



## PUBLIC NOTICE

US Army Corps  
of Engineers  
New York District  
Jacob K. Javits Federal Building  
New York, N.Y. 10278-0090  
ATTN: Regulatory Branch

**In replying refer to:**  
Public Notice Number: 2002-00367-OD  
Issue Date: 8 October 2004  
Expiration Date: 8 November 2004

**To Whom It May Concern:**

The New York District, US Army Corps of Engineers (USACE) has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403), Section 404 of the Clean Water Act (33 USC 1344), and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended (MPRSA; 33 USC 1413).

**APPLICANT:** Department of the Navy  
Engineering Field Activity, North  
10 Industrial Highway  
Mail Stop 82  
Lester, Pennsylvania 19113-2090

**ACTIVITY:** Maintenance and new work dredging, with placement at a state-approved upland site and the Historic Area Remediation Site (HARS); Remove and replace Pier 3; Install upgrades to Piers 2 and 4.

**WATERWAY:** Sandy Hook Bay

**LOCATION:** Naval Weapons Station Earle, Township of Middletown, Monmouth County, New Jersey

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general the needs and welfare of the people. The decision of whether to issue a Department of the Army Permit for placement of the dredged material at the HARS will also be based on whether the material meets the requirements of applicable implementing regulations.

This activity is also being evaluated to determine that the proposed placement of dredged material will not unreasonably degrade or endanger human health, welfare or amenities, the marine environment, ecological systems or economic potentialities. On September 26, 2000, the US Environmental Protection Agency (USEPA) and US Army Corps of Engineers signed a Memorandum of Agreement (MOA) outlining the steps to be taken to ensure that remediation of the HARS continues in a manner

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

appropriately protective of human health and the aquatic environment. In making the determination evaluating placement of dredged material, the criteria established by the USEPA will be applied, including the interim change to one matrix value for PCB's as described in the MOA. In addition, based upon an evaluation of the potential effect which the failure to utilize this ocean site will have on navigation, economic, and industrial development, and foreign and domestic commerce of the United States, an independent determination will be made of the need to place the dredged material in ocean waters, other possible methods of disposal, and other appropriate locations.

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE. Otherwise, it will be presumed that there are no objections to the activity.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

The proposed project was reviewed based upon the "Biological Assessment for the Closure of the Mud Dump Site and Designation of the Historic Area Remediation Site (HARS) in the New York Bight and Apex," (USEPA, 1997). Based upon this review, and a review of the latest public listing of threatened and endangered species, it has been preliminarily determined that the proposed placement activities for which authorization is sought herein, are not likely to affect the following federally threatened or endangered species (humpback whales, finback whales, right whales, loggerhead turtles, leatherback turtles, green turtles, and Kemp's ridley turtles), or their critical habitat pursuant to Section 7 of the Endangered Species Act (ESA; 16 USC 1531). The USACE New York District is conducting informal consultations with the National Marine Fisheries Service in accordance with Section 7 of the Endangered Species Act.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). A preliminary review of the proposal and an EFH assessment previously submitted by the applicant indicates that EFH-managed species do not heavily utilize the area because ecological conditions favored by many of the species are not found at the dredge site. The primary effects on EFH (and EFH-managed species) would be a temporary increase in turbidity due to dredging activities and disruption of demersal and pelagic habitat.

These impacts would be short-lived episodes occurring over several weeks. Among the list of EFH-designated species known to occur at the dredge site, the most likely species to be impacted would be

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

overwintering, reproductive and non-reproductive species of flounders. Impacts to EFH species at the HARS would most likely emanate from the settling of the dredged material through the water column to the bottom. These events would also be short-lived and be episodic in nature over the several weeks the proposed work would take. The overall potential impact for all the work proposed herein on EFH for designated species is small because of the temporary nature of the disturbance, the existing and proposed depths are too deep for EFH managed species, the low abundance of most species for which this region is designated as EFH, and the frequent movement of combat cargo vessels in and out of the berthing areas. In addition, the removal and replacement of Pier 3, upgrades to Piers 2 and 4, expected to take 36 months, would generate turbidity due to the removal of the present structure and installation of pilings which would remain within the project area. Therefore, based on the foregoing, the District Engineer has made the preliminary determination that the site-specific adverse effects are not likely to be substantial. The EFH assessment recommends that a seasonal restriction of dredging within the berthing areas (not under Pier 3) from mid-November to June 1 take place. However, the EFH also recommends that pier removal and installation occur without a seasonal restriction. Consultation with National Marine Fisheries Service regarding EFH impacts and conservation recommendations is being conducted and will be concluded prior to the final decision.

Based upon a review of the latest published version of the National Register of Historic Places, the only known wrecks on or eligible for inclusion on the NRHP at the HARS are located in Primary Remediation Area Number 1. As noted in the designation of the HARS, Remediation Material would not be allowed to be placed within 0.27 nautical miles of the identified wrecks or other wrecks that might be found. Otherwise, there are no known sites eligible for, or included in, the Register within the proposed permit area.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, US Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. The applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to any final permit decision.

The Department of the Navy prepared an Environmental Assessment (EA) for this project, in cooperation with USACE. That EA was issued in April, 2004. The EA addressed the environmental impacts of this proposed activity.

Pursuant to Section 307(c) of the Coastal Zone Management Act of 1972 as amended [16 USC 1456(c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant is responsible for ensuring that the proposed activities are undertaken in a manner that is consistent with, to the maximum extent practicable, the approved state coastal zone management program. By this public notice, we are requesting the state's views on the consistency of this project with the State's approved CZM Program.

For activities within the coastal zone of the State of New Jersey, the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Bureau of Coastal Regulation, CN 401, 501 East State Street, Second Floor, Trenton, New Jersey 08625-0401, Telephone Number (609) 633-2289. Comments regarding the applicant's certification and copies of any letters addressed to this office commenting on this proposal, should be so addressed.

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the proposed activity under consideration:

**A Waterfront Development Permit from the New Jersey Department of Environmental Protection**

The proposed work is being coordinated with the following federal, state, and local agencies:

US Environmental Protection Agency;  
US Department of the Interior, Fish and Wildlife Service;  
US Department of Commerce, National Marine Fisheries Service;  
US Coast Guard;

It is requested that you communicate the foregoing information concerning this activity to any persons known by you to be interested and who did not receive a copy of this notice.

If you have any questions concerning this application, you may contact this office at (212) 264-0184 and ask for Mr. Mark Roth. Comments or questions may be FAXED to (212) 264-4260 ATTN: Mr. Roth. Questions about the HARS can be addressed to Mr. Douglas Pabst, Team Leader, Dredged Material Management Team, US Environmental Protection Agency, Region 2 at (212) 637-3797.

For more information on the New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>

*For/*   
Richard L. Tomer  
Chief, Regulatory Branch

Enclosures

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

DESCRIPTION OF PROPOSED WORK:

The applicant, the Department of the Navy, proposes to perform maintenance and new work dredging activities under and adjacent to Pier 3 at Naval Weapons Station Earle in Sandy Hook Bay in the Township of Middletown, Monmouth County. Part of the dredged material would be disposed of at an available state-approved upland site without barge overflow, while the remainder of the dredged material, suitable for use as Remediation Material, would be placed at the Historic Area Remediation Site (HARS) in the Atlantic Ocean. In addition, the applicant proposes to remove the existing Pier 3 and Trestle 3 (which connects Pier 3 to the main trestle) and replace them with a new structure, to be known as Pier and Trestle 3A. Once this work is completed, the applicant proposes to remove Pier 2 in its entirety and a portion of Trestle 2.

The sediments within the proposed dredge area have been subdivided into two layers: the lowermost which is HARS suitable (Reach 1), and the uppermost which is not HARS suitable. Non-HARS suitable material overlies HARS suitable material in the present berthing areas around Pier 3 and at the northern end of the existing Pier 3 (designated as Area 3N) and comprises approximately 985,056 square feet. Area 3N is currently located underneath Pier 3. Because the proposed structure (Pier 3A) is approximately 342 feet shorter than the one it replaces, Area 3N will be outside of the footprint of the new pier upon completion of the proposed work. It should be noted that the berthing areas around the present footprint of Pier 3, have been regularly maintained to a project depth of 35 feet below the plane of Mean Low Water plus a maximum allowable overdepth of two feet. However, because it is located under the present Pier 3, Area 3N has never been dredged. The non-HARS suitable material, consisting of black silt, occurs between present elevations and approximately 42.5 feet below the plane of Mean Low Water. In Area 3N, the non-HARS suitable material occurs between present elevations and 27 feet below the plane of Mean Low Water. In the berthing areas adjacent to the present structure, Pier 3, the top of the HARS suitable material occurs at approximately 42.5 feet below the plane of Mean Low Water.

Approximately 254,000 cubic yards of non-HARS suitable material would be removed from Area 3N and the berthing areas adjacent to the existing Pier 3, an area approximately 985,056 square feet in size. Approximately 218,500 cubic yards of the underlying Reach 1 material would be removed from a similarly sized area to the proposed maximum project depth of 45 feet below the plane of Mean Low Water plus a maximum allowable overdepth of two feet. Material within Reach 1 consists of sands and consolidated clays. HARS suitable dredged material would be transported by bottom-opening barges to the placement site within the HARS. Barge overflow is proposed during the dredging of this material to maximize barge loading. The tables attached to this public notice report only the results of the testing of the material from Reach 1 because only the sediments within Reach 1 have been determined to be suitable for placement at the HARS.

All of the non-HARS suitable material underneath the proposed footprint of Pier 3A, approximately 58,000 cubic yards of material from an area of approximately 128,520 square feet, would be dredged from present elevations to a depth of 25 feet below the plane of Mean Low Water plus a maximum allowable overdepth of two feet. This material consists of black silt. Barge overflow is not anticipated during the dredging of the non-HARS suitable material, however, the applicant proposes to decant excess water after the dredged material is dewatered.

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

All of the non-HARS suitable material proposed for dredging would be disposed of at a state-approved upland facility, after suitable amendment, available at the time of dredging.

It should be noted that approximately 5,300 cubic yards of riprap is found underneath the landward edge and portions of the perimeter of the existing structure. The applicant proposes to remove this material and dispose of it at one of the New Jersey fishing reef sites. Also under consideration by the applicant is the dredging of an area on the south side of the landward end of Pier 3/3A, to a depth of 18 feet below the plane of Mean Low Water plus a maximum allowable overdepth of two feet, removing approximately 6,100 to 9,200 cubic yards of non-HARS suitable material from an area between 79,449 square feet and 95,630 square feet. This area, ranging in size from approximately 365 feet to 373 by 213 feet to 262 feet wide, would allow the berthing of tugs and/or barges that service large US Navy vessels.

While removal of the existing pier and trestle may occur in stages generally, after the deck is removed, the existing timber piles would be removed from the waterway so that the proposed dredging could occur. All of the pilings removed from the waterway would be disposed of at a state-approved upland site. All of the concrete from the deck would be disposed of at a state-approved upland site or at one of the New Jersey fishing reef sites. Subsequent to the dredging, new steel pipe piles would be installed by a pile driver, then pile caps would be formed, using precast elements and cast-in-place concrete poured to complete the pile caps. Precast box beams will then be installed to span the pile caps. After the reinforcing steel and utilities are installed in the deck areas, a cast-in-place concrete deck would be poured on top of the precast box beams. Once the entire deck for the new Pier and Trestle 3A is in place, a new, upgraded centralized boiler plant, electrical supply and distribution system, added security features, container handling equipment, submarine fenders, an oil spill control boom, tug and/or barge basin, railroad tracks for a train embedded in the new deck, and other amenities would be installed.

The proposed pier, would be approximately 945 feet long (a reduction in size from the existing pier of approximately 25%) and 161 feet wide, while the new trestle would be approximately 1,071 feet long and 50.5 feet wide. Elevation of the top of the new deck would be approximately 18 feet above the plane of Mean Low Water and be approximately 6 feet thick. The new steel pilings that would underlie the new structure would be 42 inches in diameter. Piles would be composed of steel and steel reinforced concrete and range in length from 140 feet to 179 feet. Pilings would generally bottom in sediment at an elevation of 133 to 167 feet below the plane of Mean Low Water. The pile bents for Pier 3A, each consisting of ten vertical pilings, would be spaced approximately 35 feet apart, while the pile bents for Trestle 3A, each consisting of three vertical pilings, would be spaced approximately 45 feet apart.

Because the present Pier 3 and Trestle 3 complex would be out of service during its removal and replacement, the applicant has determined that it is necessary to upgrade Pier 2, so it could be used to berth ships that would normally berth at Pier 3. These upgrades consist of the following proposed features: 1) a new, concrete mooring platform assembly at the south end of the east berth, approximately 21 feet long and 24 feet wide, connected by a concrete walkway, approximately 13 feet long and 4 feet wide; and 2) two, new concrete mooring assemblies at the north end of the east berth, each approximately 15 feet long and 24 feet wide connected by 40 foot long and 4 foot wide and 120 foot long and 4 foot wide concrete walkways. Steel pilings, 18 inches in diameter, would support the new platforms and walkways. Utility upgrades would also be installed on Pier 4.

The purpose of the project is to allow Naval Weapons Station Earle to provide a total of four berths that would more efficiently service large US Navy vessels.

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

Should approval to the project be given, consideration is being given to issuance of a three year permit for the dredging. Subsequent to an initial dredging cycle, the applicant would have to request authorization to perform maintenance dredging during the life of the permit. Such authorization is dependent on the applicant demonstrating that each maintenance event requiring placement at the HARS is in compliance with the Ocean Dumping Regulations cited at 40 CFR Sections 220 - 229 in effect at that time, and will be dependent upon the availability of an approved disposal or remediation site.

INTRODUCTION TO THE HARS:

In 1972, the Congress of the United States enacted the MPRSA to address and control the dumping of materials into ocean waters. Title I of the Act authorized the US Environmental Protection Agency (USEPA) and the US Army Corps of Engineers (USACE) to regulate dumping in ocean waters. USEPA and USACE share responsibility for MPRSA permitting and ocean disposal site management. Regulations implementing MPRSA can be found at 40 CFR Sections 220 through 229. With few exceptions, MPRSA prohibits the transportation of material from the United States for the purpose of ocean dumping except as may be authorized by a permit issued under the MPRSA. The MPRSA divides permitting responsibility between the USEPA and USACE. Under Section 102 of the MPRSA, USEPA has responsibility for issuing permits for all materials other than dredged material. Under Section 103 of MPRSA, the Secretary of the Army has the responsibility for issuing permits for dredged material. Determinations to issue MPRSA permits for dredged material are subject to USEPA concurrence.

In the fall of 1997, the USEPA de-designated and terminated the use of the New York Bight Dredged Material Disposal Site (commonly known as the Mud Dump Site or MDS). The MDS had been designated in 1984 for the disposal of up to 100 million cubic yards of dredged material from navigation channels and other port facilities within the Port of New York and New Jersey. Simultaneous with the closure of the MDS, the site and surrounding areas that had been used historically as disposal sites for dredged materials were redesignated as the HARS under authority of Section 102(c) of MPRSA at 40 CFR Sections 228.15(d)(6) (See 62 Fed. Reg. 46142 (August 29, 1997); 62 Fed. Reg. 26267 (May 13, 1997)). The HARS will be managed to reduce impacts of historic disposal activities at the site to acceptable levels in accordance with 40 CFR Section 228.11(c). The need to remediate the HARS is supported by the presence of toxic effects, dioxin bioaccumulation exceeding Category 1 levels in worm tissue (a definition of which appears in a memorandum reviewing the results of the applicant's testing), as well as TCDD/PCB contamination in area lobster stocks. Individual elements of those data do not establish that sediments within the Study Area are imminent hazards to the New York Bight Apex ecosystem, living resources, or human health. However, the collective evidence presents cause for concern, and justifies the need for remediation. Further information on the conditions in the Study Area and the surveys performed may be found in the Supplemental Environmental Impact Statement (USEPA, 1997).

The designation of the HARS identifies an area in and around the MDS which has exhibited the potential for adverse ecological impacts. The HARS will be remediated with dredged material that meets current Category 1 standards and will not cause significant undesirable effects including through bioaccumulation. This dredged material is referred to as "Material for Remediation" or "Remediation Material."

The HARS which includes the 2.2 square nautical mile area of the MDS, is an approximately 15.7 square nautical mile area located approximately 3.5 nautical miles east of Highlands, New Jersey and 7.7 nautical miles south of Rockaway, New York. The MDS is located approximately 5.3 nautical miles east of Highlands, New Jersey and 9.6 nautical miles south of Rockaway, New York. When determined by

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

bathymetry (a map depicting the relative depths of water in a particular area) that capping is complete, USEPA will take any necessary rulemaking to de-designate the HARS. The HARS includes the following three areas:

**Priority Remediation Area (PRA):** A 9.0 square nautical mile area to be remediated with at least 1 meter of Remediation Material. The PRA encompasses the area of degraded sediments as described in greater detail in the SEIS.

**Buffer Zone:** An approximately 5.7 square nautical mile area (0.27 nautical mile wide band around the PRA) in which no placement of the Material for Remediation will be allowed, but may receive Material for Remediation that incidentally spreads out of the PRA.

**No Discharge Zone:** An approximately 1.0 square nautical mile area in which no placement or incidental spread of Material for Remediation is allowed.

To improve management and monitoring of placement activities at the HARS, electronic monitoring equipment will be on-board any barges carrying Remediation Material to the HARS. This equipment records vessel positions throughout the duration of each trip to the HARS and during remediation operations. To improve communication reliability between tugs and scows, a prescribed formal communication procedure has been put in place (copies of this procedure are available upon request).

Additional information concerning the HARS can be obtained from Mr. Douglas Pabst of the USEPA, Team Leader of the Dredged Material Management Team, at (212) 637-3797.

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**TESTING:**

Over the past year, the USEPA and USACE have been refining the approach to the technical review and scientific and regulatory analysis of dredging projects proposed for the HARS. A testing evaluation process was developed, which established a basic framework for assessing results of tissue analysis from bioaccumulation testing of dredged material proposed for ocean placement. The framework defines a standard approach for assessing each analyte (an item to be analyzed for as part of the testing), in relation to regulatory standards and human health, and environmental risk factors, to facilitate decisions in accordance with the Marine Protection, Research, and Sanctuaries Act of 1972. USEPA and USACE utilize this testing evaluation process for identifying Category 1 dredged material in determining suitability of dredged materials as material for remediation at the HARS. The Testing Evaluation Memo for this project may be obtained by contacting Mr. Douglas Pabst, Team Leader of the Dredged Material Management Team at (212) 637-3797).

**Sediment Grain Size Analysis:**

As depicted in the attached drawings, the proposed dredging area has been characterized by 9 sediment core samples down to project depth plus two feet allowable overdepth. Samples were taken to 45 feet plus two 2 feet and material from the top of the cores was discarded to reflect only the bottom of the sediments. The 9 samples were then combined into one composite sample which was subjected to chemical and biological testing. Based upon an analysis of sediment samples from the project area submitted by the applicant and their contract laboratory, the grain size characteristics of the proposed dredged material is:

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

24% gravel; 62% sand; 6% silt; and 8% clay.

Results of the chemical and biological testing are summarized below.

**Evaluation of the liquid phase: Chemistry**

Under the requirements of 40 CFR 227.6(c)(1) and 227.27(a), chemical analysis was conducted on project area site water and elutriate. Results of this evaluation are summarized in Table 1. Please note in reading Table 1 that detection limits have been listed for only those constituents which the laboratory reported as non-detected (ND) in the concentration column (this reporting convention was similarly applied in reporting the results of bioaccumulation potential testing discussed below). If the constituents were detected (above the detection limit), the measured value would appear.

Expected concentrations of chemical constituents in the water column following ocean placement, after allowing for initial mixing, were calculated using the Automated Dredging and Disposal Alternatives Management System (ADDAMS), a mixing model developed by the U.S. Army Corps of Engineers (USACE) Waterways Experiment Station (WES) and described in the joint USEPA/USACE implementation manual entitled "Evaluation of Dredged Material Proposed for Ocean Disposal" (commonly referred to as the National "Green Book"). The material can be considered suitable for ocean disposal only if the concentration of the Suspended Particulate Phase (SPP) of the dredged material, after allowance for the initial mixing, will not exceed the Limiting Permissible Concentration (LPC) beyond the boundaries of the disposal site within the first four hours following dumping or at any point in the marine environment after the first four hours. The ADDAMS Model predicted that applicable marine water quality criteria for listed constituents were not exceeded after allowance for initial mixing [40 CFR 227.29(a)]. Results of this analysis indicate that the LPC will be met for the proposed dredged material from the project area.

**Bioassays:**

In accordance with 40 CFR Part 227 of the Ocean Dumping regulations, bioassays were performed to assess the toxicities of the suspended particulate, liquid, and solid phases of the proposed dredged material from the proposed project area.

**Evaluation of the liquid phase:**

Liquid phase bioassays run as part of the suspended particulate phase on three appropriate sensitive marine organisms: a crustacean (a mysid shrimp, *Mysidopsis bahia*), a finfish (*Menidia beryllina*), and the planktonic larvae of a bivalve (the blue mussel, *Mytilus edulis*), show that after initial mixing (as determined under 40 CFR Sections 227.29(a)(2)), the liquid phase of the material would not exceed a toxicity threshold of 0.01 of a concentration shown to be acutely toxic to appropriate sensitive marine organisms. Accordingly, it is concluded that the liquid phase of the material would be in compliance with 40 CFR Sections 227.6(c)(1) and 227.27(a). The specific test results and technical analysis of the data underlying this conclusion are described and evaluated in a joint USACE New York District/US Environmental Protection Agency Region 2 memorandum (copies available upon request).

**CENAN-OP-RW  
PUBLIC NOTICE NO. 2002-00367-OD**

**Evaluation of the suspended particulate phase:**

The suspended particulate phase of the material was evaluated for compliance with 40 CFR Sections 227.6(c)(2) and 227.27(b). Bioassay testing of the suspended particulate phase of the material has been conducted using three appropriate sensitive marine organisms: the mysid shrimp, *Mysidopsis bahia*; a finfish, *Menidia beryllina*; and the planktonic larvae of a blue mussel, *Mytilus edulis*. Median lethal concentrations (LC50), those concentrations of suspended particulate phase resulting in 50% mortality, were determined for all three test species. In addition, the median effective concentration (EC50) based on normal larval development to the D-cell stage, was determined for bivalve larvae. The Limiting Permissible Concentration (LPC) was then calculated as 0.01 of the LC50 or EC50 of the most sensitive organism. In this case, the LPC was calculated at 0.22 percent based on the EC50 of *M. edulis*. This information shows that when placed in the HARS, and after initial mixing (as determined under 40 CFR Sections 227.29(a)(2)), the suspended particulate phase of this material would not exceed a toxicity threshold of 0.01 of a concentration shown to be acutely toxic in the laboratory bioassays, and thus would not result in significant mortality. Moreover, the fact that after placement, the suspended particulate phase would only exist in the environment for a short time, means the suspended particulate phase of each reach would not cause significant undesirable effects, including the possibility of danger associated with bioaccumulation, since these impacts require long exposure durations (see USEPA, 1994). Accordingly, it is concluded that the suspended phase of the material would be in compliance with 40 CFR Sections 227.6(c)(2) and 227.27(b). The results of bioassay tests conducted on proposed dredged sediments are presented in Table 2 of this public notice.

**Evaluation of the solid phase:**

The solid phase tests the whole dredged material before it has undergone processing that might alter its chemical or toxicological properties. The solid phase was evaluated for compliance with 40 CFR Sections 227.6(c)(3) and 227.27(b). This evaluation was made using the results of two specific types of evaluations on the solid phase of the material, one focusing on the acute (10-day) toxicity of the material, and the other focusing on the potential for the material to cause significant adverse effects due to bioaccumulation. Both types of tests used appropriate sensitive benthic marine organisms according to procedures approved by USEPA and the USACE. The following sections address the results of those tests and further analyze compliance with the regulatory criteria of 40 CFR Sections 227.6(c)(3), 227.27(b), and 228.15 and with USEPA Region 2/USACE New York District guidance.

**1. Toxicity:**

Ten-day toxicity tests were conducted on proposed project dredged material using a filter feeding mysid shrimp (*Mysidopsis bahia*) and a deposit feeding, burrowing amphipod (*Ampelisca abdita*), which are appropriate sensitive benthic marine organisms. The results from the proposed project material are then compared to results for the same organisms that are exposed to reference sediments. The reference sediments represent existing background conditions in the vicinity of the HARS, removed from the influence of any placement operations. These organisms are good predictors of adverse effects to benthic marine communities (see USEPA, 1996). The toxicity of project sediments was not statistically greater than reference sediments for either mysid, or for amphipods, and the difference between percent survivals in test and reference sediments was less than 10% for mysid shrimp and less than 20% for amphipods.

**CENAN-OP-RW**  
**PUBLIC NOTICE NO. 2002-00367-OD**

These results show that the solid phase of the material would not cause significant mortality and meets the solid phase toxicity criteria of Sections 227.6 and 227.27. The results of the ten-day toxicity test are summarized in Table 2.

**2. Bioaccumulation:**

Bioaccumulation tests for the sediment were conducted on the solid phase of the project material for contaminants of concern using two appropriate sensitive benthic marine organisms: a burrowing, deposit-feeding polychaete, *Nereis virens*, and a filter-feeding bivalve, *Macoma nasuta*. These species are considered to be good representatives of the phylogenetically diverse base of the marine food chain. Contaminants of concern were identified for the regional testing manual from the NY/NJ Harbor Estuary Program Toxics Characterization report (Squibb, *et al.* 1991). Table 3 of the Public Notice addresses the bioaccumulation of contaminants of concern. Additional information on more rigorous evaluations conducted on individual contaminant values may be found in the Testing Evaluation Memo for this project. Table 3 indicates that several contaminants bioaccumulated above reference in the clam and/or worm. All constituents identified in worm and clam tissue were compared to existing Food and Drug Administration (FDA) action levels for poisonous or deleterious substances in fish and shellfish for human food, regional disposal criteria, background concentrations, and risk-based criteria provided by USEPA. The testing memo further evaluates these contaminants, and concludes that any contaminant that exceeded reference did not exceed any existing regional matrix or dioxin values. Several contaminants which did not have matrix values did exceed background levels, but in no case did any contaminant accumulate to toxicologically important concentrations, even when very conservative assumptions were used in the analysis. Any contaminants that exhibited bioaccumulation test results above reference were all below the acceptable human health risk range and acceptable aquatic effects range, again using conservative approaches and analyses. A discussion of this determination is available in the Testing Evaluation Memo for this project. The bioaccumulation test results were used in evaluating the potential impacts of the material. The determination is that the combined results of the toxicity and bioaccumulation tests indicate that the material meets the criteria of 40 CFR Sections 227.6(c)(3) and 227.27(b) and 228.15(d)(6)(v)(A) of the Regulations, and that the material is suitable for placement at the HARS.

**CONCLUSIONS:**

Based upon the results of testing of the sediments proposed for dredging in the applicant's facility and ocean placement the USACE and USEPA have determined that the material is Category 1 meeting the criteria for ocean placement as described in 40 CFR Sections 227.6, 227.27, and 228.15, and is a Remediation Material as defined under the USEPA Region 2/USACE, New York District guidance. The specific test results and technical analysis of the data underlying this conclusion are described in the joint USACE, New York District/USEPA Region 2 memorandum mentioned previously.

Placement of this material at the HARS will serve to reduce impacts to acceptable levels and improve benthic conditions. Sediments in the HARS have been found to be acutely toxic to sensitive benthic marine organisms in laboratory tests, whereas project sediments used in laboratory acute toxicity tests with the same species were determined not to be toxic. Placement of project material over existing toxic sediments would serve to remediate those areas for toxicity. In addition, by covering the existing sediments in the site with this project material, surface dwelling organisms will be exposed to sediments exhibiting Category 1 qualities whereas the existing sediments exceed these levels.

**CENAN-OP-RW**  
**PUBLIC NOTICE NO. 2002-00367-OD**

ALTERNATIVES TO HARS PLACEMENT:

Regarding ocean placement of dredged material, the Ocean Dumping Regulations [Title 40 CFR Sections 227.16(b)] states that ". . . alternative methods of disposal are practicable when they are available at reasonable incremental cost and energy expenditures which need not be competitive with the costs of ocean dumping, taking into account the environmental impacts associated with the use of alternatives to ocean dumping . . ." USACE, New York District has evaluated the regional practicability of potential disposal alternatives in the September, 1999 Draft "Implementation Report for the Dredged Material Management Plan for the Port of New York and New Jersey." The Recommended Plan within the report addresses both the long and short term dredged material placement options in two specific timeframes, heretofore referred to as the 2010 Plan and the 2040 Plan, respectively.

The 2010 Plan relies heavily on the creation, remediation, and restoration of a variety of existing degraded or impacted habitats in the region with material that would be considered unsuitable for HARS restoration. The remaining material is treated and stabilized, as needed, and then applied to remediate degraded and potentially polluting areas such as brownfields, landfills, and abandoned strip mines. Nearly all of the options considered in the 2010 Plan have a placement cost of \$29/cubic yard or higher.

Similar to the 2010 Plan, the 2040 Plan relies heavily upon the use of land remediation and decontamination methods for the management of HARS unsuitable material. As in the 2010 Plan, maximum use of all practicable alternatives to the HARS is envisioned.

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Many of the dredged material management options presented in the 2010 Plan however, are not presently permitted and/or are presently under construction at this time and therefore considered unavailable for the purposes of this application. Other options are not available at reasonable incremental costs, thus leaving HARS placement as the preferred alternative.

For more information on the New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>

**COMMUNICATIONS:**

For additional information regarding this project or the HARS contact Mr. Mark Roth, Project Manager, USACE, New York District at (212) 264-0184 or Mr. Douglas Pabst, Team Leader, Dredged Material Management Team, USEPA, Region 2 at (212) 637-3797. If the determination is made to issue a permit, the permittee will contact the US Coast Guard with the details of the authorized work.

**TABLE 1. RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE**  
NWS Pier 3 Replacement Reach 1

CONSTITUENTS	SITE WATER		ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
<b>Metals</b>	<b>ppb</b>	<b>ppb</b>	<b>ppb</b>	<b>ppb</b>
Ag		0.059		0.045
Cd		0.055		0.025
Cr		0.383		2.850
Cu		1.79		2.630
Hg		0.004		0.008
Ni		1.17		3.46
Pb		0.46		1.05
Zn		3.12		4.44
<b>Pesticides</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>
Aldrin	0.24	ND	0.24	ND
$\alpha$ -Chlordane	0.23	ND	0.23	ND
trans Nonachlor	0.24	ND	0.24	ND
Dieldrin	0.46	ND	0.46	ND
4,4'-DDT	0.35	ND	0.35	ND
2,4'-DDT	0.29	ND	0.29	ND
4,4'-DDD	0.57	ND	0.57	ND
2,4'-DDD	0.49	ND	0.49	ND
4,4'-DDE		0.1	0.41	ND
2,4'-DDE	0.41	ND	0.41	ND
<b>Total DDT</b>		<b>1.2</b>		<b>1.3</b>
Endosulfan I	0.16	ND	0.16	ND
Endosulfan II	0.41	ND	0.41	ND
Endosulfan sulfate	0.39	ND	0.39	ND
Heptachlor		0.18	0.35	ND
Heptachlor epoxide	0.95	ND	0.95	ND
<b>Industrial Chemicals</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>	<b>pptr(ng/L)</b>
PCB 8		1.08	0.24	ND
PCB 18		0.55	0.48	ND
PCB 28		0.74		0.5
PCB 44	0.28	ND	0.28	ND
PCB 49		0.62	0.23	ND
PCB 52		0.56		0.56
PCB 66	0.24	ND	0.24	ND
PCB 87	0.42	ND	0.42	ND
PCB 101	0.23	ND	0.23	ND
PCB 105	0.45	ND	0.45	ND
PCB 118	0.41	ND	0.41	ND
PCB 128	0.38	ND	0.38	ND
PCB 138	0.39	ND	0.39	ND
PCB 153	0.39	ND	0.39	ND
PCB 170		0.15	0.34	ND
PCB 180		0.17		0.12
PCB 183	0.39	ND	0.39	ND
PCB 184	0.44	ND	0.44	ND
PCB 187	0.34	ND	0.34	ND
PCB 195		0.10	0.28	ND
PCB 206		0.09	0.23	ND
PCB 209		0.09	0.25	ND
<b>Total PCB</b>		<b>12.68</b>		<b>8.85</b>

ND = Not detected  
 Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT  
 Total PCB = sum of congeners reported x 2  
 Concentrations shown are the mean of three replicate analyses.  
 Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

**NWS Pier 3 Replacement  
TOXICITY TEST RESULTS  
Reach 1**

**TABLE 2**

**Suspended Particulate Phase**

Test Species	Test Duration	LC50/EC50	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	1.00
<i>Mysidopsis bahia</i>	96 hours	(b) >100%	1.00
<i>Mytilus edulis</i> (larval survival)	48 hours	(b) >100%	1.00
<i>Mytilus edulis</i> (larval normal develop.)	48 hours	(c) 22.4%	0.22

(a) Limiting Permissible Concentration (LPC) is the LC 50 or EC 50 times 0.01.

(b) Median Lethal Concentration (LC50) resulting in 50% mortality at test termination.

(c) Median Effective Concentration (EC50) based on normal development to the D-cell, prodissoconch 1 stage.

**Whole Sediment (10 days)**

Test Species	% Survival in Reference	% Survival	% Difference Reference -Test	Is difference statistically significant? (a=0.05)
<i>Ampelisca abdita</i>	98%	96%	2%	No
<i>Mysidopsis bahia</i>	96%	98%	-2%	No

**NWS EARLE Pier 3 Replacement, Reach 1**  
**TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE**  
**Wet weight concentrations**

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)
<b>Metals</b>								
Ag		0.02		0.02		0.02		0.01
As		2.29		2.39		3.93		2.47
Cd		0.02		0.02		0.06		0.06
Cr		0.24		0.33		0.15		0.15
Cu		1.26		1.18		1.41		1.31
Hg		0.01		0.01		0.02		0.02
Ni		0.24		0.37		0.16		0.28
Pb		0.14		0.12		0.08		0.07
Zn		7.91		7.22		15.93		23.55
<b>Pesticides</b>								
Aldrin	0.042	ND	0.04	ND	0.08	ND	0.06	ND
α-Chlordane		0.05		0.04		0.10		0.08
trans Nonachlor		0.01	0.06	*		0.27		0.26
Dieldrin	0.04	ND	0.04	ND	0.08	ND	0.06	ND
4,4'-DDT	0.06	ND	0.06	ND		0.07		0.06
2,4'-DDT	0.05	ND	0.05	ND		0.08		0.06
4,4'-DDD		0.07	0.05	ND		0.16		0.12
2,4'-DDD		0.02	0.04	ND		0.08		0.06
4,4'-DDE		0.05		0.03		0.04		0.02
2,4'-DDE	0.03	ND	0.03	ND	0.06	ND	0.04	ND
Total DDT		0.21		0.14		0.45		0.34
Endosulfan I	0.06	ND	0.06	ND	0.12	ND	0.10	ND
Endosulfan II	0.05	ND	0.05	ND	0.09	ND	0.08	ND
Endosulfan sulfate	0.07	ND	0.07	ND	0.13	ND		0.07
Heptachlor	0.06	ND	0.06	ND	0.11	ND	0.09	ND
Heptachlor epoxide	0.04	ND	0.04	ND	0.08	ND		0.04
<b>Industrial Chemicals</b>								
PCB 8	0.09	ND	0.09	ND	0.18	ND	0.15	ND
PCB 18		0.04		0.05		0.05		0.05
PCB 28		0.04		0.03		0.07		0.06
PCB 44		0.03		0.03		0.06		0.07
PCB 49		0.05		0.03		0.12		0.09
PCB 52		0.05		0.03		0.15		0.15
PCB 66		0.03	0.07	ND		0.06		0.06
PCB 87	0.04	ND	0.04	ND	0.07	ND	0.05	ND
PCB 101		0.04	0.06	ND		0.35		0.32
PCB 105		0.02	0.04	ND		0.17		0.15
PCB 118		0.03	0.06	ND		0.19		0.18
PCB 128		0.03	0.07	ND		0.18		0.16
PCB 138		0.07	0.07	ND		1.17		1.08
PCB 153		0.07		0.03		1.72		1.60
PCB 170		0.01	0.04	*		0.30		0.27
PCB 180		0.04	0.05	ND		0.86		0.81
PCB 183		0.01	0.03	ND		0.29		0.28
PCB 184	0.04	ND	0.04	ND	0.09	ND	0.07	ND
PCB 187		0.02	0.04	ND		0.60		0.54
PCB 195		0.02	0.04	ND		0.13		0.12
PCB 206		0.01	0.05	*		0.21		0.19
PCB 209		0.01		0.01		0.17		0.15
Total PCB		1.42		1.21		13.99		12.97
1,4-Dichlorobenzene		0.19		0.13		1.30		1.14

TABLE 3. (Continued)		Reach 1							
CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>				
	REFERENCE		TEST		REFERENCE		TEST		
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	
PAH's	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	
Naphthalene		0.53		0.40		1.07		1.00	
Acenaphthylene		0.08		0.05		0.11		0.10	
Acenaphthene		0.13	*	0.25		0.10	*	0.22	
Fluorene		0.16	*	0.21		0.09		0.08	
Phenanthrene		0.49	*	1.04		0.13	*	0.19	
Anthracene		0.14	*	0.33		0.04		0.05	
Fluoranthene		1.46	*	3.32		0.24	*	0.91	
Pyrene		1.71	*	2.71		0.27	*	0.88	
Benzo(a)anthracene		0.20		0.23		0.06		0.04	
Chrysene		0.73		0.72		0.29		0.32	
Benzo(b)fluoranthene		0.30		0.19		0.09	0.14	ND	
Benzo(k)fluoranthene		0.29		0.15		0.06	0.10	ND	
Benzo(a)pyrene		0.12	0.08	ND		0.07		0.06	
Indeno(1,2,3-cd)pyrene		0.05	0.06	ND	0.11	ND	0.09	ND	
Dibenzo(a,h)anthracene	0.07	ND	0.05	ND	0.10	ND	0.08	ND	
Benzo(g,h,i)perylene	0.06	ND	0.04	ND		0.05		0.04	
<b>Total PAH's</b>		<b>6.46</b>	*	<b>9.72</b>		<b>2.78</b>	*	<b>4.09</b>	
Dioxins	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	
2378 TCDD	0.12	ND	0.22	ND		0.14		0.15	
12378 PeCDD	0.15	ND	0.25	ND		0.15		0.17	
123478 HxCDD		0.19		0.14	0.23	ND		0.08	
123678 HxCDD		0.22		0.14		0.15	*	0.38	
123789 HxCDD		0.39		0.39	0.23	ND	*	0.42	
1234678 HpCDD		0.80	*	1.28		1.09	*	3.17	
1234789 OCDD		4.61	*	17.98		6.40	*	31.25	
2378 TCDF		0.08	0.16	ND		1.23		1.17	
12378 PeCDF	0.19	ND	0.32	ND		0.17		0.22	
23478 PeCDF	0.18	ND	0.29	ND		0.24		0.25	
123478 HxCDF		0.14		0.12		0.14		0.14	
123678 HxCDF		0.08		0.10		0.10		0.10	
234678 HxCDF		0.22		0.13	0.20	ND		0.10	
123789 HxCDF		0.16		0.15	0.24	ND	0.26	ND	
1234678 HpCDF		0.45		0.29		0.41		0.28	
1234789 HpCDF		0.27		0.26		0.18		0.11	
12346789 OCDF		1.24		0.99		0.88		0.52	

ND = Not detected

Total PAH = Sum of all PAH's.

Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT

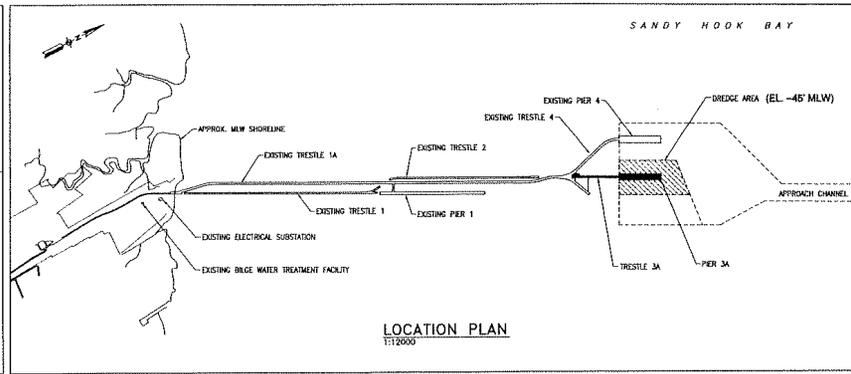
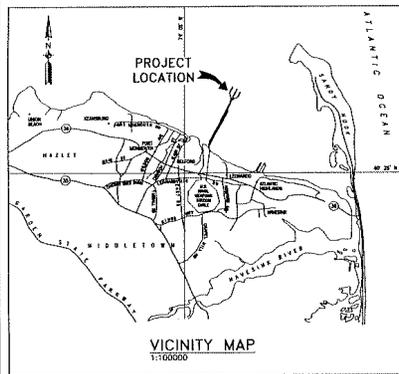
Total PCB = 2(x), where x = sum of PCB congeners

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

\* = Statistically significant at the 95% confidence level.

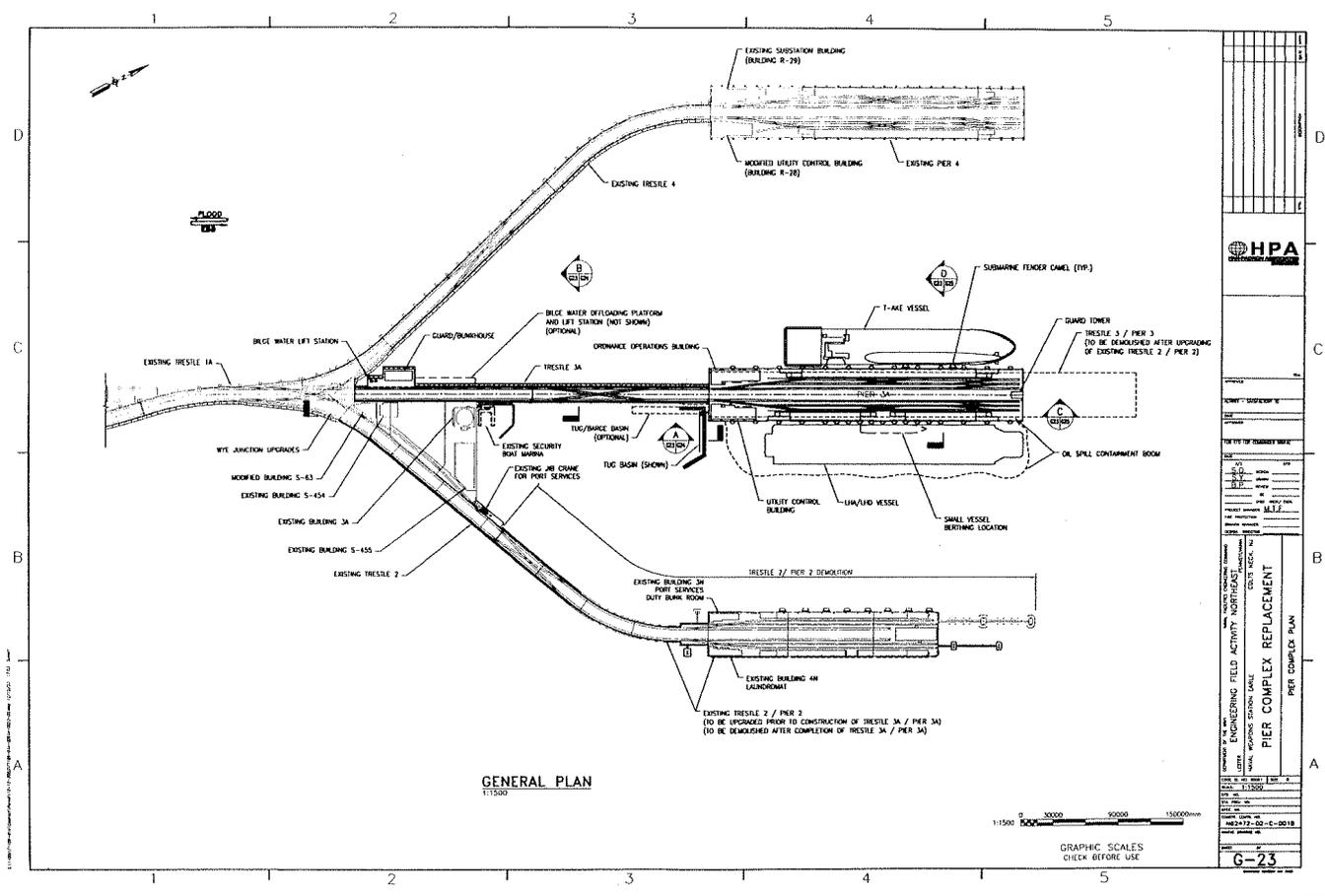
# NAVAL WEAPONS STATION EARLE COLTS NECK, NEW JERSEY PIER COMPLEX REPLACEMENT



GRAPHIC SCALES  
CHECK BEFORE USE

HPA HARBOR PLANNING ASSOCIATES	
PROJECT: SANDY HOOK BAY SHEET: COVER SHEET DATE: 02-12-04	
ENGINEERING FIELD ACTIVITY NORTHWEST COLTS NECK, NJ	
PIER COMPLEX REPLACEMENT COVER SHEET	
DATE: 02-12-04 SHEET: 01-01-0018 PROJECT: 1602472-02-C-0018 DRAWN BY: JJO CHECKED BY: JJO DATE: 02-12-04	33224 333 G-1

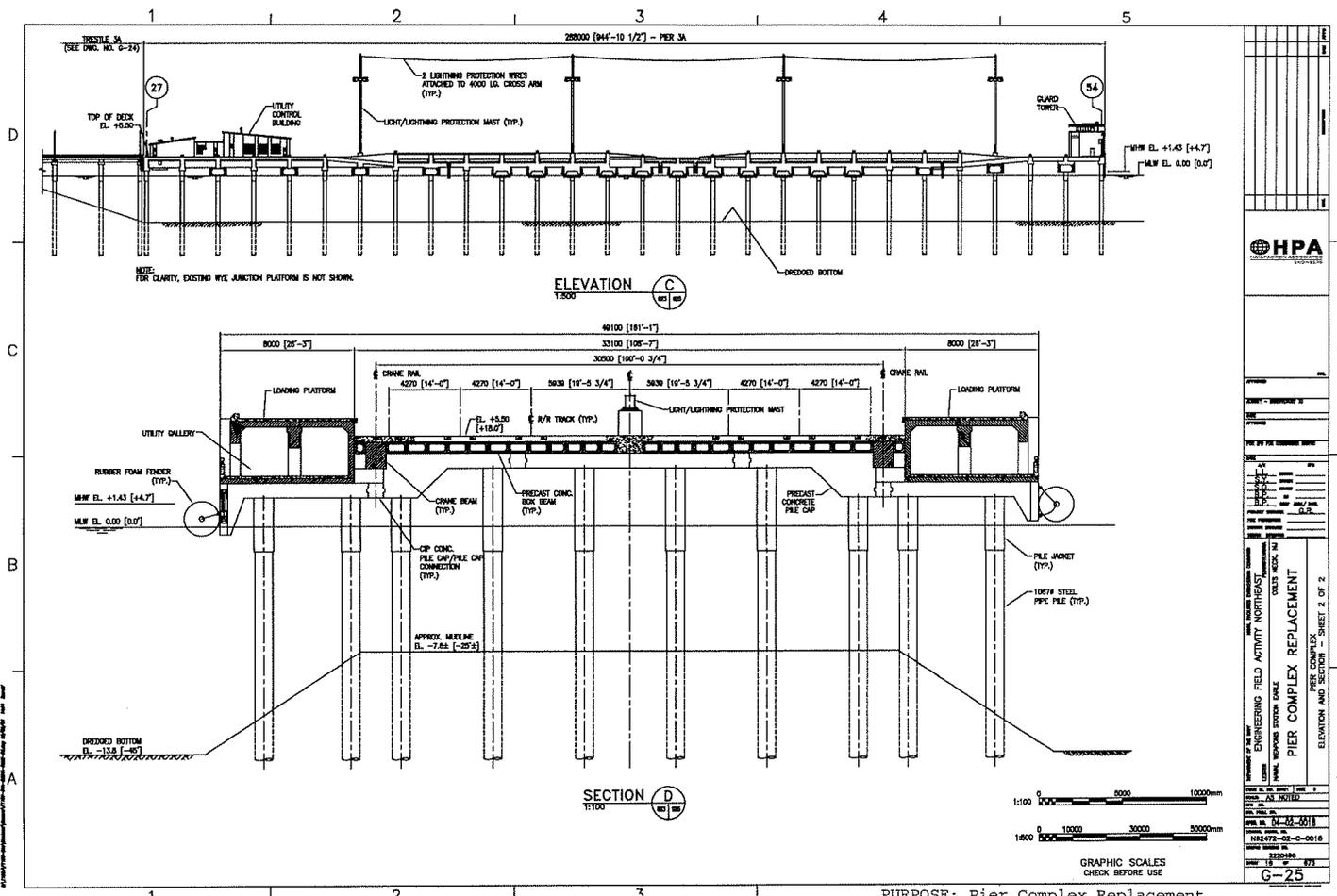
PURPOSE: Pier Complex Replacement  
 IN: Sandy Hook Bay  
 AT: Naval Weapons Station Earle  
 COUNTY: Monmouth STATE: NJ  
 APPLICATION BY: Department of the Navy  
 SHEET: 1 of 11 DATE: 02/12/04



NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10
<b>HPA</b>									
HARRIS PROJECTS AND ENGINEERING, INC.									
1000 ROUTE 100, SUITE 100, FREEHOLD, NJ 07728									
TEL: 732-329-8800 FAX: 732-329-8801									
WWW.HARRISPROJECTS.COM									
DATE: 02/12/04									
SCALE: 1"=500'									
PROJECT NO.: 04-0018									
SHEET NO.: 6-23									
PIER COMPLEX REPLACEMENT									
PIER COMPLEX PLAN									

PURPOSE: Pier Complex Replacement  
 IN: Sandy Hook Bay  
 AT: Naval Weapons Station Earle  
 COUNTY: Monmouth STATE: NJ  
 APPLICATION BY: Department of the Navy  
 SHEET: 2 of 11 DATE: 02/12/04

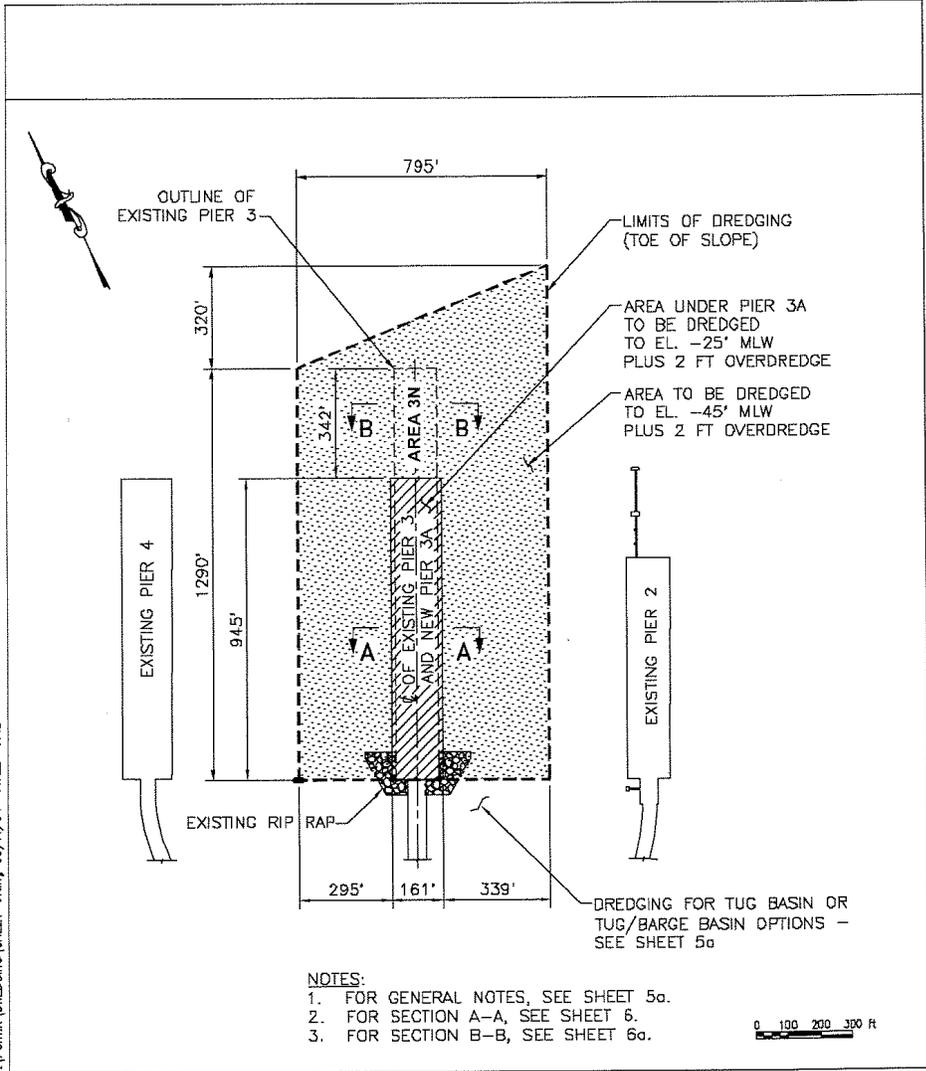




PURPOSE: Pier Complex Replacement  
 IN: Sandy Hook Bay  
 AT: Naval Weapons Station Earle  
 COUNTY: Monmouth STATE: NJ  
 APPLICATION BY: Department of the Navy  
 SHEET: 4 of 11 DATE: 02/12/04

PROJECT: PIER COMPLEX REPLACEMENT	
SHEET: 4 OF 11	
DATE: 02/12/04	
DRAWN BY: [Name]	
CHECKED BY: [Name]	
APPROVED BY: [Name]	
PROJECT LOCATION: SANDY HOOK BAY, NJ	
PROJECT NUMBER: 143-472-02-C-0018	
SHEET NUMBER: 4 OF 11	
SHEET TITLE: PIER COMPLEX REPLACEMENT	
ELEVATION AND SECTION - SHEET 2 OF 2	

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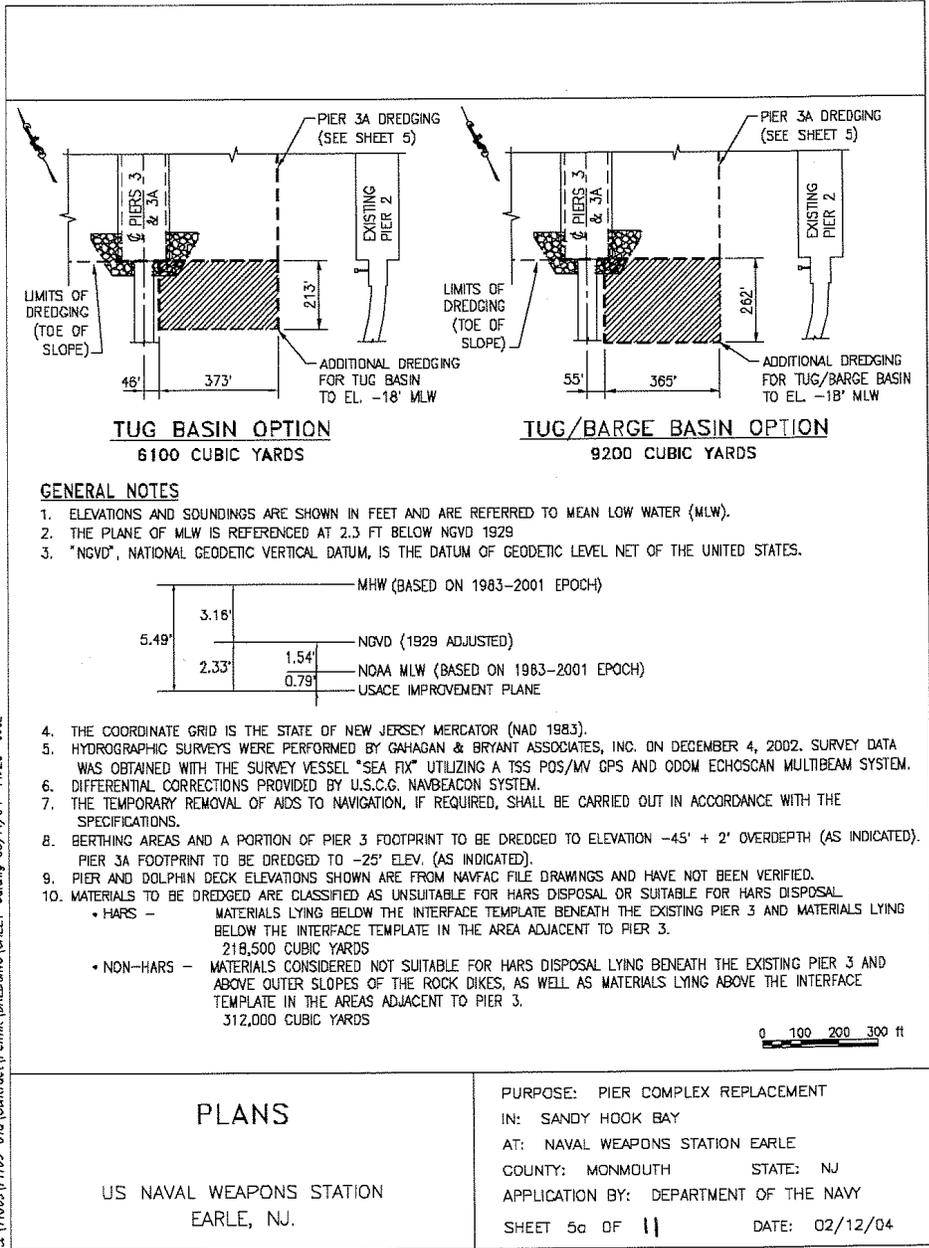


- NOTES:
1. FOR GENERAL NOTES, SEE SHEET 5a.
  2. FOR SECTION A-A, SEE SHEET 6.
  3. FOR SECTION B-B, SEE SHEET 6a.

PLAN VIEW

US NAVAL WEAPONS STATION  
EARLE, NJ.

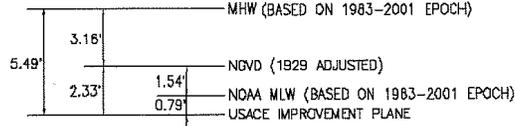
PURPOSE: PIER COMPLEX REPLACEMENT  
 IN: SANDY HOOK BAY  
 AT: NAVAL WEAPONS STATION EARLE  
 COUNTY: MONMOUTH STATE: NJ  
 APPLICATION BY: DEPARTMENT OF THE NAVY  
 SHEET 5 OF 11 DATE: 02/12/04



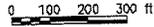
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**GENERAL NOTES**

1. ELEVATIONS AND SOUNDINGS ARE SHOWN IN FEET AND ARE REFERRED TO MEAN LOW WATER (MLW).
2. THE PLANE OF MLW IS REFERENCED AT 2.3 FT BELOW NGVD 1929
3. "NGVD", NATIONAL GEODETIC VERTICAL DATUM, IS THE DATUM OF GEODETIC LEVEL NET OF THE UNITED STATES.



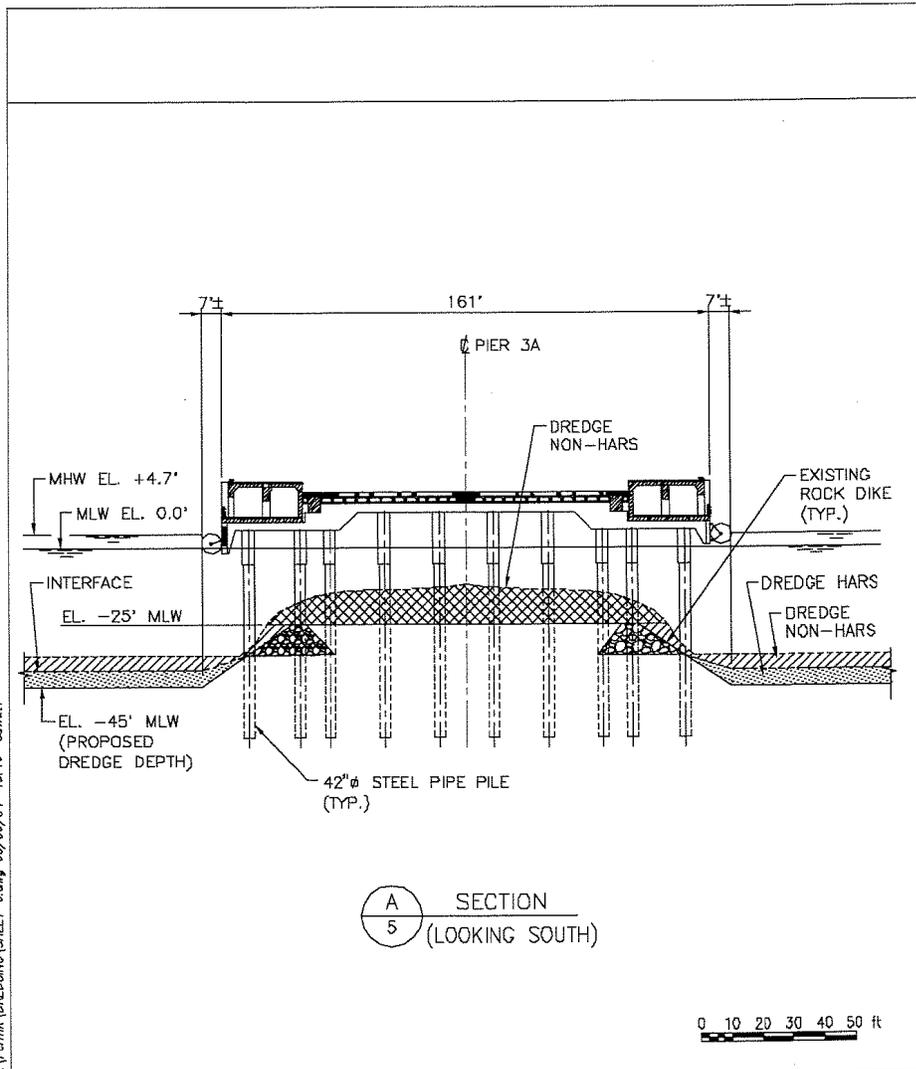
4. THE COORDINATE GRID IS THE STATE OF NEW JERSEY MERCATOR (NAD 1983).
5. HYDROGRAPHIC SURVEYS WERE PERFORMED BY GAHAGAN & BRYANT ASSOCIATES, INC. ON DECEMBER 4, 2002. SURVEY DATA WAS OBTAINED WITH THE SURVEY VESSEL "SEA FIX" UTILIZING A TSS POS/MV GPS AND ODOM ECHOSCAN MULTIBEAM SYSTEM.
6. DIFFERENTIAL CORRECTIONS PROVIDED BY U.S.C.G. NAVBEACON SYSTEM.
7. THE TEMPORARY REMOVAL OF AIDS TO NAVIGATION, IF REQUIRED, SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATIONS.
8. BERTHING AREAS AND A PORTION OF PIER 3 FOOTPRINT TO BE DREDGED TO ELEVATION -45' + 2' OVERDEPTH (AS INDICATED). PIER 3A FOOTPRINT TO BE DREDGED TO -25' ELEV. (AS INDICATED).
9. PIER AND DOLPHIN DECK ELEVATIONS SHOWN ARE FROM NAVFAC FILE DRAWINGS AND HAVE NOT BEEN VERIFIED.
10. MATERIALS TO BE DREDGED ARE CLASSIFIED AS UNSUITABLE FOR HARS DISPOSAL OR SUITABLE FOR HARS DISPOSAL.
  - HARS - MATERIALS LYING BELOW THE INTERFACE TEMPLATE BENEATH THE EXISTING PIER 3 AND MATERIALS LYING BELOW THE INTERFACE TEMPLATE IN THE AREA ADJACENT TO PIER 3. 218,500 CUBIC YARDS
  - NON-HARS - MATERIALS CONSIDERED NOT SUITABLE FOR HARS DISPOSAL LYING BENEATH THE EXISTING PIER 3 AND ABOVE OUTER SLOPES OF THE ROCK DIKES, AS WELL AS MATERIALS LYING ABOVE THE INTERFACE TEMPLATE IN THE AREAS ADJACENT TO PIER 3. 312,000 CUBIC YARDS



**PLANS**

US NAVAL WEAPONS STATION  
EARLE, NJ.

PURPOSE: PIER COMPLEX REPLACEMENT  
 IN: SANDY HOOK BAY  
 AT: NAVAL WEAPONS STATION EARLE  
 COUNTY: MONMOUTH STATE: NJ  
 APPLICATION BY: DEPARTMENT OF THE NAVY  
 SHEET 5a OF 11 DATE: 02/12/04



A SECTION  
5 (LOOKING SOUTH)

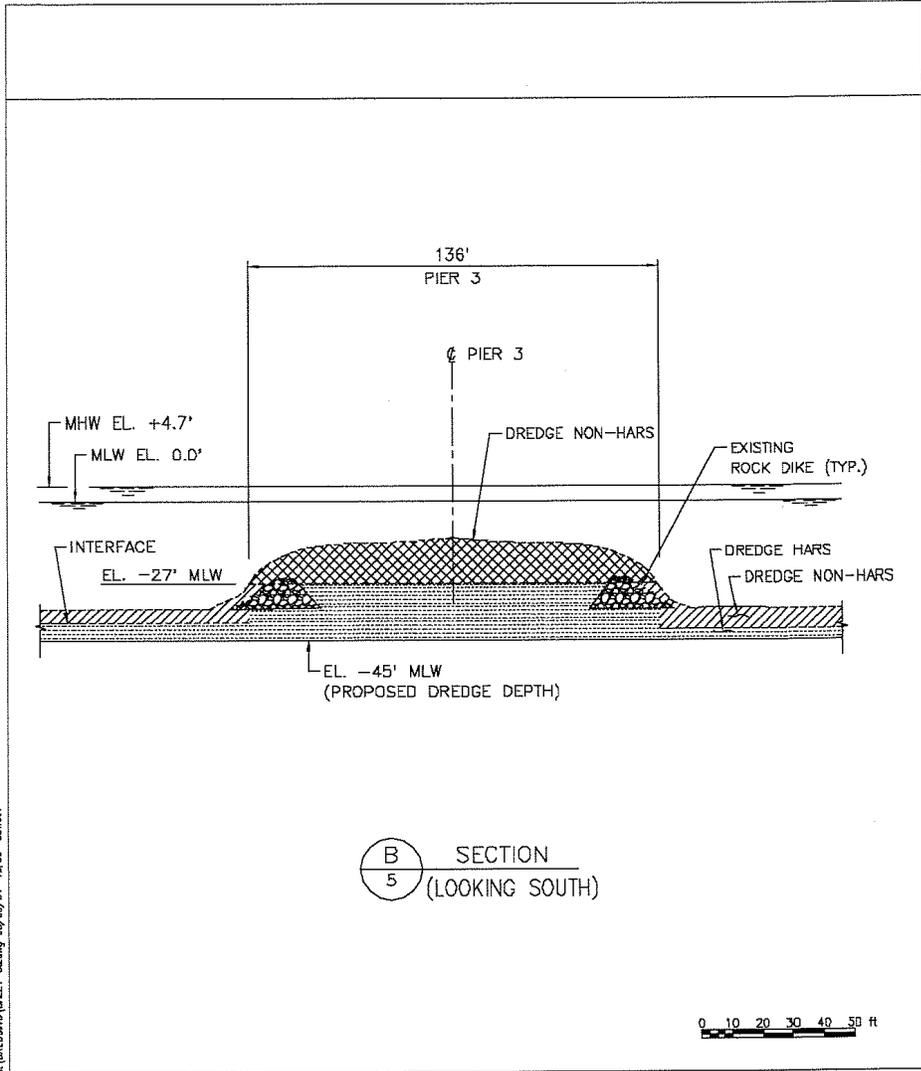
0 10 20 30 40 50 ft

S:\1100s\17100-01a\Contract\Permit\DESIGNING\SHEET-6.dwg 08/06/04 13:46 Sunwaty

### SECTION A-A

US NAVAL WEAPONS STATION  
EARLE, NJ.

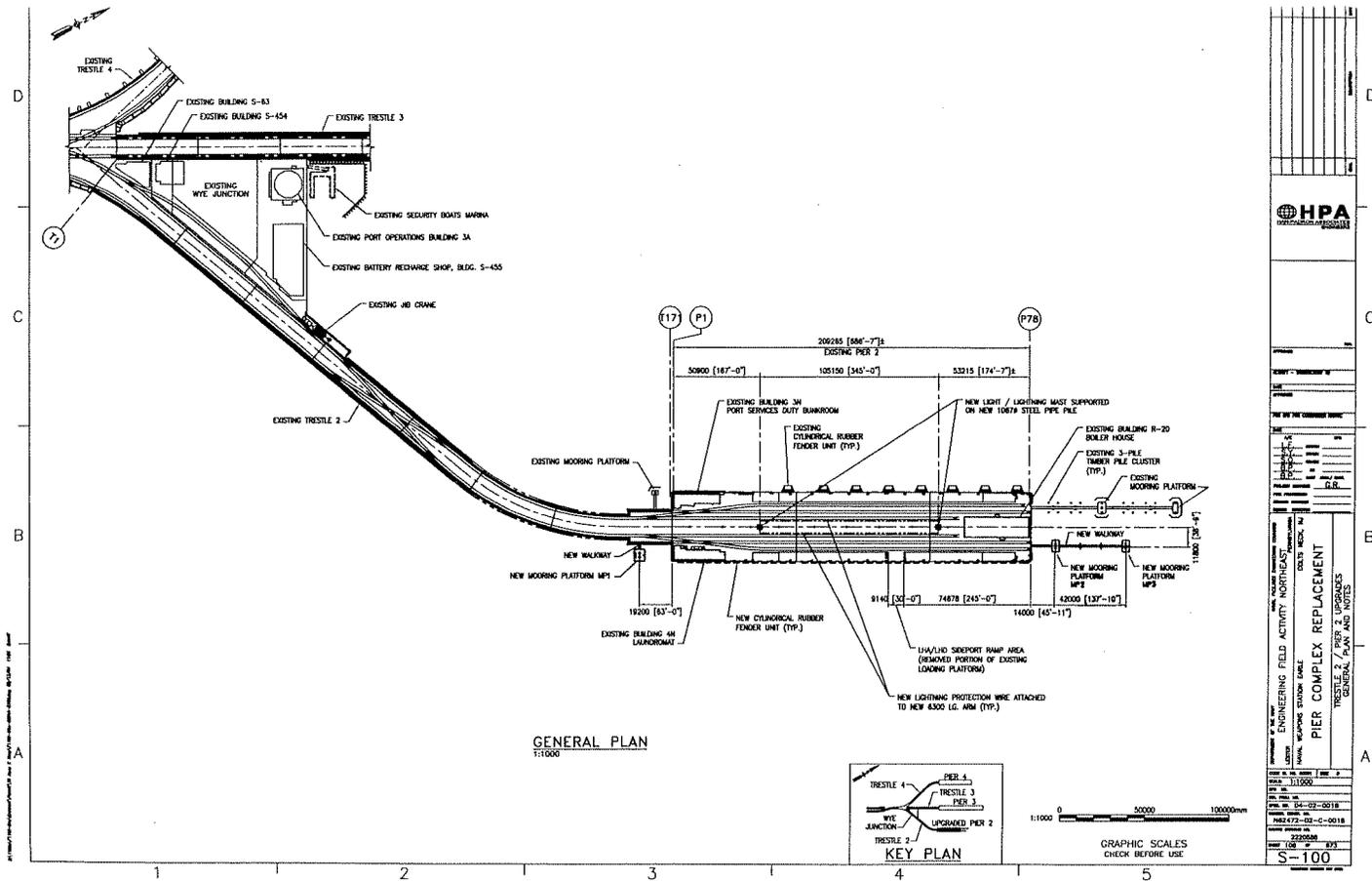
PURPOSE: PIER COMPLEX REPLACEMENT  
 IN: SANDY HOOK BAY  
 AT: NAVAL WEAPONS STATION EARLE  
 COUNTY: MONMOUTH STATE: NJ  
 APPLICATION BY: DEPARTMENT OF THE NAVY  
 SHEET 6 OF 11 DATE: 02/12/04



B SECTION  
5 (LOOKING SOUTH)

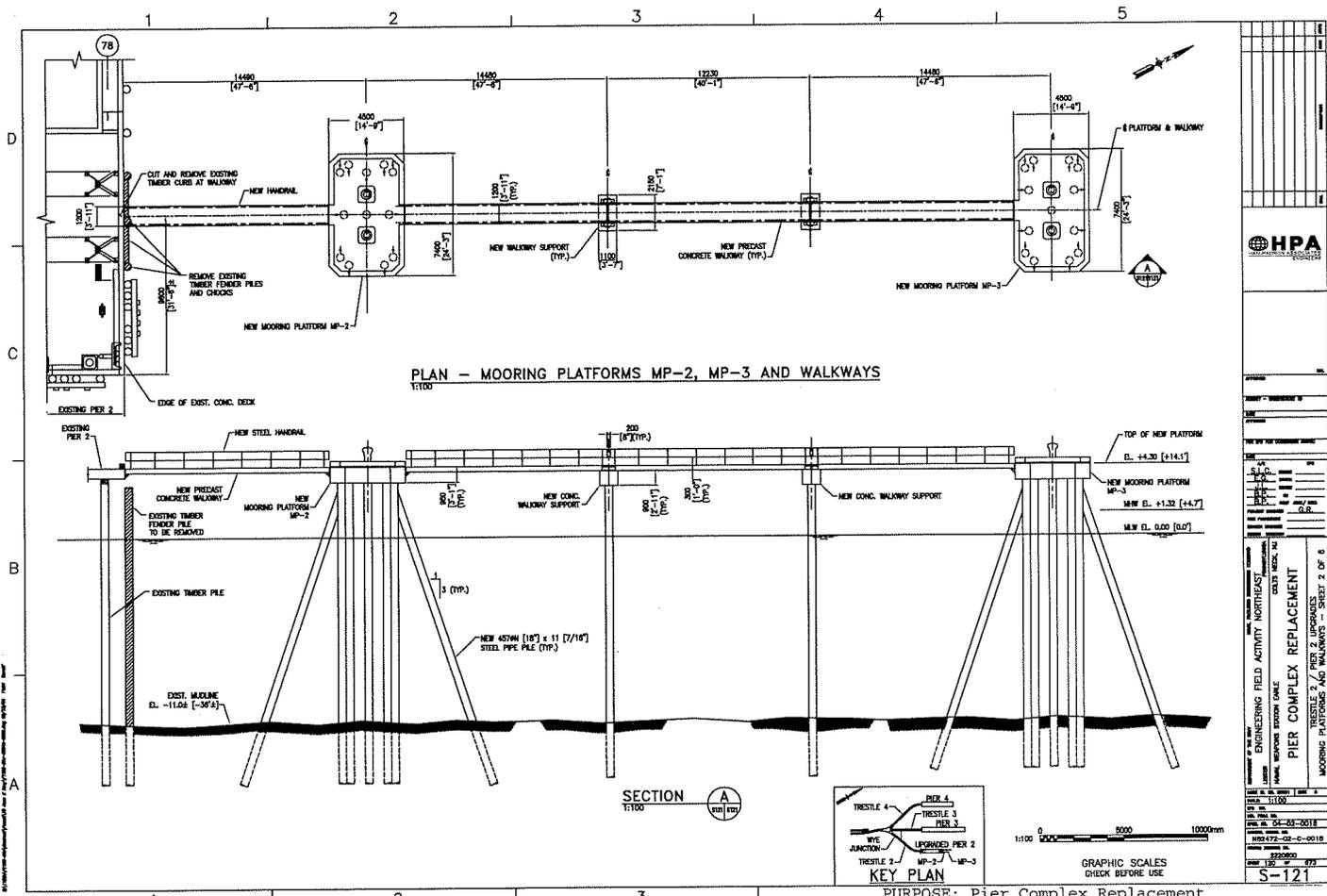
S:\1100a\171109-01a\Contract\Permit\04\02\04\04-15-30-516111

<p><b>SECTION B-B</b></p> <p>US NAVAL WEAPONS STATION EARLE, NJ.</p>	<p>PURPOSE: PIER COMPLEX REPLACEMENT          IN: SANDY HOOK BAY          AT: NAVAL WEAPONS STATION EARLE          COUNTY: MONMOUTH      STATE: NJ          APPLICATION BY: DEPARTMENT OF THE NAVY          SHEET 6a OF 11      DATE: 02/12/04</p>
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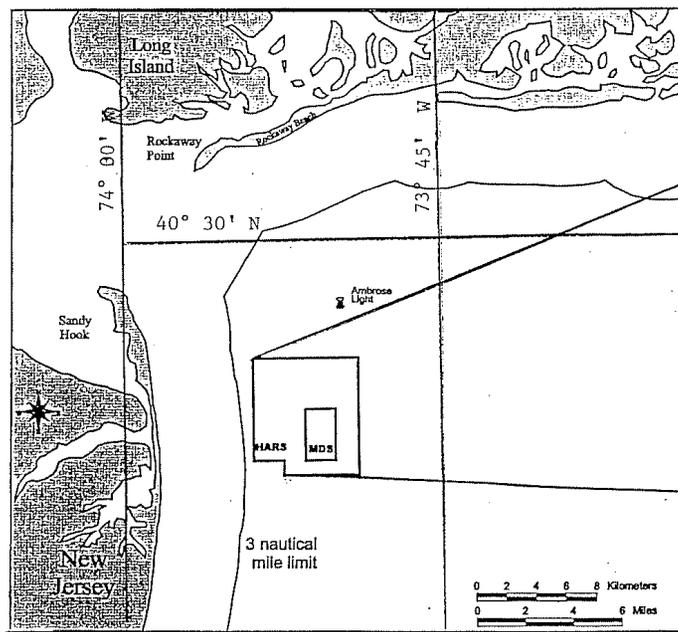
PURPOSE: Pier Complex Replacement  
 IN: Sandy Hook Bay  
 AT: Naval Weapons Station Earle  
 COUNTY: Monmouth STATE: NJ  
 APPLICATION BY: Department of the Navy  
 SHEET: 7 of 11 DATE: 02/12/04





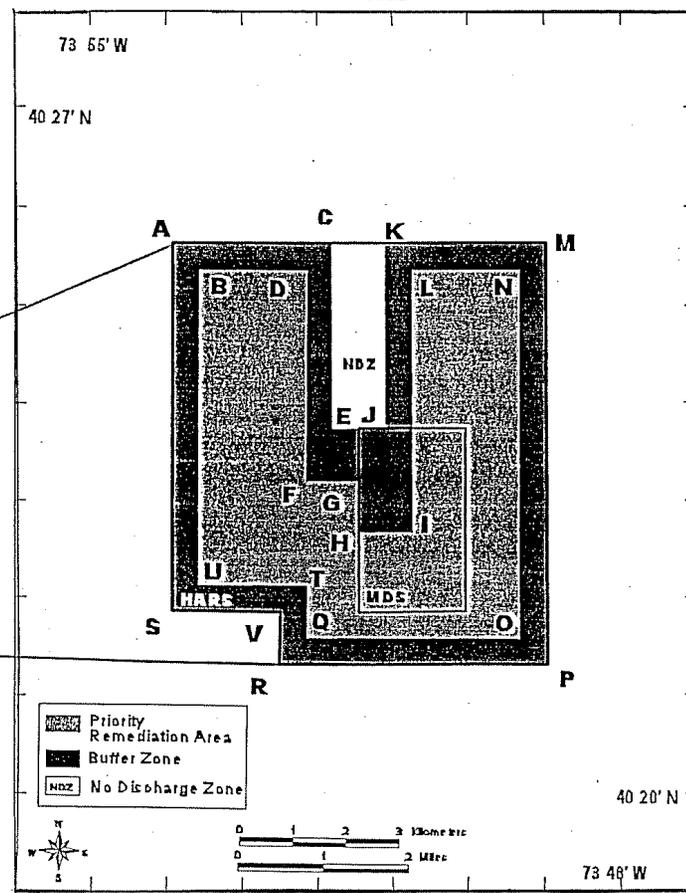
PROJECT	PIER COMPLEX REPLACEMENT
DATE	02-12-04
SCALE	AS SHOWN
DESIGNED BY	...
CHECKED BY	...
APPROVED BY	...
PROJECT NO.	109472-02-C-0018
DRAWING NO.	02-0000
SHEET NO.	9 OF 11

HISTORIC AREA REMEDIATION SITE LOCATION MAP

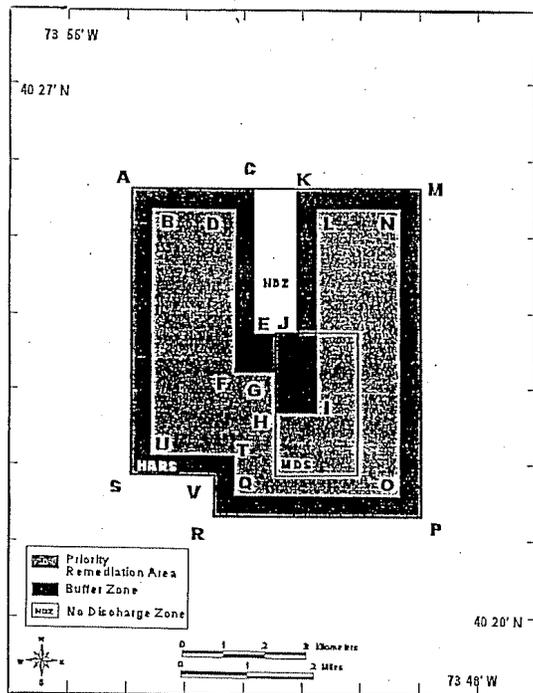


A

LOCATITON OF PRIMARY REMEDIATION AREA WITHIN THE HISTORIC AREA REMEDIATION SITE



B



Priority Remediation Area (PRA): 9.0 square nautical mile area to be remediated with at least one meter of Remediation Material, bounded by the following coordinates:

Point	Latitude DMS *	Longitude DMS	Latitude DDM **	Longitude DDM
B	40° 25' 23" N	73° 53' 34" W	40° 25.38' N	73° 53.57' W
D	40° 25' 22" N	73° 52' 08" W	40° 25.37' N	73° 52.13' W
F	40° 23' 13" N	73° 52' 09" W	40° 23.22' N	73° 52.15' W
G	40° 23' 13" N	73° 51' 28" W	40° 23.22' N	73° 51.47' W
H	40° 22' 41" N	73° 51' 28" W	40° 22.68' N	73° 51.47' W
I	40° 22' 41" N	73° 50' 43" W	40° 22.68' N	73° 50.72' W
L	40° 25' 22" N	73° 50' 44" W	40° 25.37' N	73° 50.73' W
N	40° 25' 22" N	73° 49' 19" W	40° 25.37' N	73° 49.32' W

\* -- DMS = Degrees, Minutes, Seconds

\*\* -- DDS := Degrees, Decimal Minutes