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: NAN-2007-1334-WOR
Issue Date: May 2, 2008
Expiration Date: June 2, 2008

To Whom It May Concern:

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

APPLICANT: State of New Jersey
Department of Transportation
Office of Maritime Resources
1035 Parkway Avenue
3rd Floor MOB,
P.O. Box 837
Trenton, NJ 08625

ACTIVITY: Mechanical dredging to deepen the existing Port Jersey navigation channel to provide a fifty-foot channel. Dredged materials will be beneficially used in different ways. Some will be used as remediation materials for the Historic Area Remediation Site (HARS) in the Atlantic Ocean. Dredged rock material will be used to enhance the existing Axel Carlson artificial reef site in the Atlantic Ocean. Some of the dredged material will be used to create a habitat enhancement area located within the existing unused portion of the navigation channel on the south side of the former Military Ocean Terminal at Bayonne (former MOTBY), now known as The Peninsula at Bayonne Harbor. Dredged materials inappropriate for aquatic placement will be beneficially used on a State of New Jersey approved upland site.

WATERWAY: Port Jersey Navigation Channel; Upper Bay of New York and New Jersey Harbor-Estuary; Historic Area Remediation Site (HARS) in Atlantic Ocean;

LOCATION: Jersey City and the City of Bayonne, Hudson County, New Jersey.

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

The U.S. Army Corps of Engineers neither favors nor opposes permit issuance for the applicant's proposed activity. The purpose of this public notice is to solicit comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order for the U.S. Army Corps of Engineers to acquire information which will be considered in our evaluation of the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, 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 used in the preparation of an environmental assessment and/or an environmental impact statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

The decision whether to issue a Department of the Army 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 that 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. 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. The decision of whether to issue a Department of the Army Permit for placement of dredged materials as Remediation Materials at the Historic Area Remediation Site (HARS) in the Atlantic Ocean, and at the ocean reef site, will also be based on whether the material meets the requirements of applicable implementing regulations.

On September 27, 2000, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers signed a joint Memorandum of Agreement outlining the steps to be undertaken to ensure that remediation of the Historic Area Remediation Site (HARS) continues in a manner appropriately protective of human health and the aquatic environment. In making the determination for evaluating placement of dredged material, the criteria established by the U.S. Environmental Protection Agency will be applied, including the interim change to one matrix value for polychlorinated biphenyls (PCB's) as described in the joint Memorandum of Agreement. 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 regarding the need to place the dredged material in ocean waters, other possible methods of disposal, and other appropriate locations.

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 action 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, a review of the latest public listing of threatened and endangered species, and previous informal consultations with the National Marine Fisheries Service in accordance with Section 7 of the Endangered Species Act, it has been determined that the proposed placement activities for which authorization is sought herein, are not likely to adversely 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). It is our determination that the dredging and habitat enhancement activities in the Upper Bay of the New York and New Jersey Harbor-Estuary are not likely to affect the shortnose sturgeon (Acipenser brevirostrum) or its critical habitat.

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). Information on conditions at the project sites and on the proposed work that would be undertaken is given in the attached Description of Proposed Work. A review of the proposal and information submitted by the applicant indicates that the overall potential impact on Essential Fish Habitat for designated species is very small because of the temporary nature of the disturbance, the lack of specialized habitat in the area, and that most Essential Fish Habitat designated species are in low abundance in the project area because they are normally in transit through the area. Among the list of Essential Fish Habitat (EFH) designated species known to occur at the dredging site and Habitat Enhancement Site, the most likely species to be impacted would be spawning and early-life stage development (nursery) habitat for winter flounder. The primary effects on Essential Fish Habitat (EFH) (and EFH-managed species) would be a temporary increase in turbidity due to dredging and habitat enhancement activities and disruption of demersal and pelagic habitat. Upland beneficial reuse of dredged materials would not have any effect on Essential Fish Habitat (EFH).

Impacts to Essential Fish Habitat (EFH) species at the Historic Area Remediation Site (HARS) would most likely emanate from the settling of the dredged material for remediation through the water column to the bottom. These events would also be short-lived and be episodic in nature over the several months the proposed placement at the Historic Area remediation Site (HARS) would take. The overall potential impact for all the work proposed at the Historic Area Remediation Site (HARS) on Essential Fish Habitat (EFH) for designated species is small because of the temporary nature of the disturbance, the low abundance of most species for which this region is designated as Essential Fish Habitat (EFH), and the apparent lack of viable existing conditions.

Based upon the foregoing and consultation completed with the National Marine Fisheries Service regarding Essential Fish Habitat (EFH), the U.S. Army Corps of Engineers New York District Regulatory (Permits) Branch has made the determination that the site-specific adverse effects are not likely to be substantial.

Even though Essential Fish Habitat (EFH) mitigation does not appear to be required, studies of existing, unused segments of the navigation channel on the south side of the former Military Ocean Terminal at Bayonne (former MOTBY) indicate that an opportunity exists there to beneficially use some of the Historic Area Remediation Site (HARS) suitable dredged material from the navigation channel deepening to enhance the habitat conditions there for the Upper Bay of the Harbor-Estuary. The proposed use of Historic Area Remediation Site (HARS) suitable dredged material for habitat enhancement in the navigation channel on the south side of the former Military Ocean Terminal at Bayonne (former MOTBY) will not negatively impact any Essential Fish Habitat (EFH) or designated Essential Fish Habitat (EFH) species. It has been designed to be beneficial to winter flounder when compared to the existing conditions presently found there. The applicant includes in their project this practicable beneficial use alternative for some of the Historic Area Remediation Site (HARS) suitable dredged material in order to enhance habitat for winter flounder. The consultation completed with the National Marine Fisheries Service regarding Essential Fish Habitat (EFH) mentioned above includes this habitat enhancement element of the applicant's project.

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 National Register are two located in Primary Remediation Area Number 1 of the Historic Area Remediation Site (HARS). As noted in the designation of the Historic Area Remediation Site (HARS), dredged material for remediation will 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 National Register within the proposed permit area.

The U.S. Army Corps of Engineers New York District Regulatory (Permits) Branch has completed a draft Clean Air Act Statement of Conformity (draft SOC) and has determined that the proposed permitting action will meet general conformity requirements (pursuant to 40 CFR §93.150-160) and that the nitrogen oxide (NOx) emissions associated with the federal action (permitting) will be fully offset by reductions coming from the repowering of local New York and New Jersey Harbor-Estuary based tugboats with cleaner operating engines. The Port Authority of New York & New Jersey has completed the tugboat repowering for the permit applicant. The draft Clean Air Act Statement of Conformity (draft SOC) is available at www.nan.usace.army.mil, and by mail from the U.S. Army Corps of Engineers, New York District, Regulatory (Permits) Branch [CENAN-OP-RW] ATTN: Mr. Brian Orzel, 26 Federal Plaza, New York, N.Y. 10278-0090, facsimile machine number 212-264-4260.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b)(1) of the Clean Water Act. The applicant obtained a water quality certificate (Permit No. 0900-04-0003.1 WFD 040001) from the New Jersey Department of Environmental Protection on May 24, 2005, in accordance with Section 401 of the Clean Water Act.

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. The applicant obtained concurrence (Permit No. 0900-04-0003.1 WFD 040001) from the New Jersey Department of Environmental Protection on May 24, 2005. 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.

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 (#0900-04-0003.1 WFD 040001)
from the State of New Jersey Department of Environmental Protection dated May 24, 2005

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 permit application, you may contact this office by telephone at 917-790-8413 and ask for Mr. Brian Orzel. Comments or questions may also be FAXED to 212-264-4260, ATTN: Mr. Brian Orzel.

Questions about the Historic Area Remediation Site (HARS) can be addressed to Mr. Douglas Pabst, Team Leader, Dredged Material Management Team, U.S. Environmental Protection Agency Region 2 at 212-637-3797.

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

Richard L. Tomer
Chief, Regulatory Branch

Enclosures

DESCRIPTION OF PROPOSED WORK

The permit applicant, the State of New Jersey Department of Transportation, Office of Maritime Resources, is requesting a Department of the Army permit to deepen the Port Jersey navigation channel by mechanical dredging to provide a 50-foot navigation channel from the Anchorage Channel westward to the existing berths at Global Marine Terminal and the former Military Ocean Terminal at Bayonne (former MOTBY), now named The Peninsula at Bayonne Harbor, as shown on the attached figures 1 through 7.

This work was previously authorized under Department of the Army Permit Number 2004-01167 on September 24, 2005, which will expire on September 24, 2008. Due to unforeseen delays, dredging began in December of 2007. To date, approximately 500,000 cubic yards of dredged materials have been removed under Permit Number 2004-01167. Since much of the dredging cannot be completed by September 24, 2008, Application Number NAN-2007-1334-WOR was submitted to continue the project, once the existing permit expires.

The dredging operations after September 24, 2008, would entail removing approximately 2,541,000 cubic yards of dredged materials, all of which would be beneficially used in different ways. Approximately 676,000 cubic yards of Holocene black slit and sand would be processed and beneficially used at state-approved upland site(s). The remaining 1,865,000 cubic yards of dredged material would be made up of approximately 281,000 cubic yards of Pleistocene red-brown clay; approximately 630,000 cubic yards of Pleistocene glacial till; approximately 935,000 cubic yards of sandy material; and approximately 19,000 cubic yards of rock. The approximate 1,865,000 cubic yards of dredged material is acceptable for open water placement for the reasons discussed later in this Description of Proposed Work. Approximately 935,000 cubic yards of this dredged material would be used in the creation of a habitant enhancement site (HES) in the unused navigation channel on the south side of the former Military Ocean Terminal at Bayonne (former MOTBY) now known as The Peninsula at Bayonne. The Habitat Enhancement Site (HES) is discussed later in this Description of Proposed Work and is shown on the attached Figures 2 and 9 through 12. The balance of the dredged materials, approximately 911,000 cubic yards, would be placed in the Atlantic Ocean at the Historic Area Remediation Site (HARS) as Material for Remediation, with any rock not used in the creation of the habitat enhancement area being placed at the Axel Carlson artificial reef site in the Atlantic Ocean.

The maximum dredging depth requested is 53.5 feet below the plane of Mean Low Water (MLW) datum. This dredging depth consists of the 50 feet for the navigation channel, plus a 2-foot safety and future maintenance allowance because of the hard channel bottom sediments that must be removed, plus a final 1.5-foot allowable dredging overdepth.

The applicant states that the purpose and need for requesting a Department of the Army permit for this deepening work is to advance the construction of the Congressionally authorized 50-foot Port Jersey navigation channel in order to gain the documented transportation benefits sooner; eliminate the unnecessary deepening dredging of a large turning basin at the westward end of the

Port Jersey 41-foot channel; reduce the overall dredging area for the channel flair connection with the Anchorage Channel; and realize substantial economic and environmental benefits of executing, at the same time, the 50-foot channel deepening dredging with the ongoing joint Federal - State 41-foot channel deepening work as a single continuous effort.

The applicant believes that undertaking all the deepening dredging in a single sequential fashion (i.e. one-stage, without a time lag) will not only minimize any environmental effects, but also produce substantial overall cost savings. This would result in the permanent deferral of both a portion of the outer channel flair channel connection to the Anchorage Channel, as well as the westward turning basin required in the current 41-foot channel design for safe ship movements. These two elements are not required for safe ship movements in the 50-foot channel design. These two areas will not be constructed nor maintenance dredged in the future as part of this permit application. The applicant reports it is the elimination of these two dredging areas that is the primary source of expected cost savings.

The 50-foot Port Jersey Channel segment of the New York and New Jersey Harbor Deepening Project cannot proceed into construction as a Federal-funded action at this time until specific non-federal actions relating to the development of multiple beneficiaries for the deepened channel are accomplished. Those efforts are proceeding, but the applicant is seeking to undertake the deepening now for the economic and environmental reasons mentioned above while those efforts come to successful fruition over the coming years.

For the purposes of understanding the relationship of the ongoing 41-foot channel deepening dredging and the 50-foot channel footprint and current bottom elevations, the following is provided. The Port Jersey navigation channel area was divided into eight basic Corps of Engineers dredging project areas (i.e., reaches) as shown in the attached figures.

By the time of expiration of the aforementioned existing DA permit, reaches 1 and 3 will have already been dredged by a Corps of Engineers contract to a depth of approximately 44.5 feet below MLW (41 feet plus the required overdepth). Prior Corps of Engineers civil works navigation channel construction has also already deepened much of reaches 5, 6, 7, and the 100 feet wide corridor over the Passaic Valley Sewerage Commissioners Effluent Outfall Tunnel (i.e., PVSC) to a depth of approximately 44.5 feet below MLW (41 feet plus the required overdepth). The southern approximately 75 feet of reaches 5, 7 and PVSC were not dredged to this depth as it lies outside the authorized 41-foot channel footprint. This area is currently an average of 35 feet below MLW datum. Reach 2 has been dredged by a Corps of Engineers contractor to a depth of approximately 44.5 feet below MLW (41 feet plus required overdepth). The permit applicant intends to advance construction of the deepening of the Port Jersey 50-foot Channel by dredging the additional 9 feet within reaches 1, 2, 3, 5, 6, 7, and PVSC that the Corps of Engineers contractor has previously completed to 44.5 feet below MLW; and dredging the remaining portions of reaches 1, 3, 4, 5, 6, 7, and PVSC from existing depths to the 53.5 feet below MLW datum.

INTRODUCTION TO THE HISTORIC AREA REMEDEATION SITE (HARS):

In 1972, Congress enacted the Marine Protection Research and Sanctuaries Act (MPRSA) to address and control the dumping of materials into ocean waters. Title I of the Act authorized the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers to regulate dumping in ocean waters. The U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers share responsibility for the Marine Protection, Research, and Sanctuaries Act (MPRSA) permitting and ocean disposal site management. The U.S. Environmental Protection Agency regulations implementing the Marine Protection, Research, and Sanctuaries Act (MPRSA) are found at 40 CFR Sections 220 through 229. With few exceptions, the Marine Protection, Research, and Sanctuaries Act (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 Marine Protection, Research, and Sanctuaries Act (MPRSA). The Marine Protection, Research, and Sanctuaries Act (MPRSA) divides permitting responsibility between the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Under Section 102 of the Marine Protection, Research, and Sanctuaries Act (MPRSA), the U.S. Environmental Protection Agency has responsibility for issuing permits for all materials other than dredged material. Under Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA), the Secretary of the Army has the responsibility for issuing permits for dredged material, subject to the U.S. Environmental Protection Agency's concurrence.

In the fall of 1997, the U.S. Environmental Protection Agency 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 Mud Dump Site (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 Mud Dump Site (MDS), the site and surrounding areas that had been used historically as disposal sites for dredged materials were redesignated as the Historic Area Remediation Site (HARS) (Figures 14 & 15) under authority of Section 102[c] of Marine Protection, Research, and Sanctuaries Act (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 Historic Area Remediation Site (HARS) will be managed to reduce impacts of historical disposal activities at the site to acceptable levels in accordance with 40 CFR Sections 228.11(c). The need to remediate the Historic Area Remediation Site (HARS) is supported by the presence of toxic effects, dioxin bioaccumulation exceeding Category 1 levels in worm tissue, 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 surveys performed and the conditions in the Historic Area Remediation Site (HARS) Study Area may be found in the Supplemental Environmental Impact Statement (U.S. Environmental Protection Agency Region 2, 1997).

The designation of the Historic Area Remediation Site (HARS) identifies an area in and around the former Mud Dump Site (MDS) that has exhibited the potential for adverse ecological impacts. The Historic Area Remediation Site (HARS) will be remediated with dredged material that meets current Category 1 standards and it will not cause significant undesirable effects including through bioaccumulation or unacceptable toxicity, in accordance with 40 CFR 227.6.

This dredged material is referred to as "Material for Historic Area Remediation Site (HARS) Remediation" or " Historic Area Remediation Site (HARS) Remediation Material".

As of the end of March 2008, dredged materials from at least fifty-seven different completed and ongoing private and federal dredging projects in the Port of New York and New Jersey have been dredged and placed as Remediation Material in the ocean at the Historic Area Remediation Site (HARS) since the closure of the Mud Dump Site (MDS) and designation of the Historic Area Remediation Site (HARS) in 1997. This represents approximately 33,466,483 cubic yards of Remediation Material.

The Historic Area Remediation Site (HARS), which includes the 2.2 square nautical mile area of the former Mud Dump Site (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 former Mud Dump Site (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 bathymetry that capping is complete, the U.S. Environmental Protection Agency will undertake any necessary rulemaking to de-designate the Historic Area Remediation Site (HARS). The Historic Area Remediation Site (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 Priority Remediation Area (PRA) encompasses an area of degraded sediments as described in greater detail in the SEIS.

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

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

To improve management and monitoring of placement activities at the Historic Area Remediation Site (HARS), electronic monitoring equipment is used on-board vessels carrying Remediation Material to the Historic Area Remediation Site (HARS). This equipment records vessel positions and scow draft throughout the duration of each trip to the Historic Area Remediation Site (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).

Over the past years, the U.S. Environmental Protection Agency Region 2 and the U.S. Army Corps of Engineers New York District have been refining the approach to the technical review and scientific and regulatory analysis of dredging projects' dredged materials proposed for placement at the Historic Area Remediation Site (HARS). Sediment testing evaluation processes are evolving, which establish a responsible framework for assessing results of physical, chemical and bioaccumulation test results, to include tissue analysis from bioaccumulation testing of dredged materials proposed for ocean placement. The bioaccumulation 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. The framework's purpose is to facilitate decision, and final decision making, in accordance with the Marine Protection, Research and Sanctuaries Act of 1972. The U.S. Environmental Protection Agency Region 2 and the U.S. Army Corps of Engineer New York District utilize these testing evaluation processes for identifying Historic Area Remediation Site (HARS)-suitable dredged materials for remediation of the Historic Area Remediation Site (HARS).

Additional information concerning the Historic Area Remediation Site (HARS) itself can be obtained from Mr. Douglas Pabst of the U.S. Environmental Protection Agency Region 2, Dredged Material Management Team Leader, at telephone number (212) 637-3797.

SEDIMENT TESTING:

Please refer to the attached Figures 1 through 7 for maps of the dredging areas as discussed in the following paragraphs.

The sediments within reaches 5, 6, and PVSC consist of approximately 216,000 cubic yards of Holocene black silt material considered suitable for placement at state-approved upland sites, overlying approximately 242,000 cubic yards of Pleistocene red-brown clay and approximately 569,000 cubic yards of Pleistocene glacial till which is suitable for Historic Area Remediation Site (HARS) placement. Reach 7 consists of approximately 39,000 cubic yards of exposed Pleistocene red-brown clay and approximately 61,000 cubic yards of Pleistocene glacial till which is suitable for Historic Area Remediation Site (HARS) placement.

The sediments within reach 2 (between 44.5 and 53.5 feet below MLW) consist of approximately 237,000 cubic yards of Holocene black silt material considered suitable for state-approved upland site(s), overlying approximately 575,000 cubic yards of sandy material that is suitable for placement at the Habitat Enhancement Site (HES) in the unused areas of the channel south of the former Military Ocean Terminal in Bayonne (presently known at the Peninsula at Bayonne Harbor).

By the time of the aforementioned existing permit expiration on September 24, 2008, the sediments within reaches 3, and 4 will have 2 stratum remaining to be dredged. Reaches 3 and 4 consist of approximately 198,000 cubic yards of Holocene black silt that is suitable for placement at state-approved upland site(s), overlying sandy material. The approximately 51,000 cubic yards of sandy material underlying the silt material in Reach 3 has been found to be suitable for placement at the Habitat Enhancement Site in the unused areas of the channel south of the former Military Ocean Terminal in Bayonne. The approximately 25,000 cubic yards of sandy material underlying the silt material in Reach 4 has been found to be suitable for placement at state-approved upland site(s).

Reach 1 consists of approximately 237,000 cubic yards of sandy material that has been found suitable for placement at the Habitat Enhancement Site in the unused areas of the channel south of the former Military Ocean Terminal in Bayonne.

No barge overflow is anticipated during the dredging of the material that is not suitable for placement at either the Historic Area Remediation Site (HARS) or the Habitat Enhancement Site (HES). After dewatering and amendment using Portland cement, fly ash and/or other approved substances as determined necessary by the regulating state, it would be used upland at a state-approved location.

The total Historic Area Remediation Site (HARS) suitable sediments to be placed at the HARS (as discussed below) consist of approximately 281,000 cubic yards of Pleistocene red-brown clay, and approximately 630,000 cubic yards of Pleistocene glacial till. A total of approximately 935,000 cubic yards of sandy material would be beneficially placed at the Habitat Enhancement Site to enhance Essential Fish Habitat (EFH) spawning opportunities in the channel south of the former Military Ocean Terminal (former MOTBY) in Bayonne, New Jersey. There is also approximately 19,000 cubic yards of rock in the project area that is suitable for use at the Habitat Enhancement Site or for artificial fish reef creation at the Axel Carlson artificial reef site in the Atlantic Ocean.

Bottom-opening barges would be used to transport and place suitable material within the Historic Area Remediation Site (HARS) and Habitat Enhancement Site. Barge overflow is proposed during the dredging of these materials to maximize barge loading and to minimize overall adverse water column effects between the dredging and these two open-water placement sites.

Approximately 630,000 cubic yards of the proposed dredged material from the Port Jersey deepening project have been demonstrated to be Pleistocene age glacial till. The joint U.S. Environmental Protection Agency Region 2 and U.S. Army Corps of Engineers New York District August 26, 2003 Memorandum For The Record titled Joint Federal Position on Testing of Glacial Till Dredged Materials from Selected Areas of New York and New Jersey Harbor concluded that Pleistocene age glacial till is removed from sources of contaminants and has been adequately characterized by previous testing in the vicinity. As such, further additional project-specific testing of glacial till, including these 630,000 cubic yards, is not required.

In accordance with geological testing and assessment procedures set forth in the July 17, 2004 joint U.S. Environmental Protection Agency Region 2 and U.S. Army Corps of Engineers New York District standardized operating procedures, these 630,000 cubic yards are glacial till because the material (1) lacks detectible fossils or shells, (2) has a low organic carbon content, (3) has a reddish or red-brown color, (4) is comprised of a poorly sorted layer of clay particles, silts, sands, gravels and boulders, and (5) has a stratigraphic setting consistent with other Pleistocene age deposits in the vicinity of this Port Jersey dredging area. A copy of the January 14, 2005 glacial till determination for this construction contract area may be requested from Mr. Brian Orzel, manager for this permit application review process, at 917-790-8413.

Pleistocene age glacial till in the vicinity of this Port Jersey dredging area was previously tested to determine suitability for use as Remediation Material at the Historic Area Remediation Site (HARS). This testing of glacial till was conducted in accordance with test protocols for ocean placement established by the U.S. Environmental Protection Agency Region 2 and U.S. Army Corps of Engineers New York District. Public notice of previous Pleistocene age glacial till chemical analysis, toxicity, and 28-day bioaccumulation test results for a determination of suitability for Historic Area Remediation Site (HARS) remediation purposes was provided in

U.S. Army Corps of Engineers New York District Public Notice FP63-PJCA1-2003 issued on April 7, 2003 for the Port Jersey Channel first construction contract area. Those chemical analyses, toxicity, and 28-day bioaccumulation test results are included in this public notice (attached Tables 1A-1C) for informational purposes only.

This deepening project also includes approximately 281,000 cubic yards of Pleistocene age red-brown clay dredged material (from the Newark Bay complex) for placement as Remediation Material at the Historic Area Remediation Site (HARS). Pleistocene age red-brown clay dredged materials (from the Newark Bay complex) were previously tested to determine their suitability for use as Remediation Material at the Historic Area Remediation Site (HARS). Testing was conducted in accordance with test protocols for ocean placement established by the U.S. Environmental Protection Agency Region 2 and U.S. Army Corps of Engineers New York District. Notification of the previous Pleistocene age red-brown clay test results for a determination of suitability for Historic Area Remediation Site (HARS) remediation purposes were provided in U.S. Army Corps of Engineers New York District Public Notice Supplement FP63-345678CC issued on July 14, 2000. Those test results are included in this public notice (attached Tables 2A-2C) for informational purposes only. A Joint Memorandum for Record (MFR) signed by both agencies on January 26, 2000, concluded that the Pleistocene age red-brown clay found throughout the Newark Bay Complex, including the Port Jersey Channel, was suitable for Historic Area Remediation Area (HARS) placement and would not require further testing.

ALTERNATIVES TO HARS PLACEMENT:

Regarding ocean placement of dredged material, the Ocean Dumping Regulations [Title 40 CFR Sections 227.16(b)] state 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 . . ." U.S Army Corps of Engineers 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 dredged material that would be considered unsuitable for Historic Area Remediation Site (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 Historic Area Remediation Site (HARS) unsuitable dredged material. As in the 2010 Plan, maximum use of all practicable alternatives to the Historic Area Remediation Site (HARS) is envisioned.

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. To minimize ocean placement and to enhance aquatic habitat the subject applicant has included in their project and permit application placement of approximately 935,000 cubic yards suitable sandy material at the aforementioned Habitat Enhancement Site, located just south of the former MOTBY site. As this Site has a capacity of approximately 935,000 cubic yards, no more material is planned to be placed there. Other options are not available at reasonable incremental costs, thus leaving Historic Area Remediation Site (HARS) placement as material for remediation as the only other preferred alternative.

CONCLUSIONS:

Based upon the results of testing of the sediments proposed for dredging and ocean placement from the Port Jersey 50-foot deepening project, the U.S. Army Corps of Engineers New York District and the U.S. Environmental Protection Agency Region 2 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 U.S Environmental Protection Agency Region 2 and U.S. Army Corps of Engineer New York District guidance. The specific test results and technical analysis of the data underlying this conclusion are described in the joint U.S. Army Corps of Engineers New York District and U.S. Environmental Protection Agency Region 2 memoranda mentioned previously.

Placement of this remediation material at the Historic Area Remediation Site (HARS) will serve to reduce impacts to acceptable levels and improve benthic conditions. Sediments in the Historic Area Remediation Site (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.

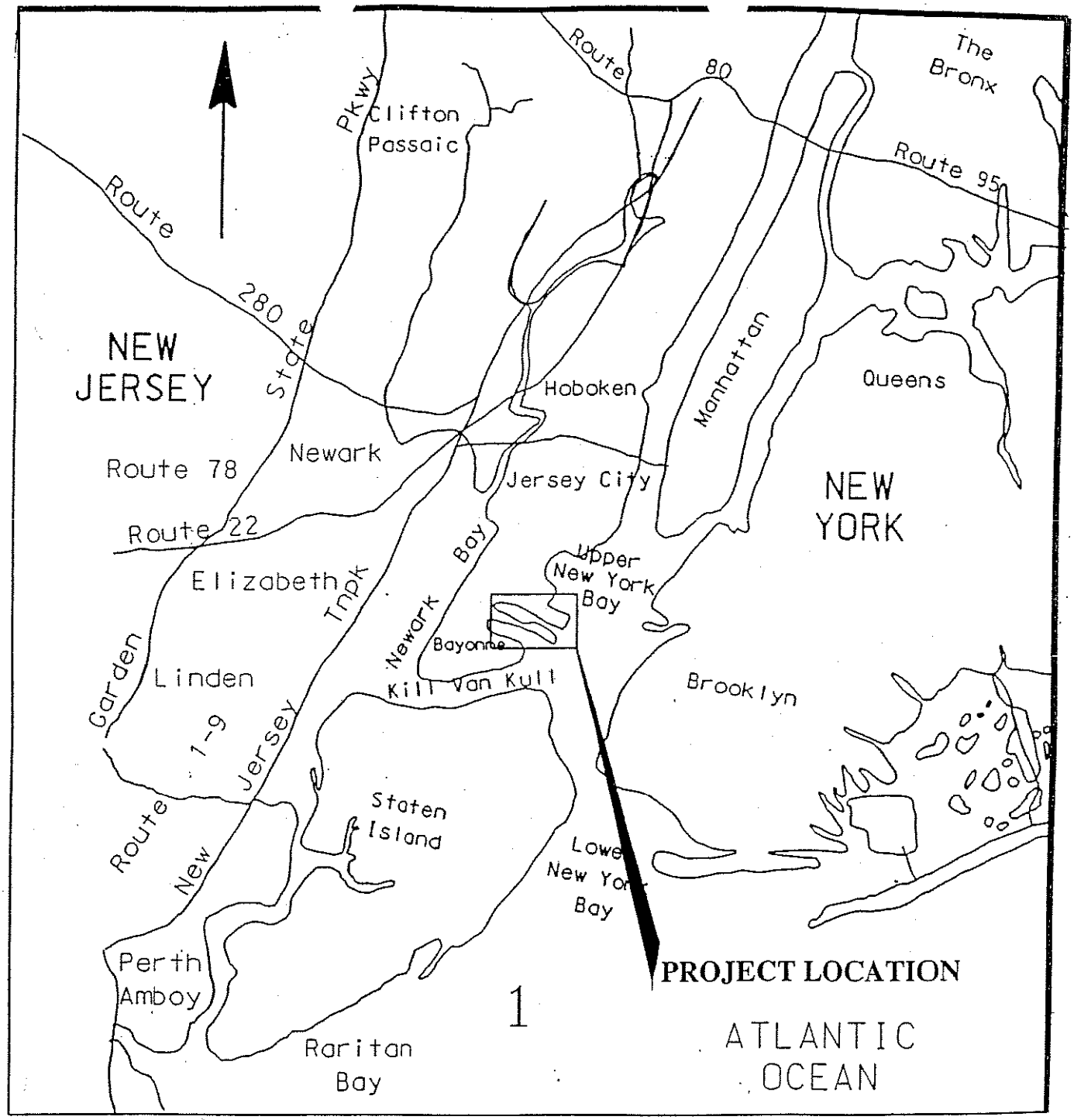
STATUS OF THE FEDERAL-STATES- PORT AUTHOITY OF NEW YORK & NEW JERSEY CHANNEL DEEPENING WORK RELATIVE TO PERMIT APPLICANT'S REQUEST

As context and to understand the proposed permit work as it relates to the ongoing federal navigation channel construction program ongoing in the Port of New York and New Jersey, the U.S. Army Corps of Engineers, as part of its civil works mission, has been authorized by Congress to construct two different federal navigation channel deepening projects in Port Jersey channel. The authorized depths for the two projects are 41-feet and a 50-feet. Currently, both channel improvement projects have completed all necessary evaluations and have executed project cooperation agreements with their respective non-federal project sponsors. In July 2002, the Corps of Engineers executed a project cooperation agreement with the State of New Jersey Department of Transportation, Office of Maritime Resources, the current permit applicant, and the Port Authority of New York and New Jersey to construct the 41-foot deepening project. Construction of the 41-

foot deepening project began later in 2002 and is ongoing. In May of 2004, the Corps of Engineers executed a project cooperation agreement with the Port Authority of New York and New Jersey to construct the 50-foot New York and New Jersey Harbor Deepening Project.

By federal law, the 50-foot Port Jersey Channel segment of the New York and New Jersey Harbor Deepening Project cannot proceed into construction as a federal-funded action until specific non-federal actions relating to the development of multiple beneficiaries of the Port Jersey Channel are performed. Plans for performing these actions have been proposed and accepted by the U.S Army for meeting this condition in approximately the next two years. Given the differences in channel design between the 41-foot and 50-foot Port Jersey navigation channels and as directed by Congress, the Corps of Engineers evaluated consolidated construction of the two separately authorized channel deepening projects for the potential of saving construction costs, reducing environmental impact, and advancing reaping the transportation benefits. This evaluation culminated in a Limited Reevaluation Report (LRR) and Environmental Assessment on Consolidated Implementation of the New York New Jersey Harbor Deepening Project dated January 2004 and approved by the U.S. Army Corps of Engineers Headquarters in April 2004. The State of New Jersey Department of Transportation, Office of Maritime Resources expressed interest in advancing construction of the consolidated construction of the 50-foot Port Jersey Channel in part to implement the Habitat Enhancement Site and to advance the construction of the consolidated Port Jersey Channel Project. Consequently, the action described earlier in this public notice is described and recommended within the LRR, subject to this regulatory permit review.

The project cooperation agreement executed in July 2002 between the Corps of Engineers and the State of New Jersey Department of Transportation, Office of Maritime Resources, the current permit applicant, and the Port Authority of New York and New Jersey to construct the 41-foot deepening project was modified in July 2007 to facilitate the consolidated Port Jersey Channel construction recommended in the LRR noted above.

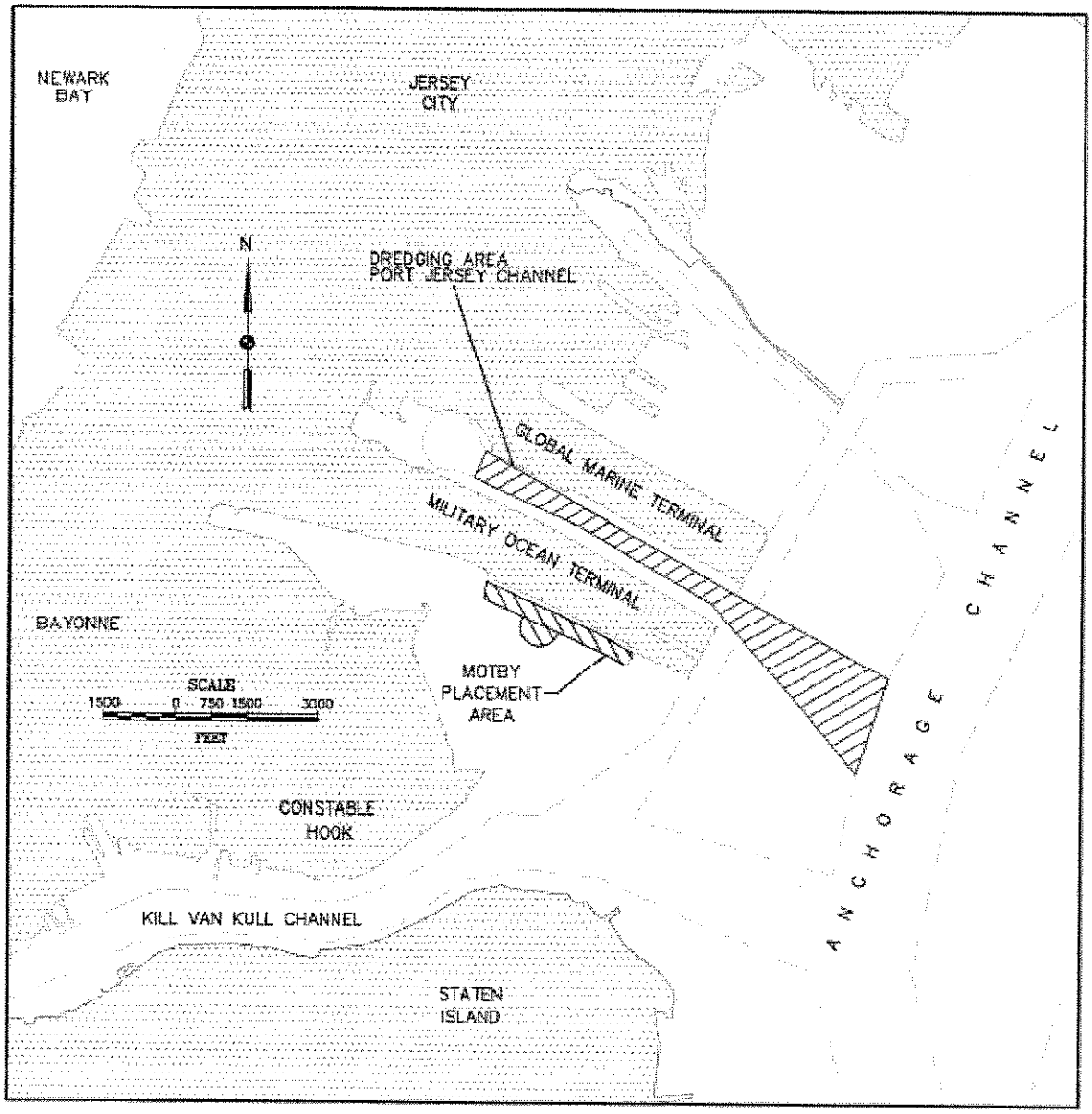


New Jersey Dept of Transportation
Office of Maritime Resources

Port Jersey Channel Deepening to 50 Feet
Contract 3

LOCATION PLAN

Sheet 1 of **15** September 8, 2004

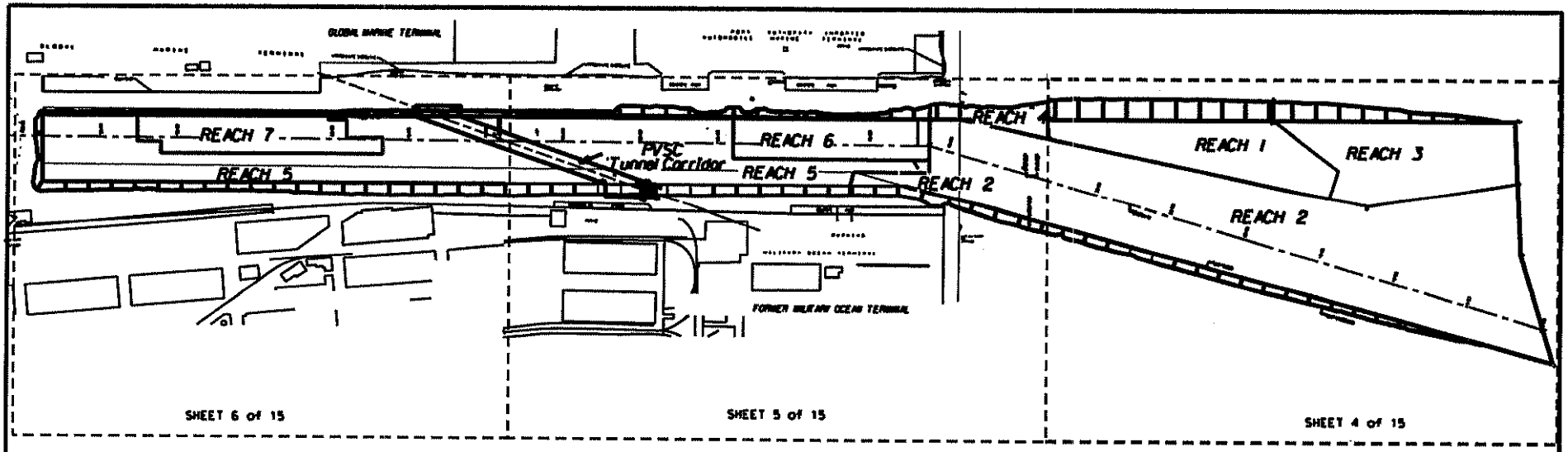


New Jersey Department of Transportation
Office of Maritime Resources

Port Jersey Channel Deepening to 50 feet

PLAN VIEW

Sheet 2 of 15



PORT JERSEY CHANNEL DEEPENING

General Plan Sheet

SHEET 3 of 15

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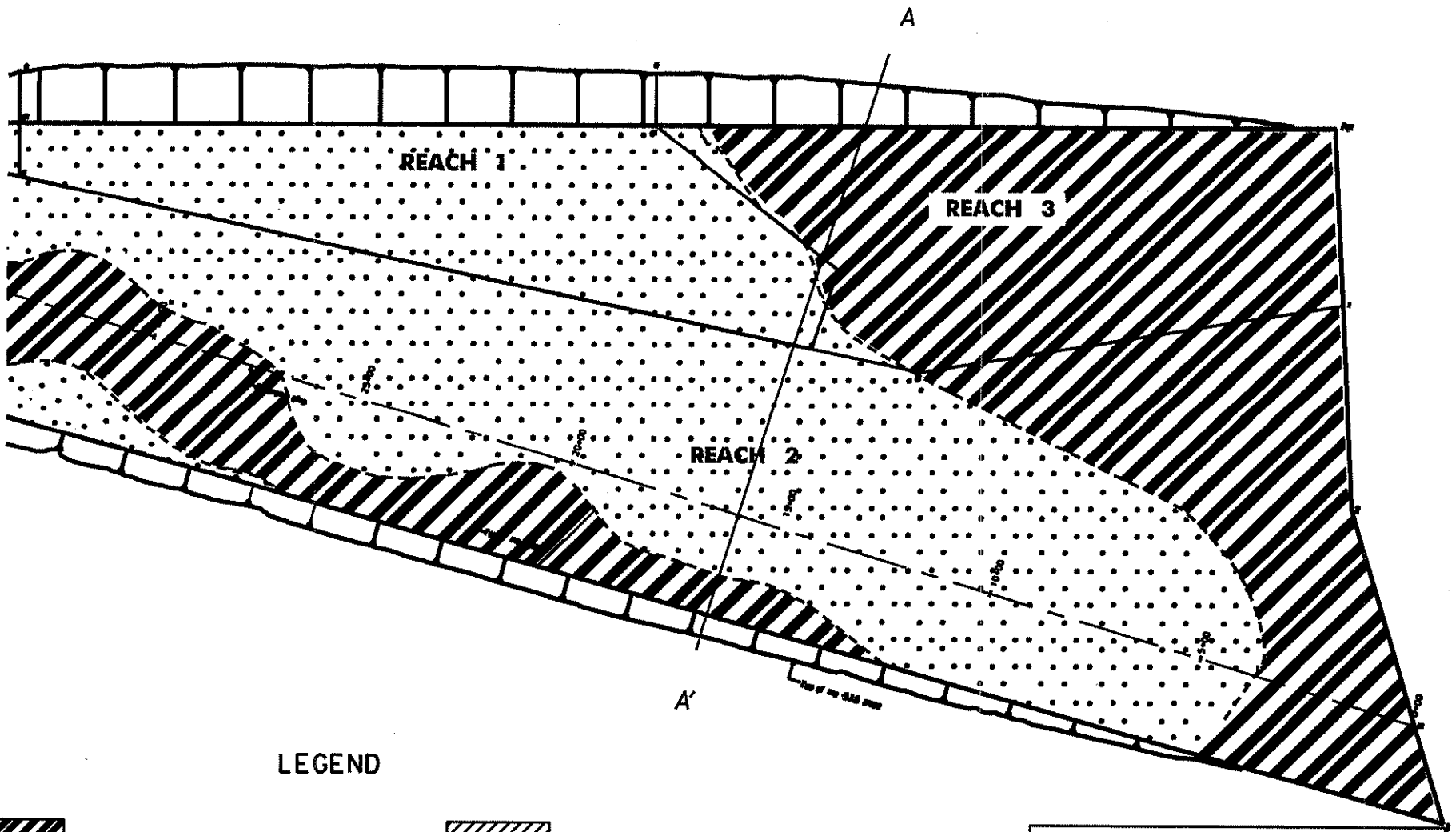

LEGEND

UPLAND SILT

PLEISTOCENE SILT & CLAY

SAND AND GRAVEL
HOLOCENE - PLEISTOCENE

SCHIST

Recently Deposited Sediments (shoaling) is shown on Cross-Sections if they are different than the Underlying Sediments

SUBCROP MAP

Eastern Area

SHEET 4 of 15

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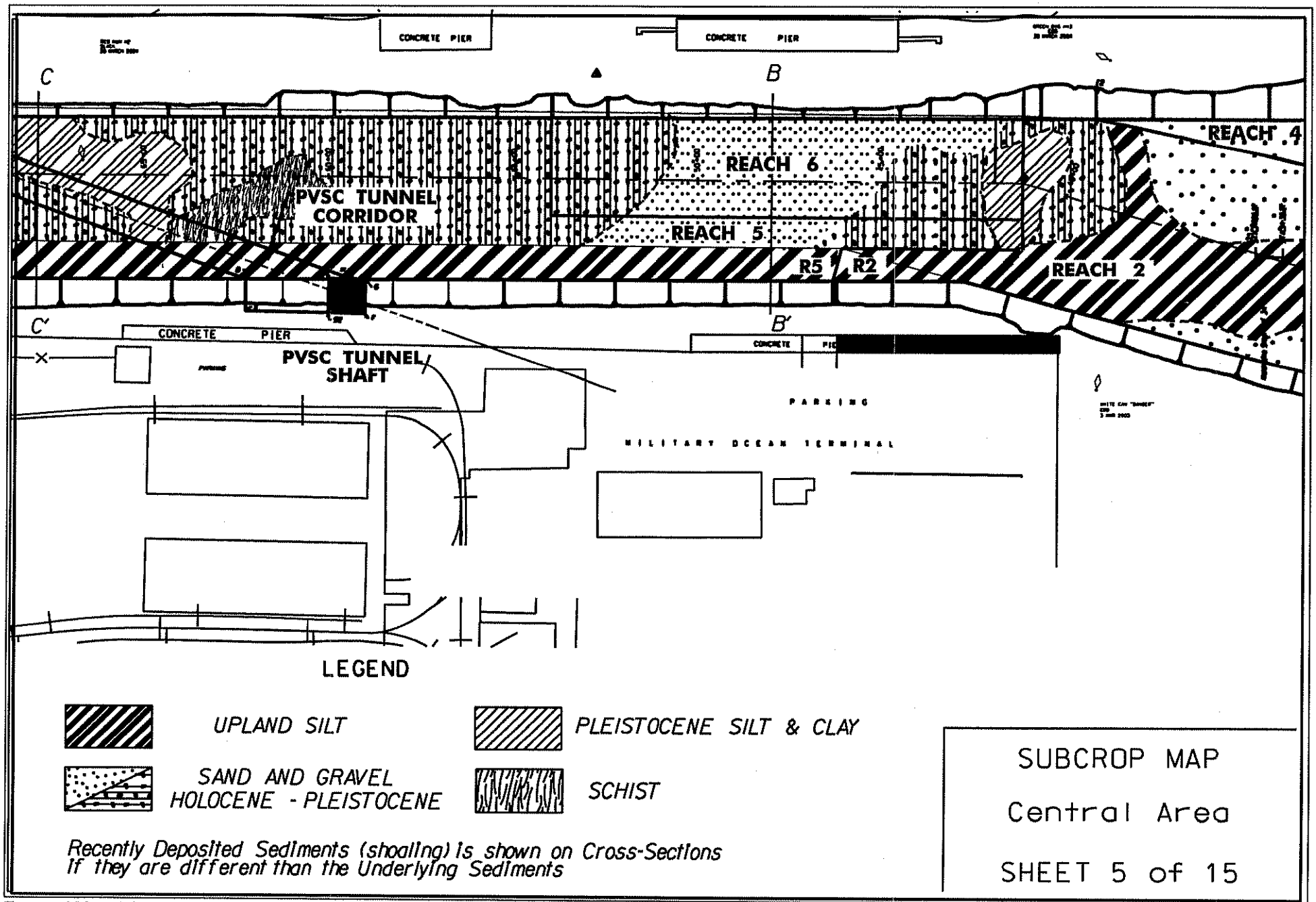

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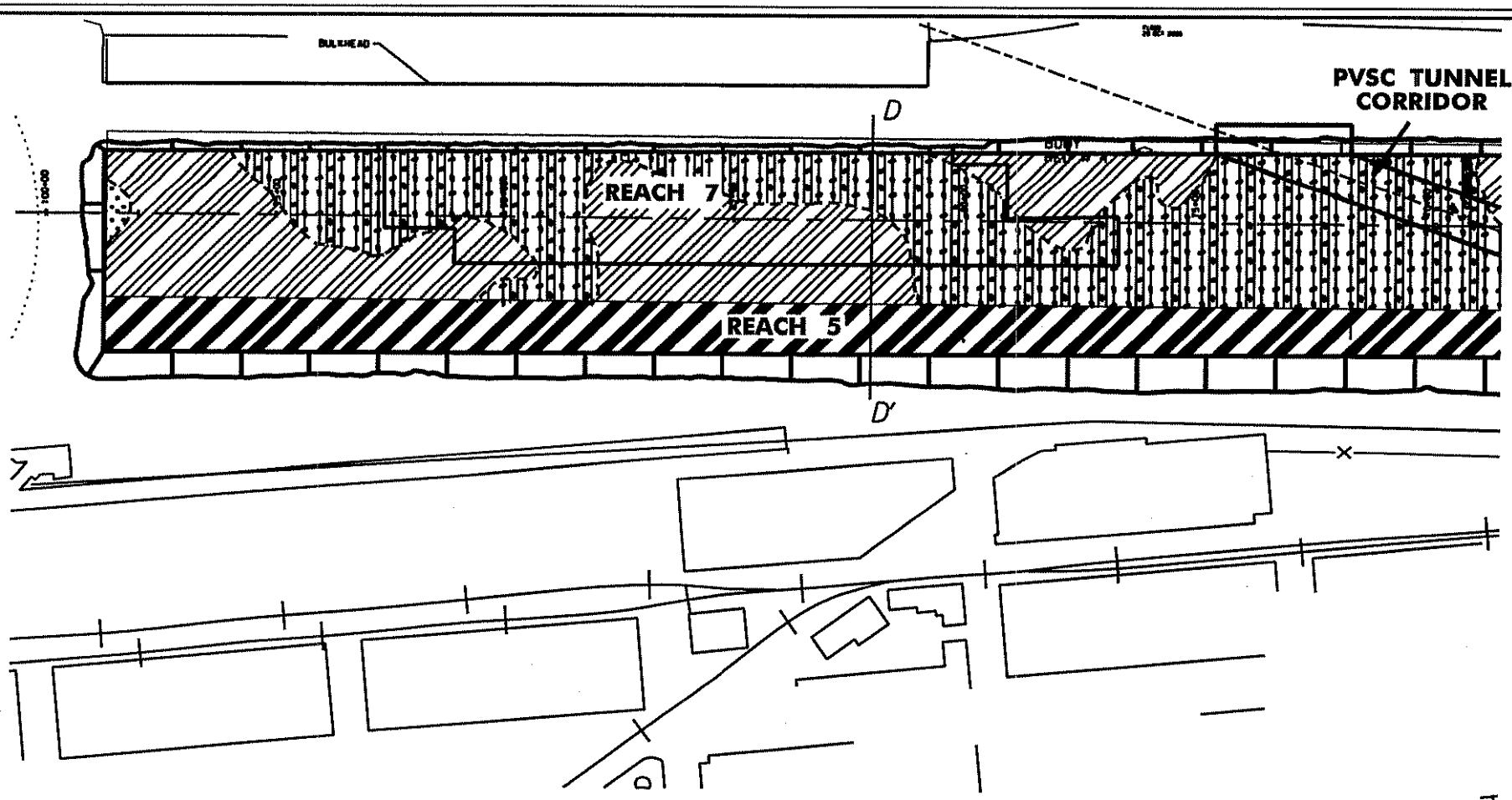

LEGEND

UPLAND SILT

PLEISTOCENE SILT & CLAY

SAND AND GRAVEL
HOLOCENE - PLEISTOCENE

SCHIST

Recently Deposited Sediments (shoaling) Is shown on Cross-Sections If they are different than the Underlying Sediments

SUBCROP MAP

Western Area

SHEET 6 of 15

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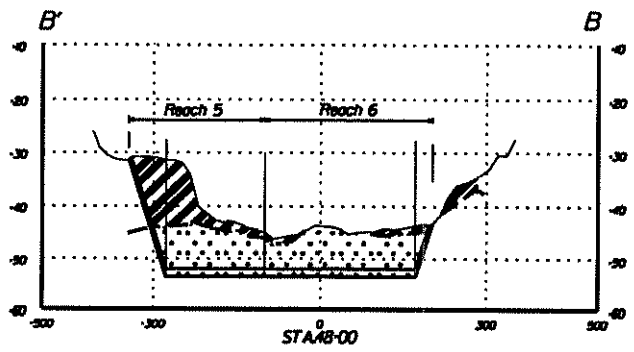
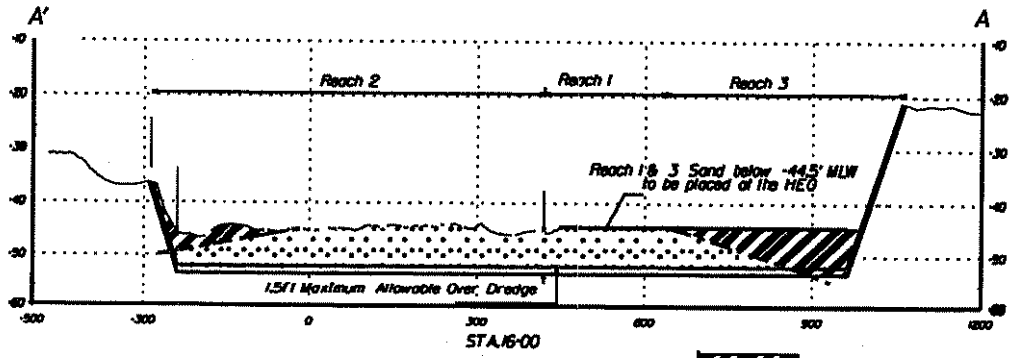
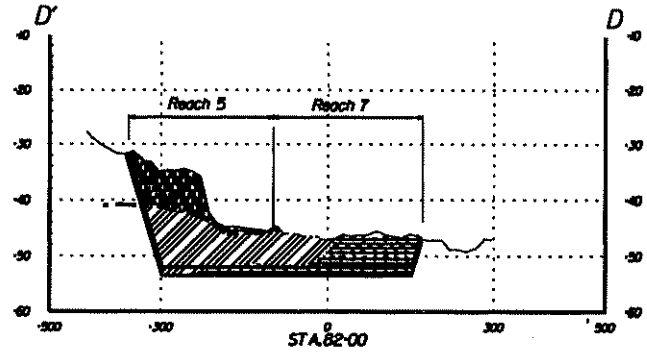
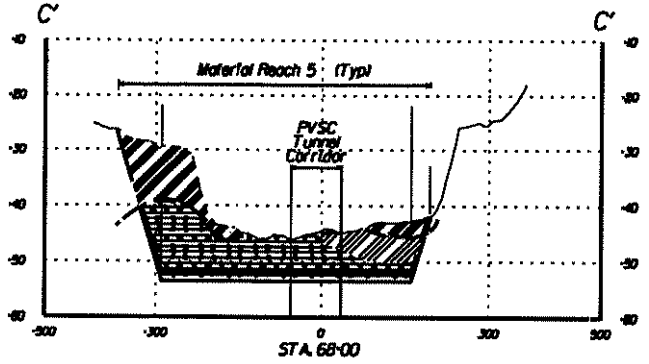
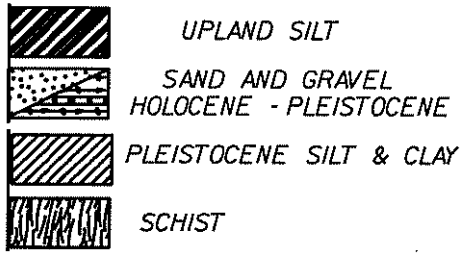










PORT JERSEY CHANNEL DEEPENING

Cross-Sections A - D

SHEET 7 of 15

Exposed Materials Sept 08.dgn 1/23/2008 5:55:06 PM

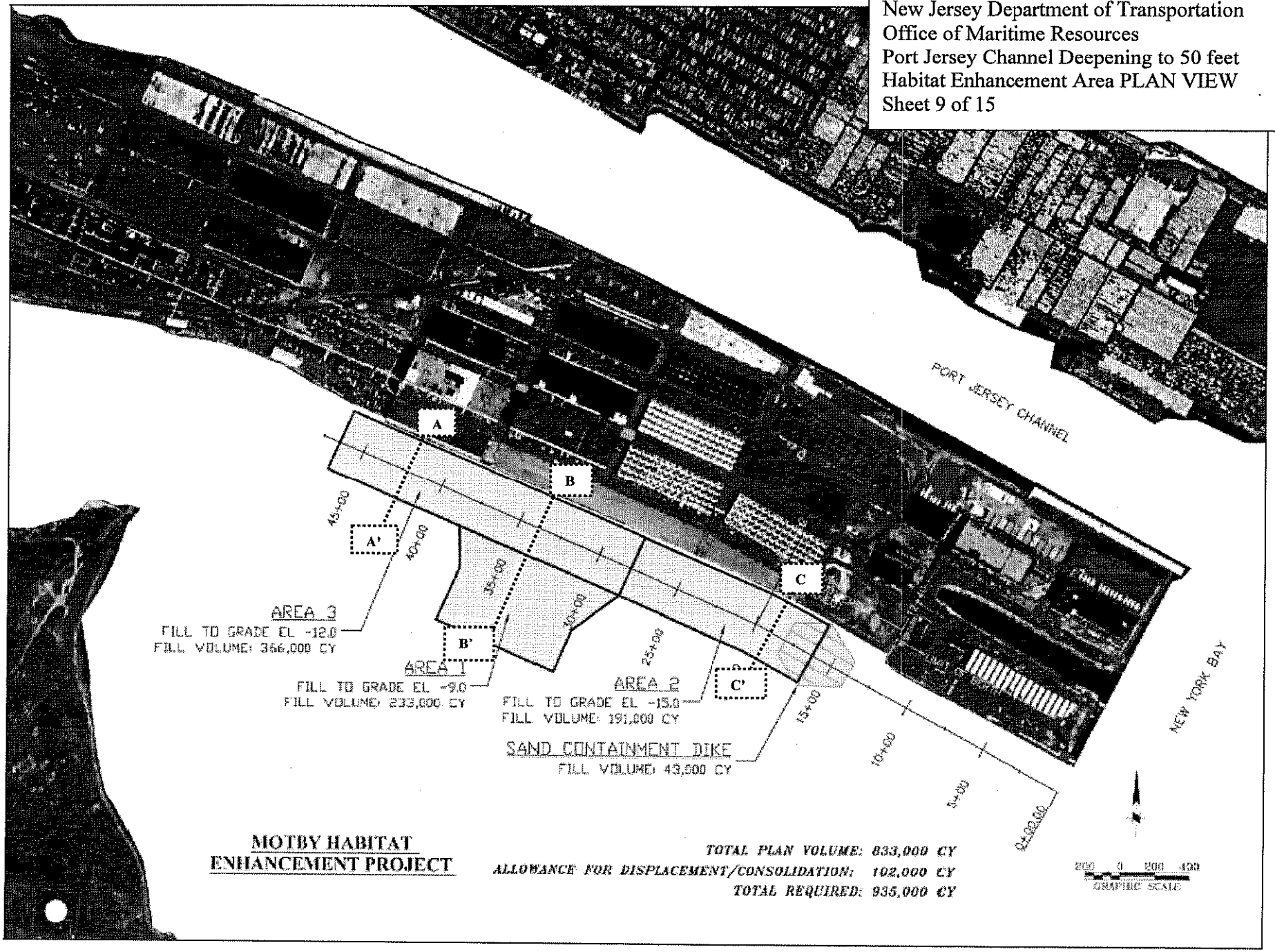
PORT JERSEY CHANNEL DEEPENING PROJECT

MATERIAL TYPE AND VOLUME IN CUBIC YARDS

PROJECT REACH	HABITAT ENHANCEMENT SITE	HARS SUITABLE MATERIAL TO BE PLACED AT HARS		FISH REEF CREATION	STATE APPROVED UPLAND PLACEMENT SITE(S)	
		Pleistocene				
	Sand	Red-Brown Clay	Glacial Till	Rock	Sand	Silt
1	237,000					
2	575,000					237,000
3	51,000					174,000
4					25,000	24,000
5		225,000	479,000	14,000		201,000
6	72,000	8,000	49,000			2,000
7		39,000	61,000	3,000		
PVSC		9,000	41,000	2,000		13,000
TOTAL	935,000	281,000	630,000	19,000	25,000	651,000

New Jersey Department of Transportation
Office of Maritime Resources
Port Jersey Channel Deepening to 50 feet
Maximum Material Volume Projections by Reach

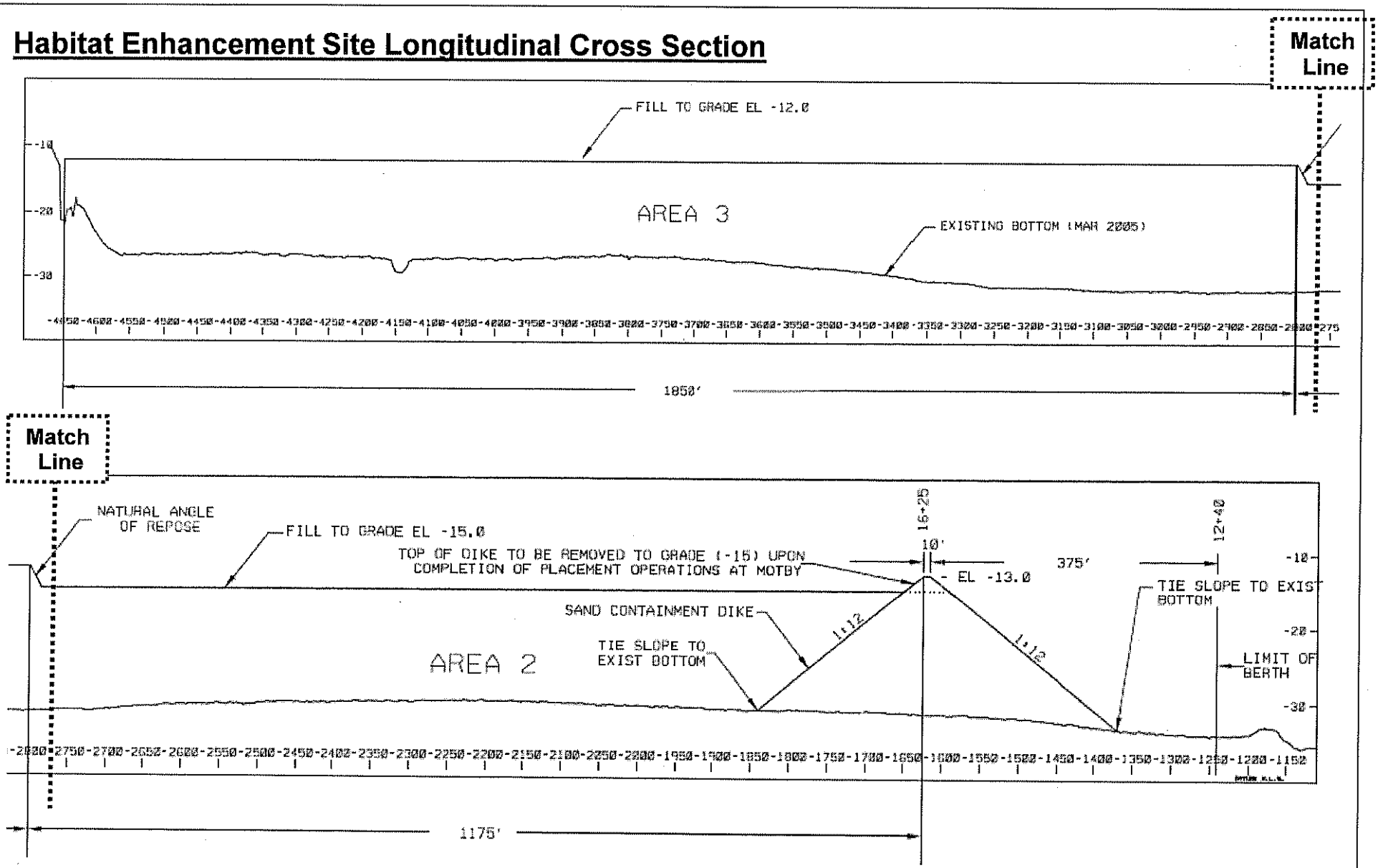
New Jersey Department of Transportation
Office of Maritime Resources
Port Jersey Channel Deepening to 50 feet
Habitat Enhancement Area PLAN VIEW
Sheet 9 of 15



MOTBY HABITAT ENHANCEMENT PROJECT

TOTAL PLAN VOLUME: 833,000 CY
ALLOWANCE FOR DISPLACEMENT/CONSOLIDATION: 102,000 CY
TOTAL REQUIRED: 935,000 CY

Habitat Enhancement Site Longitudinal Cross Section

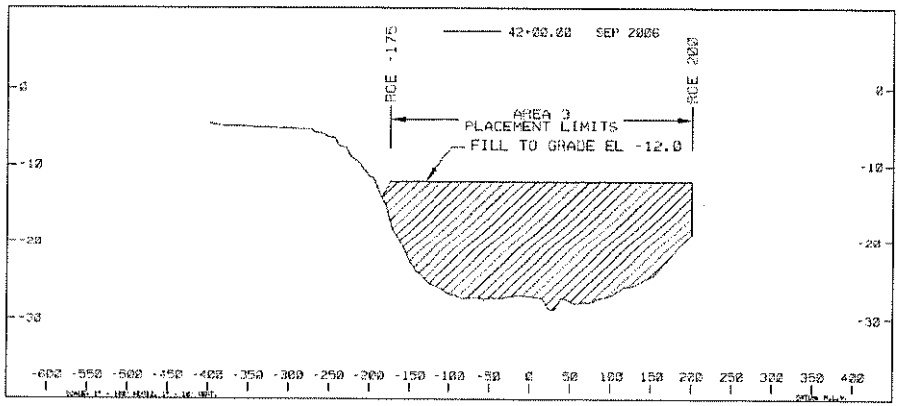


New Jersey Department of Transportation
Office of Maritime Resources
Port Jersey Channel Deepening to 50 feet
Habitat Enhancement Site Typical Sections
Sheet 10 of 15

Habitat Enhancement Site Cross Sections

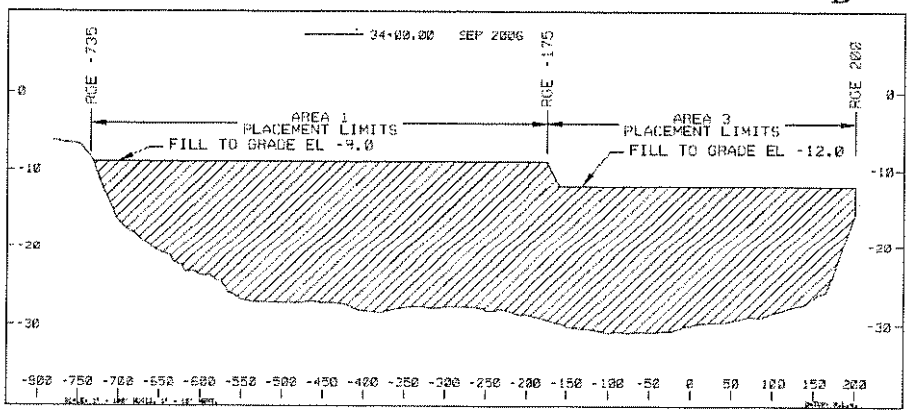
A'

A



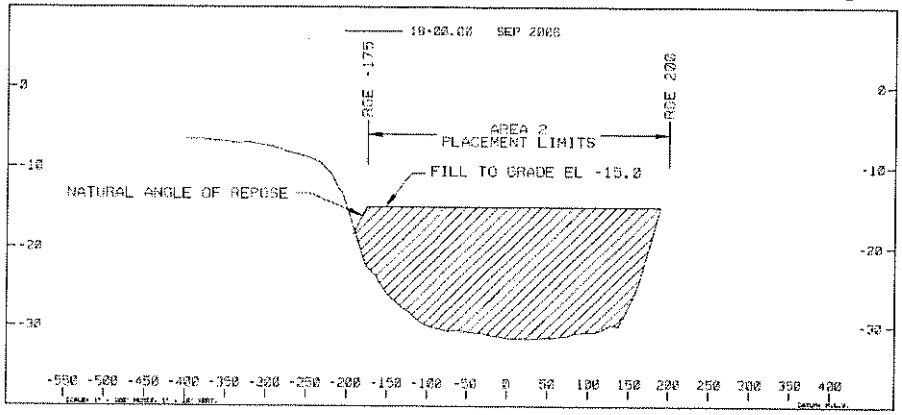
B'

B

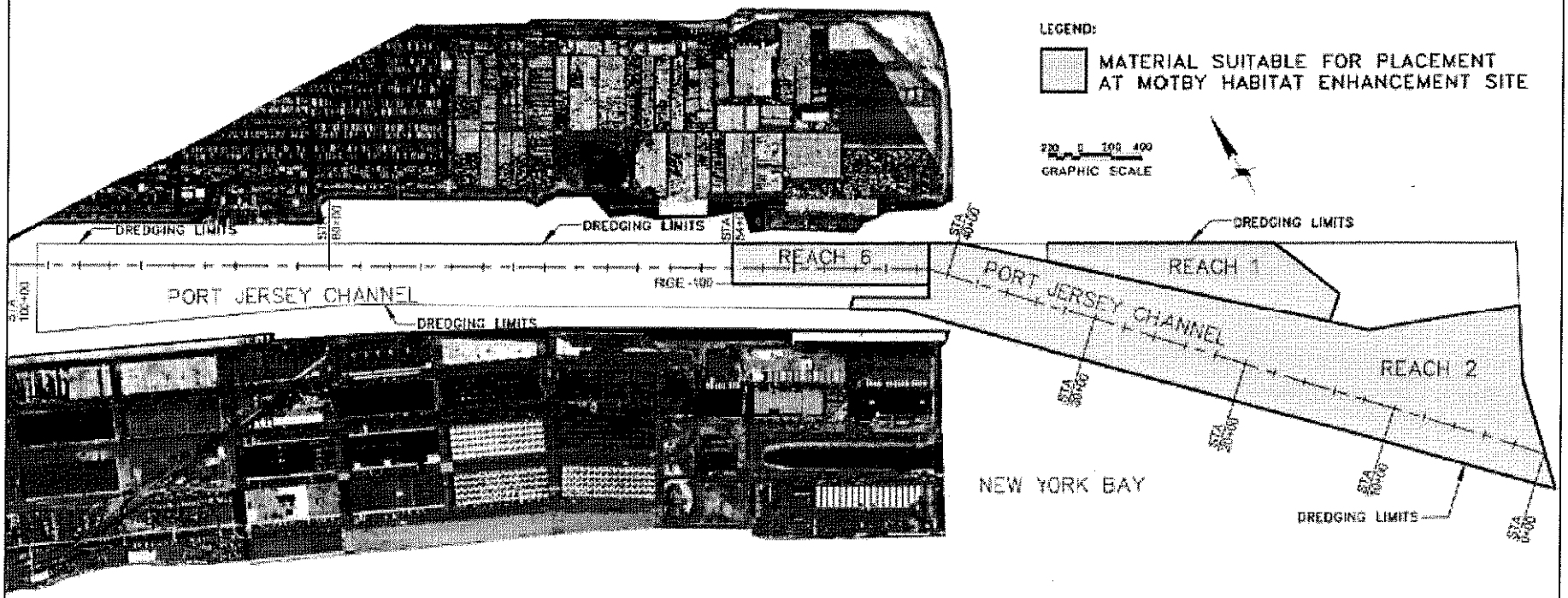


C'

C



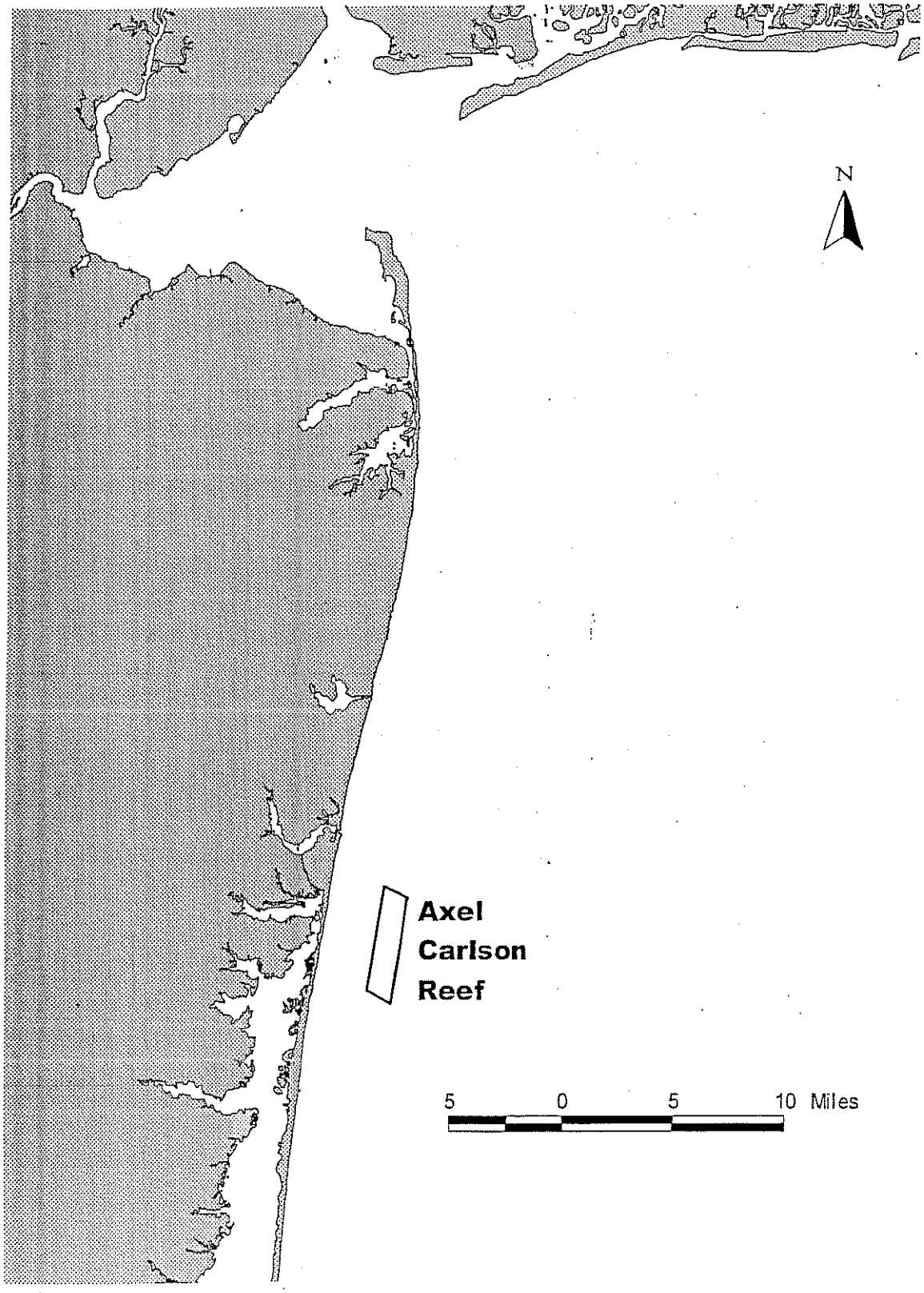
New Jersey Department of Transportation
Office of Maritime Resources
Port Jersey Channel Deepening to 50 feet
Habitat Enhancement Site Typical Sections
Sheet 11 of 15



AVAILABLE SUITABLE CY

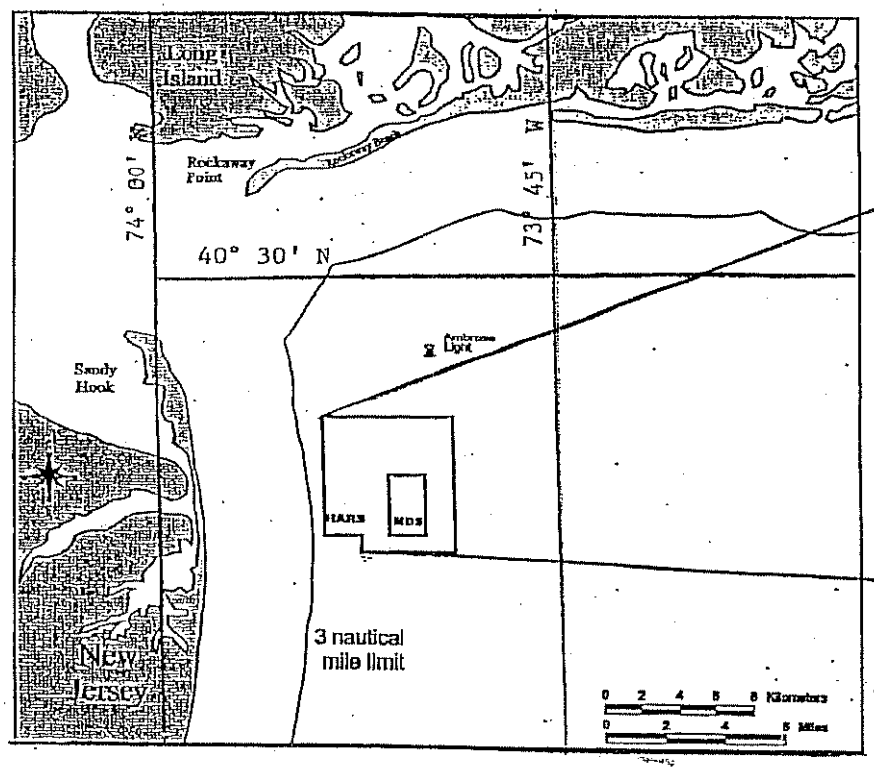
REACH 1	*237,000*
REACH 2	*575,000*
REACH 6	*129,000*
TOTAL	*941,000*

New Jersey Department of Transportation
Office of Maritime Resources
Port Jersey Channel Deepening to 50 feet
Habitat Enhancement Site Source Material
Sheet 12 of 15



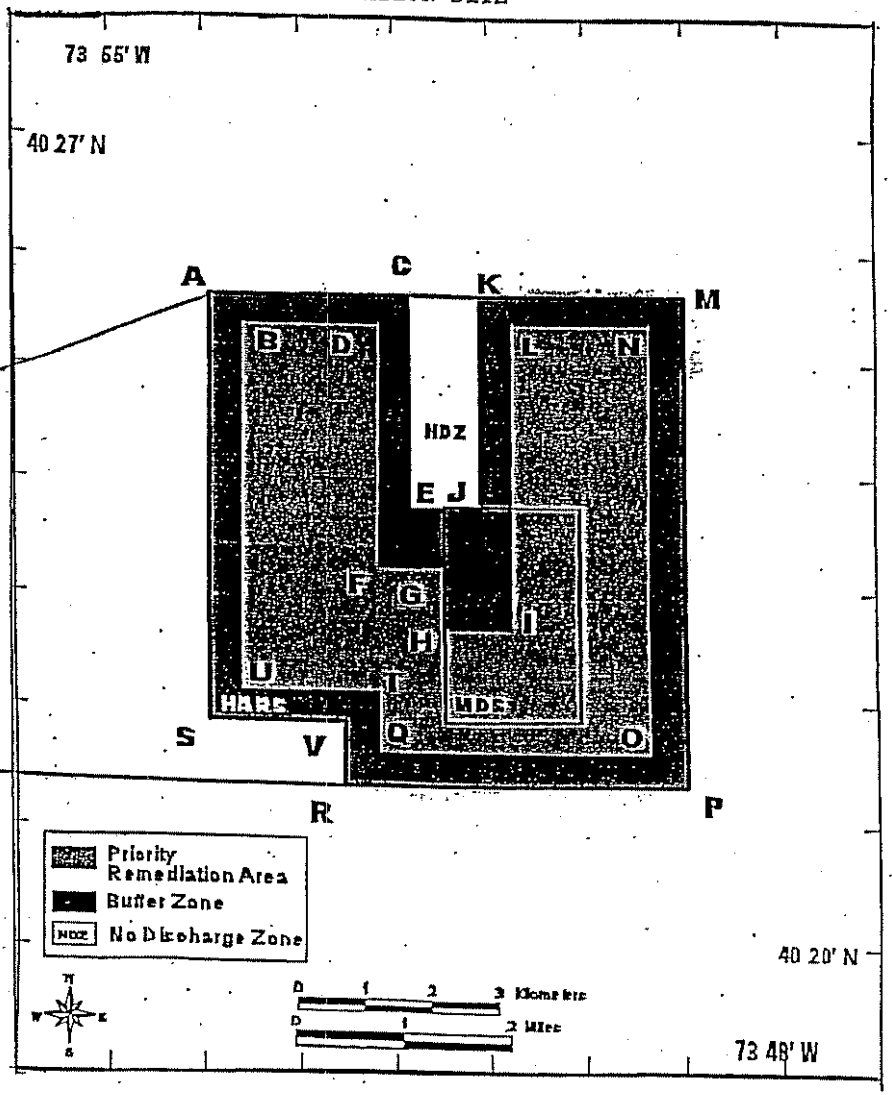
Location of Axel Carlson Reef offshore of the New Jersey coastline.

HISTORIC AREA REMEDIATION SITE LOCATION MAP



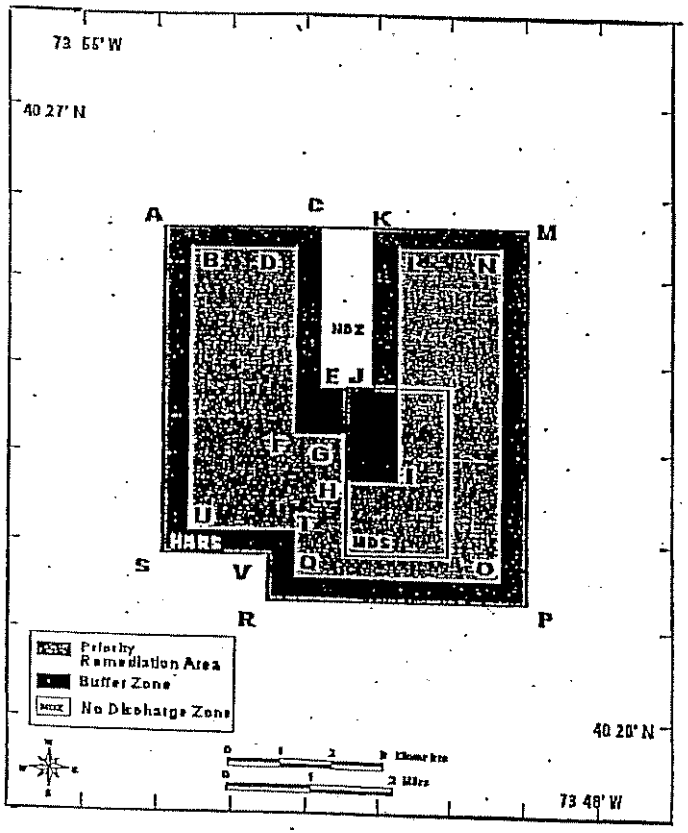
A

LOCATITON OF PRIMARY REMEDIATION AREA WITHIN THE HISTORIC AREA REMEDIATION SITE



B

00900 ATT. A-2



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

TABLE 1A. RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE
PORT JERSEY - CONTRACT AREA 1

	SITE WATER		ELUTRIATE	
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb	ppb	ppb	ppb
Ag		0.032		0.016
Cd		0.068		0.084
Cr		0.522		0.918
Cu		2.10		2.070
Hg		0.005		0.001
Ni		1.30		2.94
Pb		0.69		0.39
Zn		5.45		3.98
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.83	ND	2.83	ND
a-Chlordane	1.08	ND	1.08	ND
trans Nonachlor	1.01	ND	1.01	ND
Dieldrin	0.98	ND	0.98	ND
4,4'-DDT	0.56	ND	0.56	ND
2,4'-DDT	1.99	ND	1.99	ND
4,4'-DDD	0.60	ND	0.60	ND
2,4'-DDD	0.75	ND	0.75	ND
4,4'-DDE	0.84	ND	0.84	ND
2,4'-DDE	1.71	ND	1.71	ND
Total DDT		**3.2**		**3.2**
Endosulfan I	1.11	ND	1.11	ND
Endosulfan II	0.51	ND	0.51	ND
Endosulfan sulfate	0.57	ND	0.57	ND
Heptachlor	1.17	ND	1.17	ND
Heptachlor epoxide	0.95	ND	0.95	ND
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	16.00	ND	16.00	ND
PCB 18	1.39	ND	1.39	ND
PCB 28	1.73	ND	1.73	ND
PCB 44	1.45	ND	1.45	ND
PCB 49	1.49	ND	1.49	ND
PCB 52	1.44	ND	1.44	ND
PCB 66	1.49	ND	1.49	ND
PCB 87	1.13	ND	1.13	ND
PCB 101	1.15	ND	1.15	ND
PCB 105	0.58	ND	0.58	ND
PCB 118	0.87	ND	0.87	ND
PCB 128	1.40	ND	1.40	ND
PCB 138	1.33	ND	1.33	ND
PCB 153	1.07	ND	1.07	ND
PCB 170	1.02	ND	1.02	ND
PCB 180	0.96	ND	0.96	ND
PCB 183	0.93	ND	0.93	ND
PCB 184	0.92	ND	0.92	ND
PCB 187	0.86	ND	0.86	ND
PCB 195	1.09	ND	1.09	ND
PCB 206	1.22	ND	1.22	ND
PCB 209	1.27	ND	1.27	ND
Total PCB		**81.5**		**81.5**

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.

TABLE 1 B. PORT JERSEY - CONTRACT AREA 1

TOXICITY TEST RESULTS

Suspended Particulate Phase

Test Species	Test Duration	LC50/EC50	LPC (a)
Menidia beryllina	96 hours	(b) >100%	1.00
Mysidposis bahia	96 hours	(b) >100%	1.00
Mytilus edulis (larval survival)	48 hours	(b) >100%	1.00
Mytilus edulis (larval normal development)	48 hours	(c) >100%	1.00

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

(b) Median Lethal Concentration (LC50) resulting in 50% mortatlity 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)
Ampelisca abdita	99%	100%	1%	No
Mysidopsis bahia	95%	99%	4%	No

PORT JERSEY- CONTRACT AREA 1

TABLE 1C. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

CONSTITUENTS	*Tapes japonica*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION
Metals	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)
Ag		0.11		0.09		0.01		0.01
As		1.92		1.80		3.43		3.01
Cd		0.22		0.21		0.04		0.05
Cr		0.27		0.62		0.50		0.52
Cu		1.09		1.21		1.75		* 2.46
Hg		0.01		0.01		0.04		0.04
Ni		0.68		0.73		0.25		0.30
Pb		0.02		0.02		0.12		0.10
Zn		8.33		7.99		19.38		21.53
Pesticides	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
Aldrin	0.02	ND	0.02	ND	0.02	ND	0.03	ND
a-Chlordane		0.03		0.02		0.12		0.12
trans Nonachlor		0.03		0.02		0.29		0.29
Dieldrin		0.04		0.04		0.12		0.16
4,4'-DDT		0.03		0.03		0.03		0.03
2,4'-DDT	0.03	ND	0.03	ND	0.04	ND	0.04	ND
4,4'-DDD		0.04		0.04		0.15		0.13
2,4'-DDD		0.04		0.06		0.14		0.13
4,4'-DDE		0.03		0.04		0.06		0.05
2,4'-DDE	0.09	ND	0.09	ND	0.10	ND	0.10	ND
Total DDT		**0.20**		**0.23**		**0.44**		**0.42**
Endosulfan I	0.03	ND	0.03	ND	0.04	ND	0.04	ND
Endosulfan II	0.05	ND	0.05	ND	0.05	ND	0.05	ND
Endosulfan sulfate	0.05	ND	0.05	ND	0.06	ND	0.06	ND
Heptachlor	0.03	ND	0.03	ND	0.03	ND	0.03	ND
Heptachlor epoxide		0.02		0.02		0.06		0.05
Industrial Chemicals	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
PCB 8		0.41		0.42		0.88		0.81
PCB 18		0.04		0.05		0.03		* 0.08
PCB 28		0.15		0.19		0.20		0.13
PCB 44	0.03	ND	0.03	ND	0.03	ND	0.03	ND
PCB 49		0.02		* 0.04		0.06		* 0.08
PCB 52		0.05		* 0.09		0.14		* 0.24
PCB 66	0.03	ND	0.03	ND		0.05		0.04
PCB 87		0.03		0.04		0.04		0.05
PCB 101		0.11		0.13		0.48		0.49
PCB 105		0.04		0.04		0.20		0.19
PCB 118		0.05		0.04		0.21		0.20
PCB 128		0.09		0.08		0.30		0.25
PCB 138		0.17		0.36		1.48		1.35
PCB 153		0.11		0.11		2.18		1.99
PCB 170		0.04		* 0.08		0.43		0.41
PCB 180		0.04		* 0.05		0.93		0.86
PCB 183		0.02		0.02		0.38		0.35
PCB 184	0.05	ND	0.05	ND	0.05	ND	0.05	ND
PCB 187		0.03		* 0.14		0.79		0.79
PCB 195		0.02		0.01		0.16		0.16
PCB 206		0.03		0.04		0.30		0.30
PCB 209		0.04		0.04		0.37		0.33
Total PCB		**3.09**		* **4.00**		**19.31**		**18.25**
1,4-Dichlorobenzene		0.39		0.37		0.33		0.28

TABLE 1 C. (Continued) PORT JERSEY - CONTRACT AREA 1

CONSTITUENTS	*Tapes japonica*				*Nereis virens*			
	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		0.72		0.71		2.49		2.77
Acenaphthylene		0.05		0.04		0.14		0.13
Acenaphthene		0.11		0.11		0.42		0.45
Fluorene		0.18		0.16		0.09		0.11
Phenanthrene		0.80		0.80		0.29		0.31
Anthracene		0.07		0.08		0.05		0.06
Fluoranthene		0.77		0.75		0.26		0.22
Pyrene		0.40		* 0.51		0.22		* 0.27
Benzo(a)anthracene		0.44		0.39		0.05		0.05
Chrysene		0.53		0.48		0.15		0.14
Benzo(b)fluoranthene		0.12		0.01		0.03		0.03
Benzo(k)fluoranthene		0.08	0.02	ND		0.03		0.03
Benzo(a)pyrene	0.02	ND	0.02	ND		0.17		0.02
Indeno(1,2,3-cd)pyrene	0.01	ND		0.01	0.01	ND		0.01
Dibenzo(a,h)antracene	0.02	ND	0.02	ND	0.02	ND		0.01
Benzo(g,h,i)perylene	0.01	ND		0.01		0.04		0.01
Total PAH's		**4.29**		**4.09**		**4.45**		**4.62**
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		0.42	0.98	ND		0.28		0.20
12378 PeCDD		0.95		* 2.41		0.14		0.12
123478 HxCDD		0.03		* 5.10		0.08		0.05
123678 HxCDD		0.06		* 1.33		0.27		0.19
123789 HxCDD		0.05		* 1.79		0.17		0.13
1234678 HpCDD		0.18		0.21		1.47		1.03
1234789 OCDD		1.41		1.34		8.28		6.02
2378 TCDF		0.14		0.10		1.66		1.41
12378 PeCDF		0.08		* 1.45		0.19		0.18
23478 PeCDF		0.08		* 1.40		0.31		0.27
123478 HxCDF		0.11		0.55		0.17		0.14
123678 HxCDF		0.05		0.92		0.09		0.08
234678 HxCDF		0.41		* 1.84		0.80		1.19
123789 HxCDF		0.52		* 1.81		0.08		0.06
1234678 HpCDF		0.08		0.47		0.59		0.41
1234789 HpCDF		0.04		* 1.20		0.06		1.50
12346789 OCDF		0.17		0.17		0.60		0.38

ND = Not detected
Total PAH = Sum of all PAHs
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

TABLE 2A. NEWARK BAY/STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE

CONSTITUENTS	SITE WATER		ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Cadmium		0.093		0.267
Chromium		1.42		1.11
Copper		2.45		6.42
Lead		1.46		0.259
Mercury		0.011		0.002
Nickel		1.58		1.70
Silver		0.054		0.016
Zinc		11.7		3.56
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	0.8	ND	0.8	ND
alpha-Chlordane		1.9		1.1
trans-Nonachlor		3.7		1.8
Dieldrin	0.3	ND		3.1
4,4'-DDT		4.6		3.1
2,4'-DDT	0.7	ND	0.7	ND
4,4'-DDD		2.5		5.0
2,4'-DDD		1.7		1.0
4,4'-DDE		4.6		6.0
2,4'-DDE	1.4	ND	1.4	ND
Total DDT		14.45		16.15
Endosulfan I		2.0		1.2
Endosulfan II	0.5	ND		1.8
Endosulfan sulfate	2.4	ND		2.7
Heptachlor		3.3		4.0
Heptachlor epoxide		11		5.3
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB BZ-8		0.9	0.2	ND
PCB BZ-18		7.6	0.1	ND
PCB BZ-28	0.1	ND	0.1	ND
PCB BZ-44	0.1	ND	0.1	ND
PCB BZ-49	0.1	ND	0.1	ND
PCB BZ-52	0.1	ND	0.1	ND
PCB BZ-66		0.6	0.1	ND
PCB BZ-87	0.1	ND	0.1	ND
PCB BZ-101		0.7	0.1	ND
PCB BZ-105	0.1	ND	0.1	ND
PCB BZ-118	0.1	ND	0.1	ND
PCB BZ-128	0.1	ND	0.1	ND
PCB BZ-138	0.1	ND	0.1	ND
PCB BZ-153	0.1	ND	0.1	ND
PCB BZ-170	0.1	ND	0.1	ND
PCB BZ-180	0.1	ND	0.1	ND
PCB BZ-183	0.1	ND	0.1	ND
PCB BZ-184	0.1	ND	0.1	ND
PCB BZ-187	0.1	ND	0.1	ND
PCB BZ-195	0.2	ND	0.2	ND
PCB BZ-206	0.2	ND		0.5
PCB BZ-209	0.1	ND	0.1	ND
Total PCB		21.6		3.3

ND = Not detected
Total PCB = sum of all congeners * 2.
Total DDT = sum of 2,4' and 4,4' DDD, DDE, and DDT.

NEWARK BAY/STATEN ILAND KILLS COMPLEX - NATURAL CLAYS

TABLE 2B. TOXICITTEST RESULTS

Suspended Particulate Phase - Raw Clay

Test Species	Test Duration	LC50/EC50	LPC (a)
Menidia beryllina	96 hours	>100% (b)	> 1
Mysidposis bahia	96 hours	>100% (b)	> 1
Mytilus sp. (larval survival)	48 hours	>100% (b)	> 1
Mytilus sp. (larval normal development)	48 hours	>100% (c)	> 1

(a) Limiting Permissible Concentration (LPC) is the LC50 or EC50 times 0.01.

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

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

Whole Sediment (10 days) - Raw Clay

Test Species	% Survival in Reference	% Survival in Test	% Difference Reference -Test	Is Difference statistically significant? (a=0.05)
Ampelisca abdita	89%	86%	3%	No
Mysidopsis bahia	93%	95%	0%[a]	No

(a) Survival in the test material was greater than in the Reference.

TABLE 2C. NEWARK BAY / STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
28-DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE (in wet weight concentration)

	Macoma nasuta				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
Constituents	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration
Metals	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
Arsenic		3.5		3.36		3.26		3.2
Cadmium		0.05		0.048		0.068		0.064
Chromium		0.948		0.768		0.338		0.328
Copper		8.84		10.18		2.32		2.14
Lead		0.536		0.47		0.704		0.558
Mercury		0.16		0.088		0.13		0.138
Nickel		1.18		1.176		0.648		0.666
Silver		0.08		0.072		0.036	0.04	ND
Zinc		23.68		22.52		24		14.56
Pesticides	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
Aldrin		1.793	0.164	ND		4.36		5
alpha-Chlordane		0.601		0.16		0.2		0.625
trans-Nonachlor		0.469		0.445	0.18	ND	0.182	ND
Dieldrin		1.234		1.314		1.814		1.278
4,4'-DDT		0.185		0.27		1.108		0.521
2,4'-DDT		1.224		0.634	0.532	ND		* 0.908
4,4'-DDD		2.82		2.52		3.88		5.92
2,4'-DDD		0.738		0.493		0.67		0.616
4,4'-DDE		3.98		4.66		1.505		0.589
2,4'-DDE	0.14	ND	0.138	ND		0.762		0.77
Total DDT		9.152		8.646		7.925		9.324
Endosulfan I		1.96		1.6		1.88		2.08
Endosulfan II		0.175		0.127	0.216	ND		0.196
Endosulfan sulfate		0.36	1.106	* ND	1.16	ND	1.16	* ND
Heptachlor	0.252	ND		0.157	0.258	ND		* 0.582
Heptachlor epoxide		1.62		1.92		1.128		1.04
Industrial Chemicals	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
PCB BZ-08		1.542		0.976		1.235		1.563
PCB BZ-18		1.404		0.902		0.62		0.798
PCB BZ-28	0.54	ND	0.508	* ND		0.22		* 0.738
PCB BZ-44		0.738		0.498		0.486		0.397
PCB BZ-49		0.959	0.36	ND		0.974	0.36	ND
PCB BZ-52		0.134	0.47	* ND	0.486	ND		* 0.628
PCB BZ-66		1.04	1.008	ND	1.06	ND	1.012	* ND
PCB BZ-101		1		0.798		0.906		0.614
PCB BZ-105	0.394	ND	0.37	ND		0.363		0.324
PCB BZ-118	0.578	ND	0.544	* ND		0.812		0.604
PCB BZ-87		0.138	0.46	* ND	0.476	ND	0.46	* ND
PCB BZ-128	0.658	ND	0.618	* ND	0.642	ND	0.616	* ND
PCB BZ-138	0.412	ND	0.386	* ND		1.144		0.848
PCB BZ-153	0.384	ND	0.36	ND		1.94		1.634
PCB BZ-170	0.354	ND	0.334	ND	0.346	ND	0.332	ND
PCB BZ-180	0.344	ND	0.324	ND		0.382		0.244
PCB BZ-183	0.422	ND	0.376	* ND	0.412	ND	0.396	ND
PCB BZ-184	0.568	ND	0.534	* ND		1.2		0.928
PCB BZ-187	0.304	ND	0.286	ND	0.296	ND		0.239
PCB BZ-195	0.254	ND	0.238	ND		0.306		0.298
PCB BZ-206	0.254	ND	0.238	ND	0.248	ND	0.238	ND
PCB BZ-209	0.206	ND	0.194	ND	0.2	ND	0.194	ND
Total PCB		16.562		20.536		22.424		25.58
1,4-Dichlorobenzene	0.2	ND	0.2	ND	0.2	ND	0.2	ND

Dioxins and Furans	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2378-TCDD	0.115	ND	0.105	ND		0.237		0.177
12378-PeCDD	0.172	ND	0.134	ND		0.431		0.252
123478-HxCDD		0.197	0.177	ND		0.296		0.172
123678-HxCDD		3.250		1.632		3.230		1.580
123789-HxCDD		1.410		0.665		1.423		0.661
1234678-HpCDD		16.250		7.424		10.308		5.255
OCDD		12.441		7.929		11.220		6.714
2378-TCDF	0.239	ND	0.145	ND		1.001		0.691
12378-PeCDF		0.650		0.317		1.130		0.442
23478-PeCDF	0.874	ND		0.336		0.713		0.259
123478-HxCDF		0.410		0.282		0.631	0.347	ND
123678-HxCDF		0.689		0.348		0.919		0.384
123789-HxCDF	0.668	ND	0.310	ND	0.155	ND	0.407	* ND
234678-HxCDF		0.900		0.476		1.145		0.279
1234678-HpCDF		4.140		2.194		2.473		1.515
1234789-HpCDF		0.276	0.273	ND	0.347	ND	0.446	ND
OCDF		2.022		2.355		0.809		0.731

PAHs	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
Acenaphthene		4.29		3.84	3.75	ND	3.78	ND
Acenaphthylene	56.4	ND	56.2	* ND	56.5	ND	56.4	* ND
Anthracene	1.98	ND	2.0	ND	2.0	ND	2.0	ND
Fluorene	3.56	ND	3.6	ND	3.55	ND	3.58	ND
Naphthalene	1.7	ND	1.7	ND	1.7	ND	1.7	ND
Phenanthrene		0.78	1.3	ND	1.3	ND	1.3	ND
Benzo[a]anthracene	1.6	ND	1.6	ND	1.6	ND	1.6	ND
Benzo[a]pyrene		0.8	1.3	ND	1.3	ND	1.3	ND
Benzo[g,h,i]perylene	1.4	ND	1.4	ND	1.4	ND	1.4	ND
Benzo[b]fluoranthene	1.4	ND	1.4	ND	1.4	ND	1.4	ND
Benzo[k]fluoranthene	1.2	ND	1.2	ND	1.2	ND	1.2	ND
Chrysene		2.44	2	ND	2	ND	2	ND
Dibenz[a,h]anthracene	1.6	ND	1.6	ND	1.6	ND	1.6	ND
Fluoranthene	3.16	ND	3.2	ND	3.15	ND	3.18	ND
Indeno[1,2,3-cd]pyrene	0.822	ND	0.822	ND	0.812	ND	0.822	ND
Pyrene		2.12		1.68		1.263		1.1

Total PAHs		19.64		* 73.281		11.72		* 70.931

Concentrations shown are the mean of 5 replicate analyses in wet weight with the following exceptions:
PAH concentrations for *Nereis virens* Reference tissue are the mean of 4 replicate analyses;
1,4 dichlorobenzene concentration for *Nereis virens* Test tissue is the mean of 4 replicate analyses due to limited tissue volume;
1,4 dichlorobenzene concentration for *Nereis virens* Reference tissue is the result of one set of analyses due to limited tissue volume.

*** Significantly higher than reference at 95% confidence.**

ND = Not Detected
Total PAHs = sum of all PAHs
Total PCB = sum of congeners reported * 2
Total DDT = sum of 2.4'- and 4,4'-DDD, DDE, and DDT
Means and statistical comparisons were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.