



PUBLIC NOTICE

REQUEST FOR INDIVIDUAL FIVE YEAR PERMIT

LOS ANGELES DISTRICT

Public Notice/Application No.: SPL-2013-000147-RRS

Project Name: San Diego Shipyard Sediment Remediation Project – (South Shipyard)

Comment Period: June 4, 2013 through July 5, 2013

Project Manager: Robert Smith; (760) 602-4831; Robert.R.Smith@usace.army.mil

Applicant

San Diego Bay Restoration Fund-South
C/O NASSCO
2798 East Harbor Drive
San Diego, CA 92113

Contact

National Steel and Shipbuilding Company
2798 East Harbor Drive
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619.544.7778

Location

The project location, which is along the eastern shore of central San Diego Bay, is between Schley Street on the north and Chollas Creek on the south, and from the shoreline to the San Diego Bay main shipping channel to the west (Figure 1).

Activity

The proposed San Diego Shipyard Sediment Site (Project) addresses the sediment cleanup and dredging of 5.0 acres (estimated total dredge volume of 71,700 cubic yards) within the San Diego Bay Restoration Fund-South (South Shipyard within the NASSCO shipyard) water area, as identified in Attachment 3 of the Cleanup and Abatement Order (CAO) No. R9-2012-0024, dated March 2012. The proposed project is part of the larger CAO project area which includes the North shipyard area within the BAE shipyard which shall also be processed as a separate Corps permit action and public notice. The South Shipyard Project includes dredging of contaminated sediments (in water depths ranging from 2 ft. to approximately 25 ft. MLLW); transport, dewatering, stockpiling, and testing of dredged materials and effluent (water) at a landside stockpiling/dewatering location; treatment (if needed) and discharge of the effluent; and truck transport of dredged materials to appropriate landfill disposal facilities. Please see the attached drawings and figures.

In addition, to facilitate dredging, an unnamed existing wooden pier within the northern portion of the South Shipyard will be removed. The existing pier covers approximately 2,100 ft² of water area (15 ft. wide and 140 ft. long); twenty-three pilings will be removed and disposed of at an appropriate onshore site. Following dredging in some areas, rock will be placed on slopes adjacent to existing bulkheads and piers to protect those structures. In addition, under pier areas and areas with limited dredging access, a clean sand cover will be placed at 6 tons/100 square feet (SF) within a 2.3 acre area (see Figure 2). Sand cover materials will be obtained from an off-site source and shall not be dredged material from the Bay or other waters of the United States. The San Diego Regional Water Quality Control Board approved this program in the final Remedial Action Plan (Cleanup and Abatement Order No. R9-2012-0024; CAO) amended in September 2012 and revised in October 2012. In May 2013, the Corps of Engineers (Corps) and the Environmental Protection Agency (EPA) completed the physical and chemical review of the discharge of fill associated with the sand cover under each pier in the CAO area and the sand cover currently as proposed does and shall meet all testing requirements of the Inland Testing Manual (ITM) as the offsite source of the sand cover is identified.

The proposed schedule accounts for the limited dredging window of September 15 through March 31 to protect the endangered California least tern (*Sterna antillarum browni*), although dredging may extend into the least tern season where necessary to take advantage of operational dredge windows. Because of the reduced dredging window, more than one dredging period may be required to complete the Project. Impacts to waters of the U.S. include 5.0 acres of dredging in NASSCO shipyard areas and 2.3 acres of sand cover under piers within the CAO South Shipyard area.

Interested parties are hereby notified that an application has been received for a Department of the Army permit for the activity described herein and shown on the attached figures. Interested parties are invited to provide their views on the proposed work, which will become a part of the record and will be considered in the decision.

Comments should be mailed to:

U.S. Army Corps of Engineers
Robert Smith (SPL-2013-000147-RRS)
Regulatory Division
5900 La Place Ct., Suite 100
Carlsbad, California 92008

Alternatively, comments can be sent electronically to:
robert.r.smith@usace.army.mil

Evaluation Factors

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 benefit 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. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR 230) as required by Section 404 (b) (1) of the Clean Water Act.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Native American 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 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 used in the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Preliminary Review of Selected Factors

EIR Determination – In June 2011, a Draft Environmental Impact Report (DEIR) was prepared on behalf of the Project (Draft Environmental Impact Report – Shipyard Remediation Project, San Diego Bay, CA - State Clearinghouse No. 2009111098). The final Environmental Impact Report (FEIR) was certified and the Project approved by the San Diego Regional Water Quality Control Board – San Diego Region in June 2012.

Water Quality - The applicant is required to obtain water quality certification (certification), under Section 401 of the Clean Water Act, from the California Regional Water Quality Control Board – San Diego Region (RWQCB). Section 401 requires that any applicant for an individual Section 404 permit provide proof of certification to the Corps prior to permit issuance. The applicant has submitted an application to the RWQCB for a certification for the proposed project.

Coastal Zone Management - For those projects in or affecting the coastal zone, the Federal Coastal Zone Management Act requires that prior to issuing the Corps authorization for the project, the applicant must obtain concurrence from the California Coastal Commission (CCC) that the project is consistent with the State's Coastal Zone Management Plan. The proposed action consists of components within the San Diego Port District's (Port) coastal jurisdiction. The applicant has submitted Coastal Development Permit (CDP) application to the Port as certain project areas may be covered under the Port's Master Plan that is covered by the Port's existing CDP.

Cultural Resources – The proposed project has been reviewed for compliance with the National Historic Preservation Act (NHPA). No properties listed, proposed for listing, or eligible for listing in the National Register were identified in the project area. Furthermore, our evaluation of potential impacts to historic properties indicates that the project would not impact any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. Pursuant to Section 106 of the NHPA, no Historic Properties would be affected by the proposed action. However, the Regional Water Quality Control Board, San Diego did agree to notify the California State Lands Commission of any previously unknown cultural resources in the unlikely event that they be found.

Endangered Species Act – The California least tern, federally listed as Endangered, may potentially occur in the vicinity of the Project site during its breeding season. Since the proposed action will occur within an active shipyard, noise and activity levels associated with the Project would be similar to those occurring with existing shipyard activities. In addition, the shipyard does not provide a high quality, suitable habitat for the tern and terns are not expected in the project area. Although dredging is proposed during the period when the California least tern is not nesting, if dredging continues into the least tern season, a qualified biologist familiar with the California least tern will be retained and will be on site to assess the roosting and foraging behavior of the California least tern at the Project site and at selected staging area(s) immediately prior to and during the initial start-up phase of dredging and clean sand cover placement activities, and during those periods that are within the California least tern nesting period.

Additionally, the green sea turtle (*Chelonia mydas*; GST), federally listed as Threatened, has the potential to occur in the vicinity of the project site, however, the potential is very low. Further, it is unlikely that, if present, GST would remain in the area during Project activities. A qualified marine biologist will be on site to ensure that no sea turtles are injured or harassed through excessive vessel speed or propeller damage if they are present within the project area. Historically the Corps has received scant data that GST have been found in the shipyard areas as they generally are found in south San Diego Bay.

Essential Fish Habitat – The proposed Project area was analyzed for managed species that could occur in southern California bays and/or are associated with sedimentary habitat in water depths of less than 60 ft. (Table 1). No mortality of managed pelagic or demersal taxa is expected, and

individuals would be expected to relocate away from the immediate work area during in-water activities. The placement of rock along the slopes of the dredge areas will provide new solid substrate that will support epibiota and provide suitable habitat for at least one managed species: (California Scorpionfish; *Scorpaena gutatta*). The removal of contaminants in the project area shall benefit EFH resources in the long term. The Corps has received EFH comments and conservation recommendations from the National Marine Fisheries Service (NMFS) per their letter dated April 15, 2013 that shall be reviewed and adopted in accordance with EFH regulations and current Corps guidance.

Table 1 List of Managed Taxa Potentially Occurring Within the Project Area

<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>
COASTAL PELAGICS			
Northern anchovy	<i>Engraulis mordax</i>	Pacific sardine	<i>Sardinops sagax</i>
Pacific mackerel	<i>Scomber japonicus</i>	Jack mackerel	<i>Trachurus symmetricus</i>
PACIFIC GROUND FISH			
Pacific sanddab	<i>Citharichthys sordidus</i>	Leopard shark	<i>Triakis semifasciata</i>
Spiny dogfish	<i>Squalus acanthias</i>	Big skate	<i>Raja bioculata</i>
California scorpionfish	<i>Scorpaena gutatta</i>		

The eelgrass (*Zostera marina*) habitat within the proposed action site has been identified as a Habitat of Particular Concern (HAPC) by federal and state resource agencies, and eelgrass serves as refuge habitat, foraging areas, and nursery habitats for various coastal and bay fishes and invertebrates. It has been estimated by the applicant’s consultant, Merkel & Associates, Inc., that 3.4 square meters (m²) (<0.01 acres) of eelgrass could be impacted. If post-construction eelgrass survey indicates that eelgrass has been affected, an Eelgrass Mitigation Plan will be prepared and will follow the criteria specified in the Southern California Eelgrass Mitigation Policy (SCEMP).

Public Hearing – Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

Proposed Activity for Which a Permit is Required – The proposed Project includes dredging of contaminated sediments; transport, dewatering, stockpiling, and testing of dredge materials and effluent (water) at a landside stockpiling/dewatering location; treatment (if needed) and discharge of the effluent; and truck transport of dredged materials to appropriate landfill disposal facilities. In addition, to facilitate dredging, an existing unnamed wooden pier will be removed. Following dredging in some areas, rock will be placed on slopes adjacent to existing bulkheads and piers to

protect those structures. In addition, in underpier areas and areas with limited dredging access, a clean sand cover will be applied (see Figure 2). Sand cover materials will be obtained from an off-site source such as an upland quarry that shall not be dredged material from any waters of the U.S.

The Project is located within the planning jurisdiction of the San Diego Unified Port District (Port District) and is identified as District 4 in the certified Port Master Plan (Figure 1). The project location, which is along the eastern shore of central San Diego Bay, is between Schley Street on the north and Chollas Creek on the south, and from the shoreline to the San Diego Bay main shipping channel to the west. Bathymetry (water depth) at the project site varies substantially due to the presence of shipways, dry docks, and berths, and ranges from 2 feet, mean lower low water (MLLW) along the bulkheads to 60 feet MLLW at the South Shipyard's dry dock sump area.

The specific project objectives are:

- Attain clean up levels identified in the CAO
- Reduce or minimize adverse effects to aquatic life beneficial uses, aquatic-dependent wildlife beneficial uses, and human health beneficial uses by the removal and/or covering of the contaminated sediments in the remedial footprint
- Implement a cleanup plan that would have long-term effectiveness and would realize long-term public benefits associated with the cleanup of the contaminated marine sediments. The site would no longer constitute a public nuisance
- Minimize long-term or short-term loss of use of shipyard and other San Diego Bay-dependent facilities

Post-remedial confirmatory sediment samples will be collected and analyzed to determine if cleanup objectives have been successfully achieved by the dredging. If confirmatory samples indicate that cleanup objectives have not been met by the initial dredging, additional measures may be used to achieve these objectives.

Dredging will be accomplished by a derrick barge equipped with a closed bucket to maintain water quality. A closed-bucket will be used unless digging conditions require use of a traditional clamshell bucket with digging teeth. As shown in Figure 3, dredging to an anticipated maximum depth of 15 feet (to Bay Point formation) was originally planned for approximately 5 acres of the Project site and would generate approximately 84,400 cubic yards (CY) of contaminated marine sediment. Based on the most recent design work and the analyses of sediment samples from the site, the current anticipated dredge volume is approximately 71,700 CY. An estimated 3,600 CY of debris is also anticipated to be removed during the dredging within this area. To protect water quality, a double silt curtain will be required during dredging activities. The silt curtain will be placed to enclose the active dredging area (Figure 4).

Dredging, disposal and post-dredge sampling and analysis processes will take place concurrently and in any areas which remain contaminated when compared to cleanup action goals that may require

further dredging or other clean-up actions. As such, exact volumetric and depth estimates are not available at this time and project success will be measured based on CAO objectives and the remediation goals set forth in the CAO.

The discharge of fill associated with the sand cover under the pier shall require the permittee to submit additional physical and chemical information per the ITM for Corps approval with EPA coordination which shall be enforced via the Corps' permit conditions.

During dredging, on-barge water removal will consist of a recovery system that will be implemented for the duration of the project to recover water deposited in the barge with each clamshell bucket load of dredged sediments. The water recovery system will consist of tanks, pumps, floating hoses, and valves aboard the dredge barges and at a shore station. A floating hose will connect the dredge barge tanks to the shore-side water recovery station. Shore-side personnel will operate the water handling station, including receiving water from the dredge barge storage tanks, storing the water in the onshore station tanks, testing the water, and disposing of the water to the on-site sanitary sewer system or removed by a licensed waste hauler. Prior to offloading sediment, pozzolanics (cement or similar) will likely be used to accelerate the drying process. The semi-dried dredged material will be removed from the barges by an onshore bucket crane or excavator for onshore management and for loading into trucks for disposal.

Collected liquids will be pumped into the onshore tanks for treatment, as necessary, and disposal to on-site sewer or removed by a licensed waste hauler. Once dredged sediment within the barge is sufficiently dewatered and offloaded to the SMA, sediment will be spread out and rotated as necessary to further accelerate the drying process, if required. All effluent that drains from the sediment will be contained, sampled, and tested to identify appropriate disposal options. Disposal of the effluent could include through the City of San Diego's (City's) water treatment system, or at an off-site disposal facility. All collected water will be tested and disposed of in accordance with local, state, and federal requirements.

Following sediment removal, the stability of existing marine structures, seawalls, and side slopes may be maintained by placing a ridge or blanket of protective rock material adjacent to the structure, where needed. If this contingency is used, an estimated 8,000 tons of quarry rock will be needed to protect shoreline and sloped areas. Rock will be obtained from a local supplier and transported to the onshore loading site via truck, and then loaded onto barges for transport to the project site.

In addition to the 5 acres targeted for dredging, approximately 2.3 acres of the project site that are inaccessible or are under-structure areas will be remedied through subaqueous, or in situ, clean sand cover. In situ clean sand cover is the placement of clean material on top of the contaminated sediments. An estimated 2,000 CY of sand/gravel will be needed for under-structure covering of existing sediments. Additionally, an estimated 6,000 CY of sand/gravel may be placed in open water

areas following dredging operations to address residual sediments. The material is typically clean sand, silty to gravelly sand, and/or armoring material, which will be obtained from a local supplier and transported to the loading site via truck. The sand/gravel will be loaded onto barges or transported to the project site by truck for placement.

The area currently proposed for the off-site handling facility is an approximately 2.5 acre area located in the southeast corner of the South Shipyard's facilities (Figure 5). The south staging area is identified as the S-Lane Parcel, and is located on the north side of the mouth of Chollas Creek. The sediment offloading and stockpiling area will be outfitted to contain the sediment and generated wastewater.

Once sediments have been sufficiently dewatered, they will be loaded onto trucks for transport to the appropriate landfill for disposal. Based on existing data, the majority of the material (estimated to be 85%) is expected to be non-hazardous and will be taken to the Otay Landfill (or similarly permitted disposal site), which is approximately 15 miles southeast of the project site. The remaining 15% is expected to be taken to a hazardous waste (Class I) facility.

Basic Project Purpose – According to the EPA guidelines, the "Basic Purpose" of a proposed project is a general statement of purpose that can be used by the Corps as a test to determine if a project is water dependent. Given that the intent of the proposed project is Bottom Sediment Remediation including dredging and under pier cover, the Basic Purpose is marine contaminant environmental remediation and is water dependent due to the onsite need to remediate the contaminants in the marine waters within the South Shipyard areas..

Overall Project Purpose – The overall project purpose serves as the basis for the Corps' 404(b) (1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall purpose of the proposed San Diego Shipyard Sediment Remediation Project is to remediate contaminated sediments by covering or removing contaminated material within the CAO area in San Diego Bay, CA.

Alternatives Analysis

The following alternatives analysis has been modified to include only on-site alternatives to the proposed project because the project is water-dependent to the CAO areas. Offsite alternatives were not strenuously reviewed per the Section 404(b)(1) guidelines and other Corps guidance as offsite alternatives would not allow for remediation of the onsite contaminants within the project area. Relocation of the South Shipyard and adjoining infrastructure was clearly not an available alternative within San Diego Bay due to lack of other available sites as most of the bay is built out as marinas, boatyards, military installations, wharves and docks, commercial piers, or set aside as salt ponds or refuges.

Also a “water-dependent” project is a project that requires access or proximity to or siting within the Special Aquatic Site in question (e.g., eelgrass beds) to fulfill its basic purpose (40 CFR §230.10(a)(3)). The site does have to be sited within the CAO areas per the litigation settlement but most eelgrass areas in the South Shipyard area are avoided and minimized. Because sediment remediation requires access to San Diego Bay and cannot be conducted at an alternative location, the following alternatives analysis is limited to on-site alternatives to the proposed project.

No Federal Action (Alternative 1): The No Federal Action/ No Project Alternative is to allow the existing contaminated condition of the project site to remain in-place , and what would be reasonably expected to occur in the foreseeable future if the project were not approved and implemented. Adoption of the No Federal Action Alternative would not implement the CAO, and no cleanup of the contaminated marine sediments in San Diego Bay would occur, and the presence of the contaminated sediments would continue to adversely affect aquatic life, aquatic-dependent wildlife, human health, and San Diego Bay beneficial uses. This alternative would not implement any of the San Diego Water Board’s basic objectives or overall goal to remediate the contaminated marine sediments. Further, the No Federal Action Alternative is not consistent with the Draft Technical Report (DTR) for the CAO. The No Federal Action/No Project Alternative would not result in any new physical environmental effects and would avoid adverse construction-related impacts to air and short term water quality. The two shipyards would continue to submit piecemeal permit requests to cover smaller areas than the CAO areas which would delay or even not achieve the overall project purpose.

Onsite Alternatives

Confined Aquatic Disposal (Alternative 2): This alternative consists of dredging and constructing a Confined Aquatic Disposal (CAD) facility at a yet to be determined location. A CAD facility is a submerged containment area where dredged material is placed.

The CAD facility would be constructed by mechanically dredging a large disposal area. A disposal location for the dredged materials would need to be determined. However, for purposes of this alternatives analysis, it is assumed that a majority of the sediments removed for construction of the CAD facility could be barged to an ocean disposal location.

Alternative 2 involves the mechanical dredging of debris and sediments from the South Shipyard site. Contaminated marine sediments would be transported by barge to the CAD facility and deposited. The excess non-contaminated sediments from the CAD facility can be beneficially used as cover next to structures and under piers where dredging is infeasible. Debris removed from the project site would be taken to a landside staging area and sampled. The debris would be trucked to the appropriate landfill facilities after sampling was completed.

Alternative 2 would obtain the project objectives, would implement the San Diego Water Board’s overall goal to improve water quality in San Diego Bay, and would remove the contaminated

sediments within the remedial footprint. Alternative 2 is consistent with the DTR for CAO. In comparison against the proposed project, Alternative 2 was rejected as infeasible by the San Diego Water Board (2012) due to greater water quality, air, biological and direct fill impacts to waters of the U.S.

Convair Lagoon CDF (Alternative 3): Alternative 3 consists of the creation of a nearshore confined disposal facility (CDF) at Convair Lagoon. A CDF is an engineered structure consisting of dikes or other retaining structures that extend above any adjacent water surface and enclose a disposal area for containment of dredged material, thereby isolating the dredged material from adjacent waters or land. A nearshore CDF typically creates new shoreline. The proposed Alternative 3 Convair Lagoon CDF would be constructed by removing abandoned ramps and sub-marine structures and excavating marine soils from the Convair Lagoon site. The excavated materials would most likely be trucked to an upland landfill. Rock revetment would then be utilized to create an in-water area to contain the sediments.

Similar to Alternative 2, Alternative 3 involves the mechanical dredging of debris and sediments from the shipyard site. Contaminated marine sediments would be transported by barge to the CDF and deposited. Debris removed from the sediment remediation site would be taken to a landside staging area and sampled. The debris would be trucked to the appropriate landfill facilities after sampling was completed.

Alternative 3 would meet the project objectives and would implement the San Diego Water Board's overall goal to improve water quality in San Diego Bay. Alternative 3 would remove the contaminated sediments within the remedial footprint and would attain the cleanup levels as identified in the CAO. In comparison against the proposed project, Alternative 3 was rejected as infeasible by the San Diego Water Board (2012) due to air and water quality, traffic, marine biological, and direct fill impacts to waters of the U.S.

Nearshore CDF with Beneficial Use of Sediments (Alternative 4): The Alternative 4 CDF is similar to Alternative 3 in that it would create a nearshore CDF; however, Alternative 4 includes the beneficial use of placing the contaminated sediments as cover for areas under existing piers that cannot be dredged. The placed sediment would be contained by sheet pile walls on both sides. The contaminated sediments would be dredged from the project site, mixed with water to create a heavy slurry, and then mixed with pozzolanics and pumped in-place under the structures. Existing water would be pumped out and any decanted or infiltrated water would be treated prior to release. The area under the piers that cannot be dredged is not large enough to contain all of the contaminated sediments; consequently, landfill disposal will be necessary for the excess. The excess would be transported by barge to a landside staging area, treated, and then trucked to an upland facility. Similarly, debris removed from the project site would be taken to the landside staging area and sampled. The debris would be trucked to the appropriate landfill facilities after sampling was completed. Alternative 4 is consistent with the DTR for the CAO No. R9-2012-0024.

Alternative 4 would meet the project objectives and would implement the San Diego Water Board's overall goal to improve water quality in San Diego Bay. Alternative 4 would remove the contaminated sediments within the remedial footprint and would attain the cleanup levels identified in the CAO. In comparison against the proposed project, Alternative 4 was rejected as infeasible by the San Diego Water Board (2012) due to air and water quality, biological, and direct fill impacts to waters of the U.S. Also the CDF may not effectively control the contaminants.

Mitigation

The Applicant has incorporated mitigation measures such as onsite monitoring for turbidity, listed species, traffic, eelgrass protection and mitigation, Caulerpa surveys, and onsite reporting as required for EFH, ESA, 401, and CZMA compliance.

Proposed Special Conditions

The Corps shall also be requiring conditions for turbidity monitoring, use of an environmental clamshell bucket or closed bucket as necessary, use of silt curtains, watertight barge containments, return water controls from water reentering the bay, barge debris grates, and biological and disposal site monitoring.

For additional information please call Robert Smith of my staff at 760 602-4831 or via e-mail at Robert.R.Smith@usace.army.mil . This public notice is issued by the Chief, Regulatory Division.

FIGURES

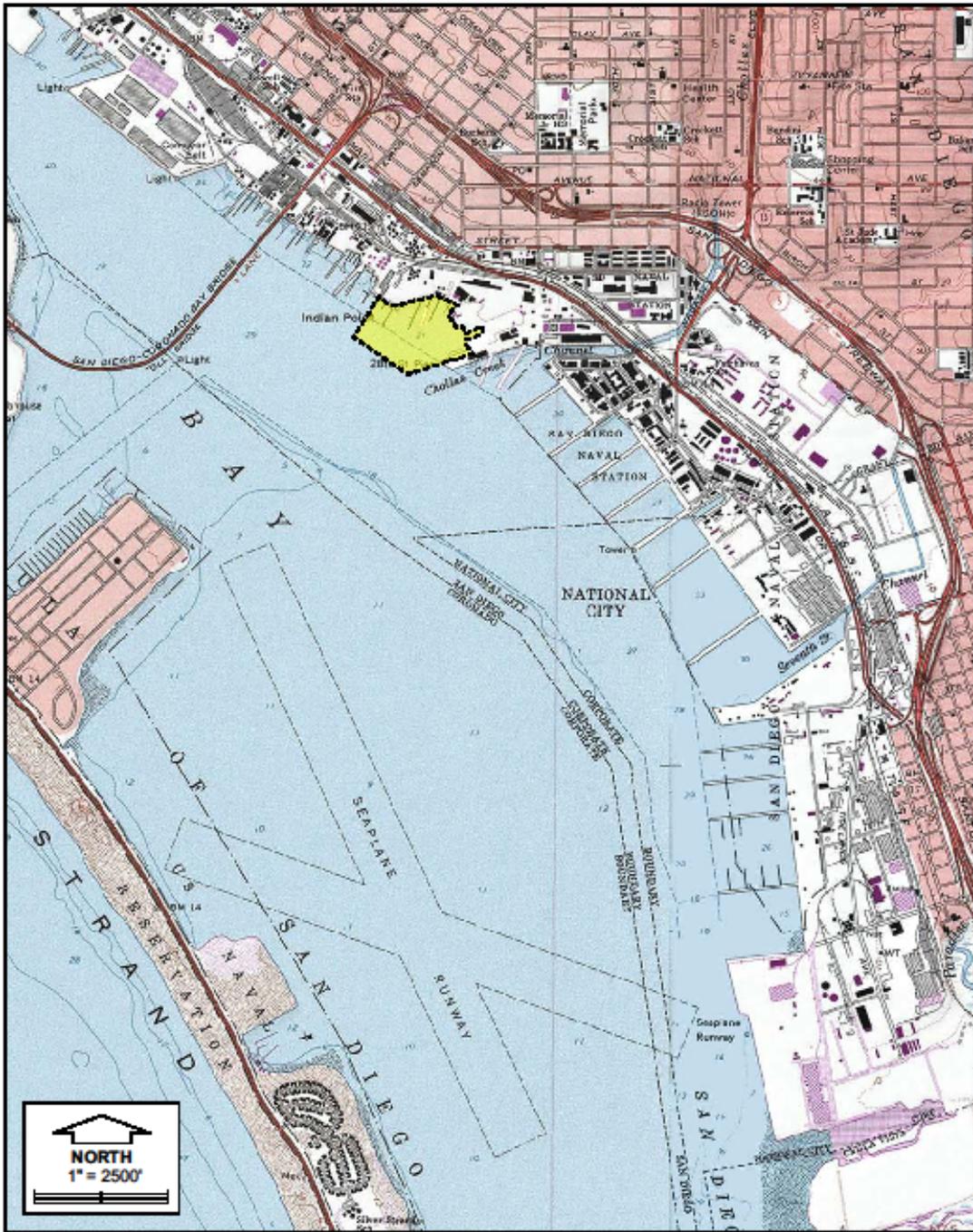


Figure 1 Project Region and Site

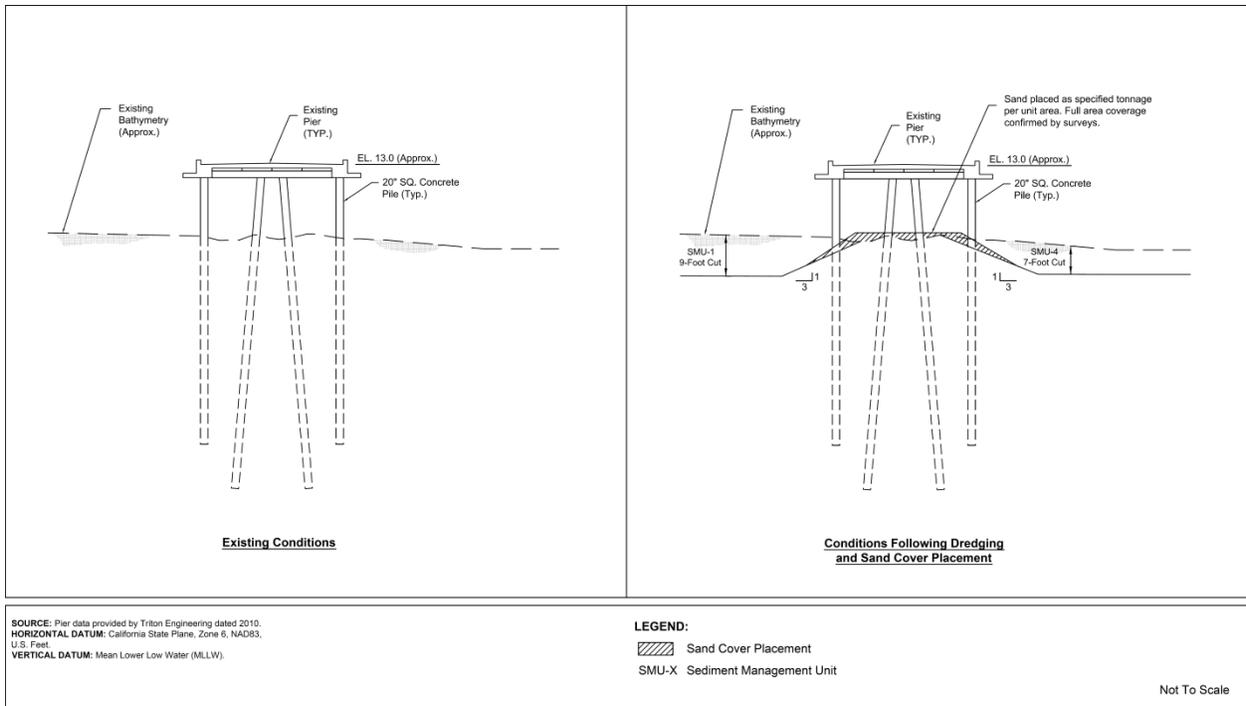


Figure 2 Typical Underpier Sand Cover Placement Cross-Section

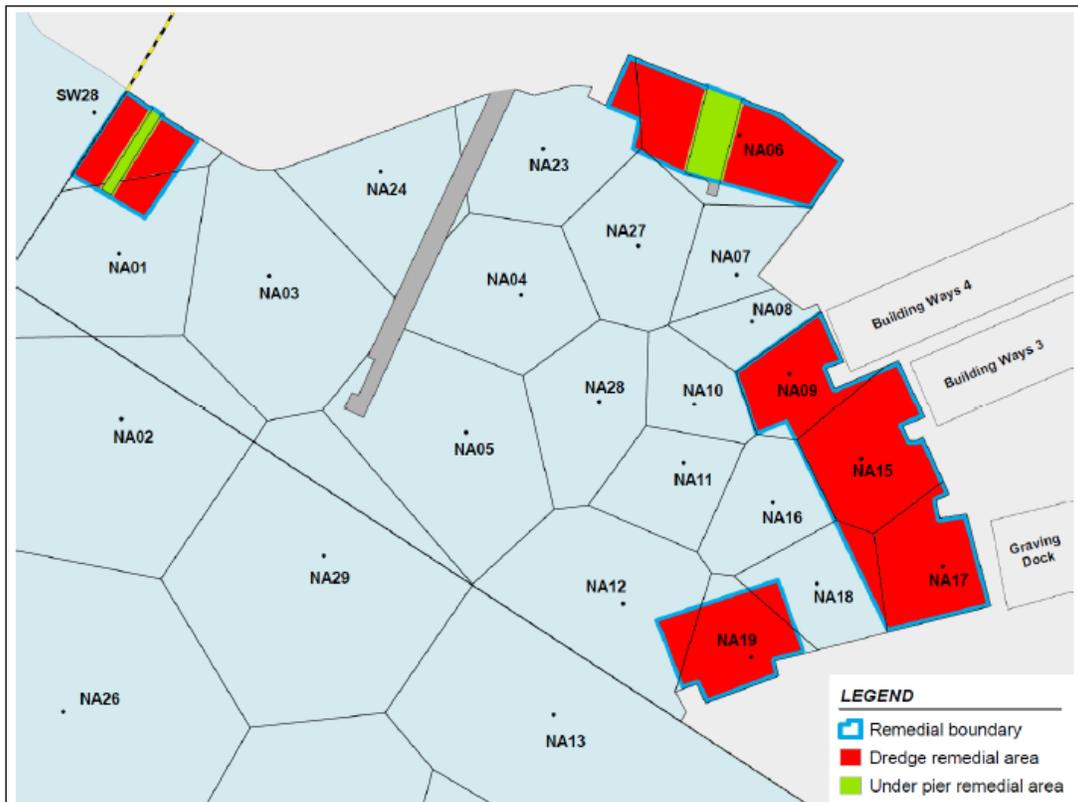


Figure 3 South Shipyard Proposed Dredging and Under Pier Remediation Areas

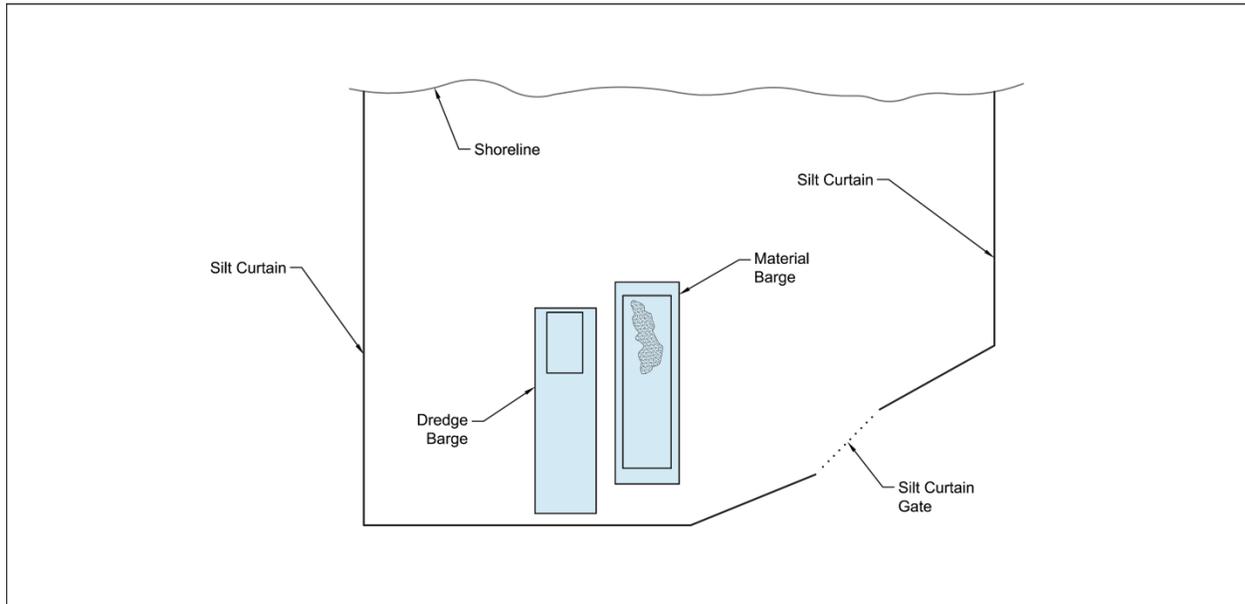
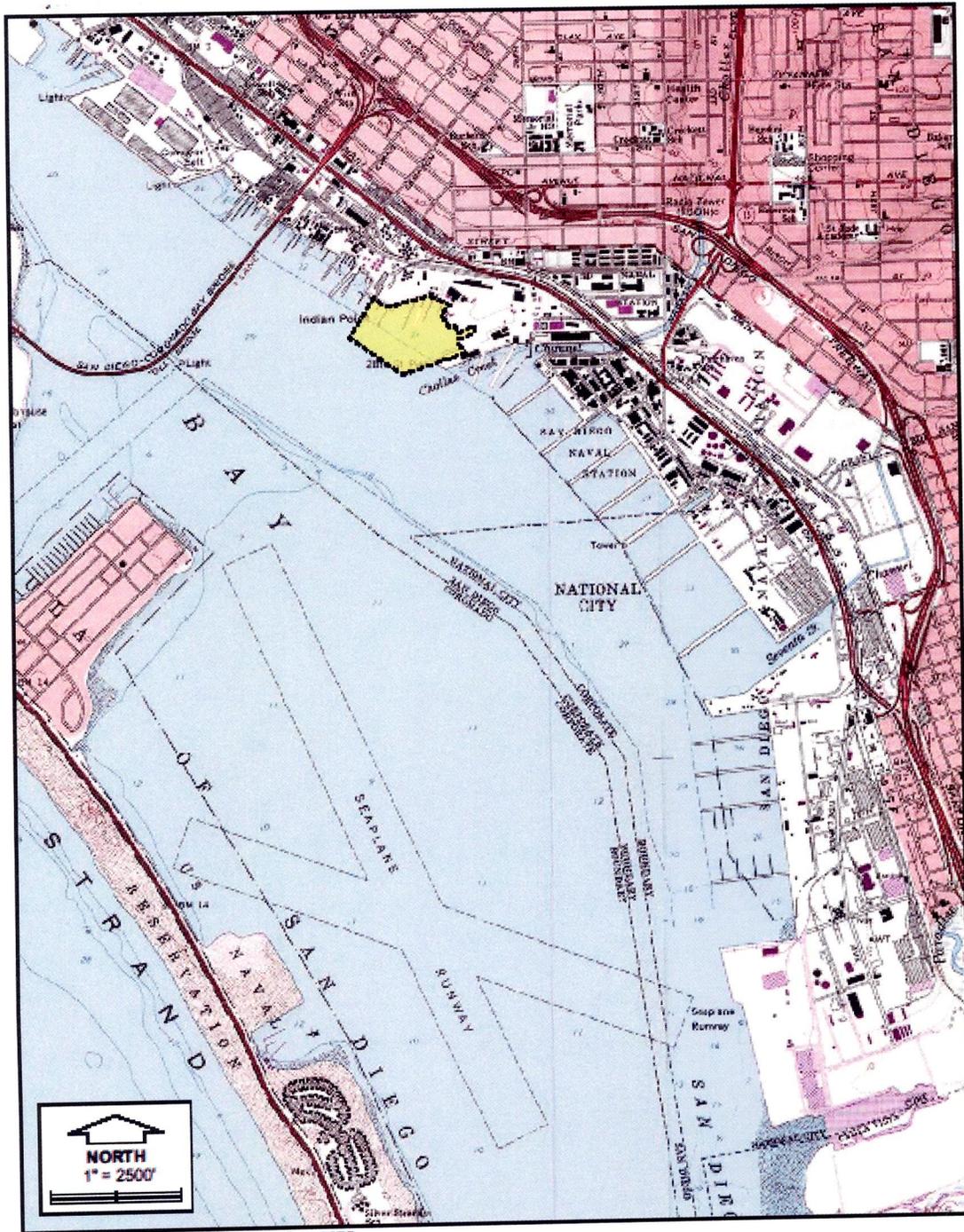


Figure 4 Schematic of Proposed Silt Curtain Configuration



Figure 5 South Sediment Management Area

FIGURES



SOURCE: USGS 7.5 Quad - National City 1975

Figure 1 Project Region and Site

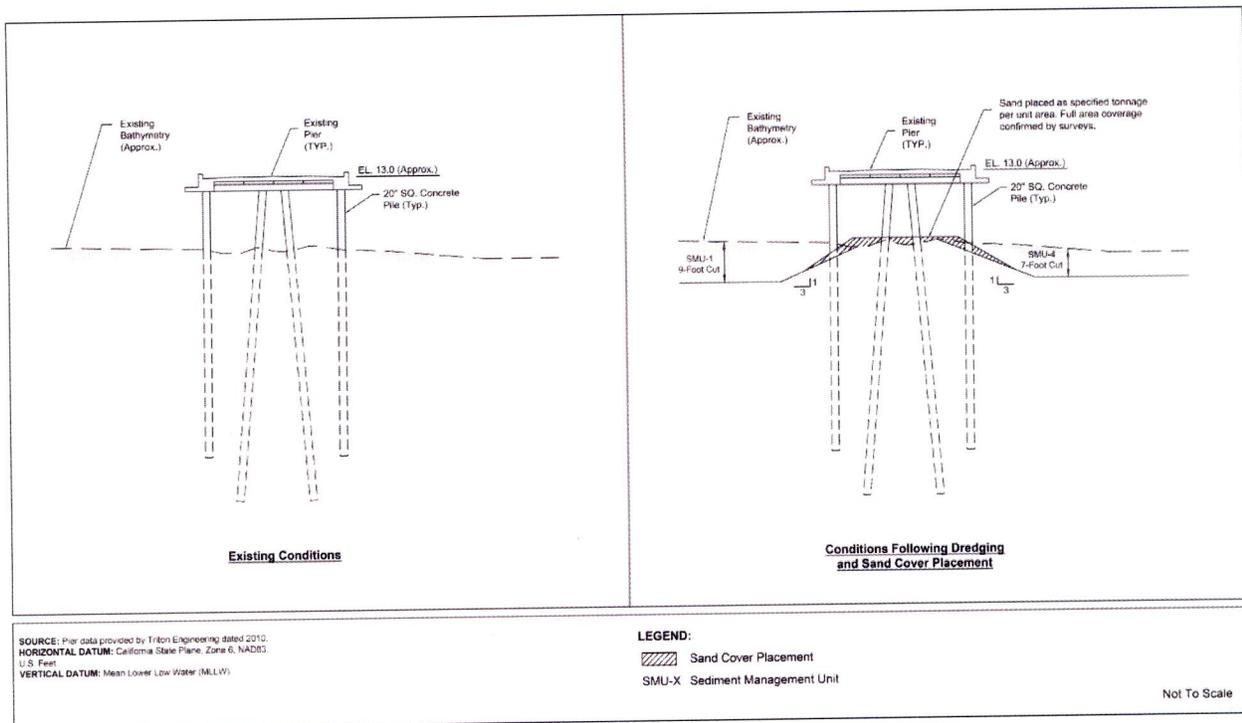


Figure 2 Typical Underpier Sand Cover Placement Cross-Section

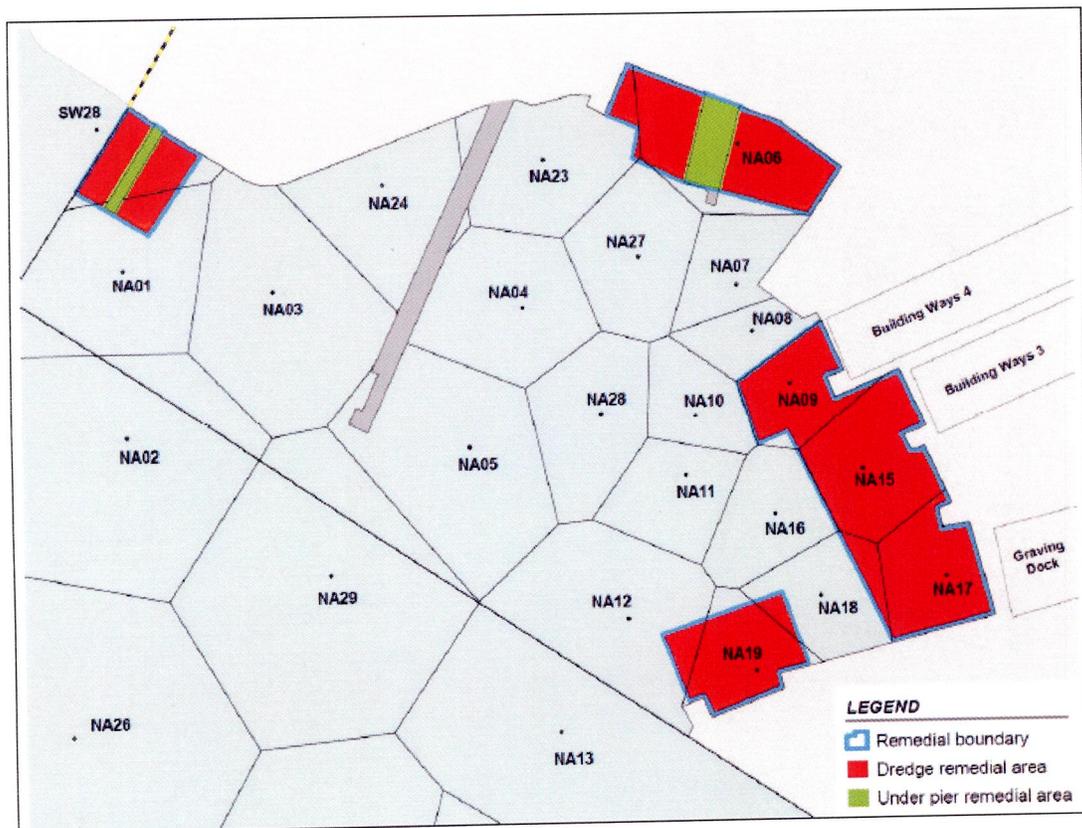


Figure 3 South Shipyard Proposed Dredging and Under Pier Remediation Areas

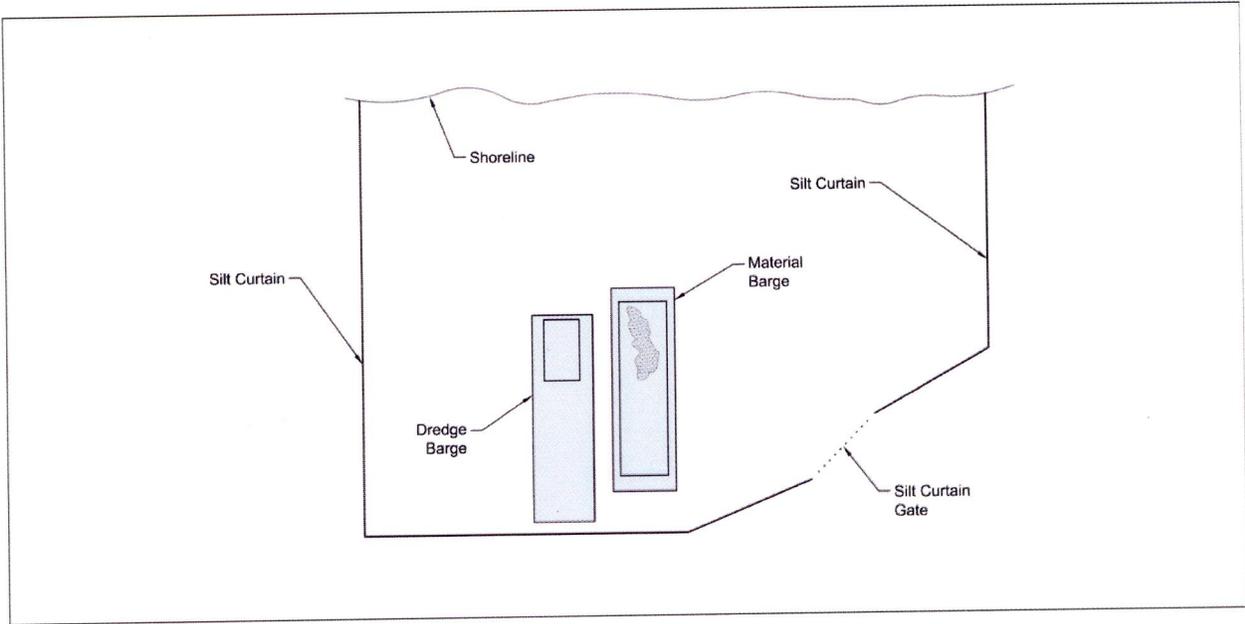


Figure 4 Schematic of Proposed Silt Curtain Configuration



Figure 5 South Sediment Management Area