The damaged structure and outdated utilities are becoming increasingly unsafe for Army Reserve personnel.

Pier Replacement Alternative 2 - Timber Pier Demolition and Reconstruction

Alternative 2 is the Preferred Alternative, and consists of demolishing the shoreward 600 feet of the wooden pier and replacing it with a new concrete-surfaced pier on concrete pilings. Under this alternative, approximately 1,100 creosote-treated timber piles (structural and fender) would be removed from the wooden section of the pier. These pilings would be replaced with 308 pre-cast concrete piles. Utilities running beneath the pier would be replaced.

Under this alternative, repairs would be made to the existing outer concrete portion of the pier beyond the timber section. Approximately 200 creosote-treated timber fender piles would be removed from the outer section of the pier and be replaced by 122 square concrete fender piles. Delaminated areas with exposed reinforcing bars and spalls on existing concrete structural piles would be repaired.

Sediment Remediation

In addition to the pier replacement alternatives, there were four alternatives formulated for sediment remediation (PNNL 2000).

Sediment Remediation Alternative 1—No Action

No work would be done to remove or cap contaminated sediments under the No-Action Alternative. They would be allowed to remain in place. Natural recovery processes (sedimentation, bioturbation, resuspension and lateral transport of sediments, and biodegradation of total petroleum hydrocarbons [TPH]) would be relied on, though those cannot address metals contamination.

Sediment Remediation Alternative 2—Natural Recovery with Monitoring

This alternative is similar to the No-Action Alternative, and would rely on natural recovery processes to reduce contaminant levels below minimum cleanup levels within 10 years. However, this alternative would add annual sediment sampling for 10 years, or until contaminant (TPH) levels are verified to be below minimum cleanup levels. Again, this would not address metals contamination.

Sediment Remediation Alternative 3—Capping

Under this alternative, an engineered cap would be approximately three feet thick and incorporate multiple materials: fines for contaminant containment; coarse materials to maintain stability to resist erosion, and a surface layer of 'fish mix' to provide potential salmonid prey spawning habitat. The sediment cap would be placed at a depth compatible with vessel access.

Sediment Remediation Alternative 4--Dredging

This alternative would consist of dredging 1,100 square feet adjacent to the shoreward 200 feet of pier, and then covering with a thin "fish mix" gravel layer. Dredging depth would be to the natural substrate plus six inches. Estimated total dredging depth would be 2.5 feet. Sediment is not classified as dangerous, allowing some flexibility in handling and disposal. Mechanical dredging equipment (e.g. clamshell or environmental bucket) would be used. Due to low contaminant levels, no silt curtain would be used, but dredge operators would be instructed to take appropriate action to ensure minimal dispersal of sediments in the water column. This would include precision cutting, slow hoist through the water column, and pause at the surface for water to drain. A 6-inch layer of fish mix gravel would be used to cover the dredged area.

Pre-treatment (mainly dewatering) before disposal would occur. Disposal would be by one of three options—confined near-shore disposal, confined aquatic disposal, or upland disposal.

- Confined near-shore disposal would entail placement of sediments into a sheet-pile enclosure 62 feet wide and 140 feet long, and 15 feet high (above substrate), adjacent to the pier with its base below MLLW. The sheetpile would be driven to a depth of 45 feet below the substrate. Sediment placed in the enclosure would be capped with one foot of clean fill, 0.5 foot of topsoil and a vegetative cover, leaving 13.5 vertical feet of room for sediment disposal. There would be a polyethylene sheet lining the sheetpile walls, and a geotextile drainage lining of the bottom of the enclosure.

- Confined aquatic disposal would use designated disposal sites in Commencement Bay; the recommendation is to use the Port of Tacoma's Blair Slip One in the Hylebos Waterway. Material would be transported to the site and discharged from a split-hulled barge or through a vertical pipeline diffuser. Capping material would be placed on top of the dredged material.
- Upland disposal would involve dewatering of dredged material, and transportation to an approved landfill.

Any Preferred Alternative encompassing sediment remediation might include both dredging and capping, depending on findings on contamination once dredging begins.

Slag Removal

At this time, the Army Reserve does not intend to do slag removal, but it is being retained as an option. Therefore, alternatives are discussed here.

No Action

Slag would be left in place along the north shoreline adjacent to the sheetpile wall.

Slag Removal

Slag removal would likely entail cutting back into the bank to a depth of approximately 3 feet below water surface and capping at a minimum. It is as yet unknown how deep the slag is.

ANTICIPATED IMPACTS

Impacts anticipated at this point are as follows, based in part on earlier analysis (Kemron 2005; USACE 2004a, 2004b).

Wetlands. The project area is in an estuary, and near the mouth of the Puyallup River. There are nearby intertidal wetlands. Removal of slag and remediation of contaminated sediments around the pier would improve quality of the local estuarine environment.

Biological Resources. A diversity of fish, invertebrates, mammals and birds, as well as at least one reptile, exist near the project area. Temporary effects due to noise, vibration, lighting, sediment suspension, and contaminant exposure are likely from the preferred alternative. Pile driving causes noise and disturbance for fish that may not be avoidable, but a bubble curtain to attenuate noise impacts may be required. Some fish would be able to avoid much of the activity, although small bottom-dwelling fish might in some cases be captured or smothered in the immediate locality of a dredge. As a result of the sediment remediation, suspension of solids would cause removal or smothering of benthic organisms, but recolonization would occur for most within a year. Continued shading of the nearshore environment as a result of the existence of the pier would negatively impact primary productivity, with indirect effects on secondary and higher productivity. The net removal of nearly 800 pilings would provide some benefit to benthic communities. Best management practices would be used to minimize effects.

The approved in-water work window runs from August 16 to Feb. 15. Piling removal, remediation and new piling construction would be timed for that period.

The following table lists threatened and endangered species potentially occurring in the project vicinity.

Species	Listing Status	Critical Habitat
Marbled murrelet <i>Brachyramphus marmoratus</i>	Threatened	Designated—not in project area
Coastal/Puget Sound bull trout <i>Salvelinus confluentus</i>	Threatened	Designated—not in project area
Puget Sound Chinook salmon <i>Oncorhynchus tshawytscha</i>	Threatened	Designated, but Pier 23 excluded (NMFS 2005)
Puget Sound steelhead <i>Oncorhynchus mykiss</i>	Threatened	----
Southern resident orca <i>Orcinus orca</i>	Endangered	Designated, but Pier 23 excluded (NMFS 2006)
Steller sea lion <i>Eumetopias jubatus</i>	Threatened	Designated—not in project area
Humpback whale <i>Megaptera novaeangliae</i>	Endangered	—
Leatherback sea turtle <i>Dermochelys coriacea</i>	Endangered	Designated—not in project area

An earlier Biological Evaluation (BE) (USACE 2004b) concluded that the proposed action is not likely to adversely affect the bald eagle (no longer listed but protected under the Bald and Golden Eagle Protection Act), Coastal/Puget Sound bull trout, Puget Sound Chinook salmon, and Steller sea lion. The project would have no effect on the humpback whale, leatherback sea turtle, or marbled murrelet, or on leatherback sea turtle critical habitat. Concurrences were provided to the Army Reserve for these assessments. Anticipated effects on steelhead would be minimal, based on presence and work timing. Anticipated effects on orca would be minimal, based on their anticipated presence. We will conduct further evaluations and will coordinate or formally consult, as appropriate, under the ESA with the US Fish and Wildlife Service and the National Marine Fisheries Service.

Water Quality. Suspension of contaminants is expected from removal of old pilings. Mercury suspension may exceed maximum water quality criteria at the point of suspension, but not likely beyond the mixing zone boundary. Other contaminants are not expected to exceed maximum criteria. Suspension of sediment would increase turbidity locally, but tidal currents would provide some dilution. Dissolved oxygen demand might locally increase with suspension of anaerobic sediments. Vibratory pile removal, and possible cutting of piles instead of uprooting them would minimize suspension of sediment. Water quality and the potential for contaminated sediments to move outside the mixing zone boundary while dredging may be of concern. Water quality monitoring for turbidity and possibly dissolved phase chemicals would occur.

Turbidity would be used as a surrogate for laboratory measured total dissolved solids. To avoid exceedances of mandated water quality limits, we would change construction methods in the field, stop work or possibly require a silt curtain. Effect of slag removal, (if it is pursued) on surface water quality is not known, but is assumed negative at this point.

Sediment Quality. Removal of over 300 creosote-treated pilings, which are a contaminant source, would be a benefit. Remediation of contaminated sediments, and potential slag removal, around the pier would be a benefit. Water quality characteristics of the area would help reduce magnitude of effects, and cured concrete as the planned piling material is more benign than is treated wood. Also, some resuspension and loss of contaminated sediments is likely during dredging, depending on currents and total area of dredging.

Cultural Resources. No impacts to cultural resources are anticipated to result from the proposed construction activities. On 23 April 2004, the Washington State OAHPC concurred with the Army determination that no historic properties would be adversely affected as a result of the proposed project (Log No: 042304-01-COE-S).

Air Quality. Construction is not expected to result in significant air quality degradation. Construction activities are estimated to last less than five months. Construction vehicles and heavy equipment would generate gasoline and diesel exhaust fumes, carbon dioxide (CO₂), carbon monoxide, and dust on roadways. There would be a temporary and localized reduction in air quality due to emissions from heavy machinery. These emissions would not exceed the Environmental Protection Agency's (EPA) *de minimis* threshold levels (100 tons/year for carbon monoxide and 50 tons/year for ozone) or affect the implementation of Washington's Clean Air Act implementation plan. Unquantifiable but insignificant exacerbation of effects of CO₂ emissions on global climate change is also anticipated.

Noise. Temporary increases in noise would occur as a result of pile driving and other construction activities. No sensitive human noise receptors are located in close proximity to the project.

Traffic. Construction-related traffic would cause temporary increases to, and disruption of, local traffic. Efforts would be made to minimize disturbances to traffic patterns during construction.

Cumulative Effects. Commencement Bay has been heavily developed and industrialized. Near Pier 23, other redevelopment and nearshore restoration plans are underway. Overall, cleanup efforts in parts of the bay are improving environmental quality. While this action does not alter the current developed character of the area, some positive effect is anticipated as a result of slag removal and cleanup, in addition to previous action taken at this site to remove contaminated sediments on the shoreline.

COMPLIANCE WITH OTHER LAWS AND REGULATIONS

The Corps will coordinate the proposed action with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service concerning anticipated effects on threatened and endangered species and their critical habitat, pursuant to Sec. 7(a)(2) of the Endangered Species Act. This is required in light of

- the potential additional need to remediate contaminated sediments underneath and adjacent to the pier;
- the Endangered Species Act listing of southern resident orca as endangered in December 2005, and of Puget Sound steelhead as threatened in May 2007.

The proposed work is not anticipated to reduce the quality or quantity of Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act, or to have an adverse effect.

Placement of pilings in this case has been determined not to constitute a discharge of fill material under the Clean Water Act. The Corps will perform analysis under Sec. 404(b)(1) of the Clean Water Act for slag removal and sediment remediation as appropriate. The Army Environmental Center will apply for a Sec. 401 and a Sec. 404 permit for these activities.

The proposed work on the pier has been evaluated for consistency under the Coastal Zone Management Act, and a determination was made that it was compliant with the Washington Shoreline Management Act (Washington Administrative Code Sec. 173-27-040(b)), and the Tacoma Municipal Code Sec. 13.10.005, and therefore consistent with the state's Coastal Zone Management program. Further evaluation for slag removal and sediment remediation will be made, and concurrence sought from the Washington Dept. of Ecology.

The project is not anticipated to cause violations of any standards under the Clean Air Act.

EVALUATION

The Army Reserve has made a preliminary determination that the environmental impacts of the proposal can be adequately evaluated under NEPA through preparation of an EA. Preparation of an EA addressing potential environmental impacts associated with the proposed action is currently underway.

On behalf of the Army Reserve, the Corps invites submission of comments on the environmental impact of the proposal. The Corps, on behalf of the Army Reserve, will consider all submissions received by the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. The Army Reserve will initiate an Environmental Impact Statement (EIS), and afford all the appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

Comments should reach the Corps' office, Attn: Environmental Resources Section, not later than 30 days from the date of this notice in order to ensure consideration. Requests for additional information should be directed to Ben Tsang, Project Manager at the Corps, at 206-764-6189.

REFERENCES

- CH2MHill. 2008. Army Reserve Pier 23, Tacoma WA: Full facility restoration technical assessment. Corrected Final Report for US Army Corps of Engineers, Louisville District..
- Kemron (Kemron Environmental Services). 2005. U.S. Army Reserve Pier 23 Project Tacoma, Washington: Draft Biological Evaluation. Submitted to US Army Environmental Center, Aberdeen Proving Ground, MD. USARC GFPR, Contract W911SO-04-F0017. Atlanta, GA. 60 pp.
- NMFS (National Marine Fisheries Service). 2005. Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionarily Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho: Final Rule. Federal Register 70:52630-52858.
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- USACE (US Army Corps of Engineers). 2004a. Final Environmental Assessment: Pier 23 Repair. Seattle District, Seattle, WA. 32 pp.
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