UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

APR 1 2014

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: NOAA Woods Hole Jetty Repair Project, Northeast Fisheries Science Center, Woods Hole, Massachusetts

LOCATION: Northeast Fisheries Science Center (NEFSC), Woods Hole, Massachusetts

SUMMARY: An Environmental Assessment (EA) has been prepared for the *Woods Hole Jetty Repair Project* analyzing the environmental effects for repairing a stone jetty located adjacent the NEFSC, and realigning two seawater intake lines that supply the NEFSC aquarium. The jetty has was built in the 1880's to protect vessels berthed at the present NEFSC property and due to this protection, an eelgrass bed has thrived on the leeward site of the jetty. Degradation of the jetty over the last hundred years, including recent damage from Hurricane Sandy, has exposed the NEFSC berthing area and endangered the eelgrass bed. Relocating the seawater intake lines and structures, from their present alignment through the eel grass bed, to the shore and seaward side of the repaired jetty will prevent future disturbances to the eel grass bed during maintenance/repair activities. The environmental impacts of the proposed action will not be significant, and most impacts will be short-term and localized to the project footprint.

RESPONSIBLE OFFICIAL:
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The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the finding of no significant impact (FONSI) including the supporting environmental assessment (EA) is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/FONSI, we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,

for Patricia A. Montanio
NOAA NEPA Coordinator

Enclosure

FINAL
ENVIRONMENTAL ASSESSMENT

NOAA Woods Hole Jetty Repair Project

Northeast Fisheries Science Center

Woods Hole, Massachusetts

February 2014

US Army Corps
of Engineers
New England District

Northeast Fisheries
Science Center

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TABLE OF CONTENTS

1.0 INTRODUCTION

This Environmental Assessment (EA) assesses potential environmental effects for the repair of a stone jetty and realignment of two seawater intake lines at the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC). The NEFSC is located on a 3.4 acre land parcel along the shoreline of Great Harbor in Woods Hole, Falmouth, Massachusetts (Figure 1).

1.1 PURPOSE AND NEED

The purpose of the project is to repair the stone jetty located adjacent to the NEFSC and to relocate two seawater intake lines that supply the NEFSC aquarium (Figure 2). The jetty was built in the 1880's to protect vessels berthed along the current NEFSC property. Because of its protection, an eelgrass bed has thrived on the leeward side of the jetty. The degradation of the jetty over the last hundred years and recent damage from Hurricane Sandy has exposed the NEFSC berthing area and has endangered the eelgrass bed.

In order to maintain protection of the Woods Hole NEFSC berthing area and protection of the eelgrass bed, NOAA proposes to rebuild the jetty and relocate the seawater intake lines. Currently the seawater intake lines and structures are located within the eelgrass area. Relocating them onto the shore and then around to the seaward side of the rebuilt jetty structure will prevent future disturbances to the eelgrass bed during maintenance/repair activities of the seawater intake lines and structures. Once the jetty is repaired, the eelgrass bed will be allowed to begin its natural restoration processes. As requested by the Commonwealth of Massachusetts, the abandoned seawater intake lines in the eelgrass area not impacted by the Woods Hole Berthing Project will be left in place to avoid potential negative environmental effects resulting from their removal.

In 2008, NOAA completed an EA for its Woods Hole Berthing Project which assessed the potential environmental effects of improvement dredging in Great Harbor and in the proposed berthing areas of the NEFSC, as well as the impacts of constructing a new pier structure for its Bigelow class Fisheries Survey Vessels (FSVs). Since the proposed project to repair the jetty and realign the seawater intake lines is located adjacent to the Woods Hole Berthing Project area, the affected environment described in the 2008 EA is referenced throughout the affected environment section of this EA. New information and information relevant to the proposed project is also incorporated.

1.2 PREFERRED ALTERNATIVE

The preferred alternative includes the reconstruction and demolition of the stone jetty, and the relocation of the seawater intake lines and structures at the NEFSC. Details of the locations of the existing structures are shown on plan sheet C-101 (Appendix A). No time-of-year restrictions are applicable for the preferred alternative. The following paragraphs provide a summary for the components of the preferred alternative.

The stone jetty reconstruction effort will repair the landward 126 feet of the existing stone jetty and the demolition effort will remove 130 feet of the outer end of the damaged jetty. Stones salvaged from the demolished section will be used to reinforce the repaired section of the jetty and any

excess stone will be placed on the south side of the reconstructed jetty. The removed jetty stones would be placed within 50 feet of the south side of the remaining jetty and along about 30 feet of the south side of the existing granite block bulkhead. This plan widens the historic footprint of the jetty approximately 25 feet to the south along half of the structure's historical length. Plan sheet C-103 of the attached plans (Appendix A) shows plan and section views of the proposed demolition/repair.

The removal of the seaward 130 feet of stone jetty will return about 3,500 square feet of subtidal sandy bottom to the Great Harbor ecosystem. The widening of the landward 126 feet of stone jetty an additional 25 feet beyond its footprint to the south will result in the conversion of about 3,150 square feet of subtidal sandy bottom to stone jetty.

The seawater intake line relocation involves: 1) the abandonment/removal of two existing 8-inch diameter HDPE water lines and two 4-foot by 4-foot by 3-foot reinforced concrete seawater intake structures; and 2) placement of two new HDPE 8-inch diameter seawater intake lines and two new reinforced concrete seawater intake structures. The removal effort includes demolishing and removing the two existing seawater intake structures and removing the majority of the seawater intake water lines. Abandoned water lines within the eelgrass areas that are planned to remain following the construction of the Woods Hole Berthing Project will be left in place. The new 8-inch diameter HDPE intake lines will be installed under existing upland areas and will daylight through a seawall on the eastern side of the stone jetty. From the seawall, the lines will be placed on the sandy bottom and will extend out about 100 feet. The lines will run parallel for most of their length and will diverge near the end before entering the new intake structures (5-foot by 5-foot by 8-foot intake boxes) which will be placed to the south of the stone jetty. Plan sheet C-501 of the attached plans (Appendix A) shows plan and section views of the proposed seawater intake structures. The intake lines will then be buried with 1½" crushed stone.

The footprint from the placement of the new seawater intake lines on the subtidal bottom is estimated to cover approximately 600 square feet. The lines will be placed upon areas that have sandy sediments and subsequently buried by 1½ inch crushed stone. The relocation of the seawater intake structures will displace about 50 square feet of sandy subtidal bottom with concrete. The total footprint of the intake line relocation is approximately 650 square feet.

Other than the no-action alternative, the preferred alternative is the only alternative considered for the project to repair the jetty and realign the seawater intake lines. For the preferred alternative, the jetty repair aligns with the existing stone jetty, incorporates a significant portion of the existing stone jetty, is not located within the eelgrass bed, and does not fall within the footprint of the present design for the pier construction, and realignment of the seawater intake lines can be incorporated with the jetty repair and does not impact the eelgrass bed.

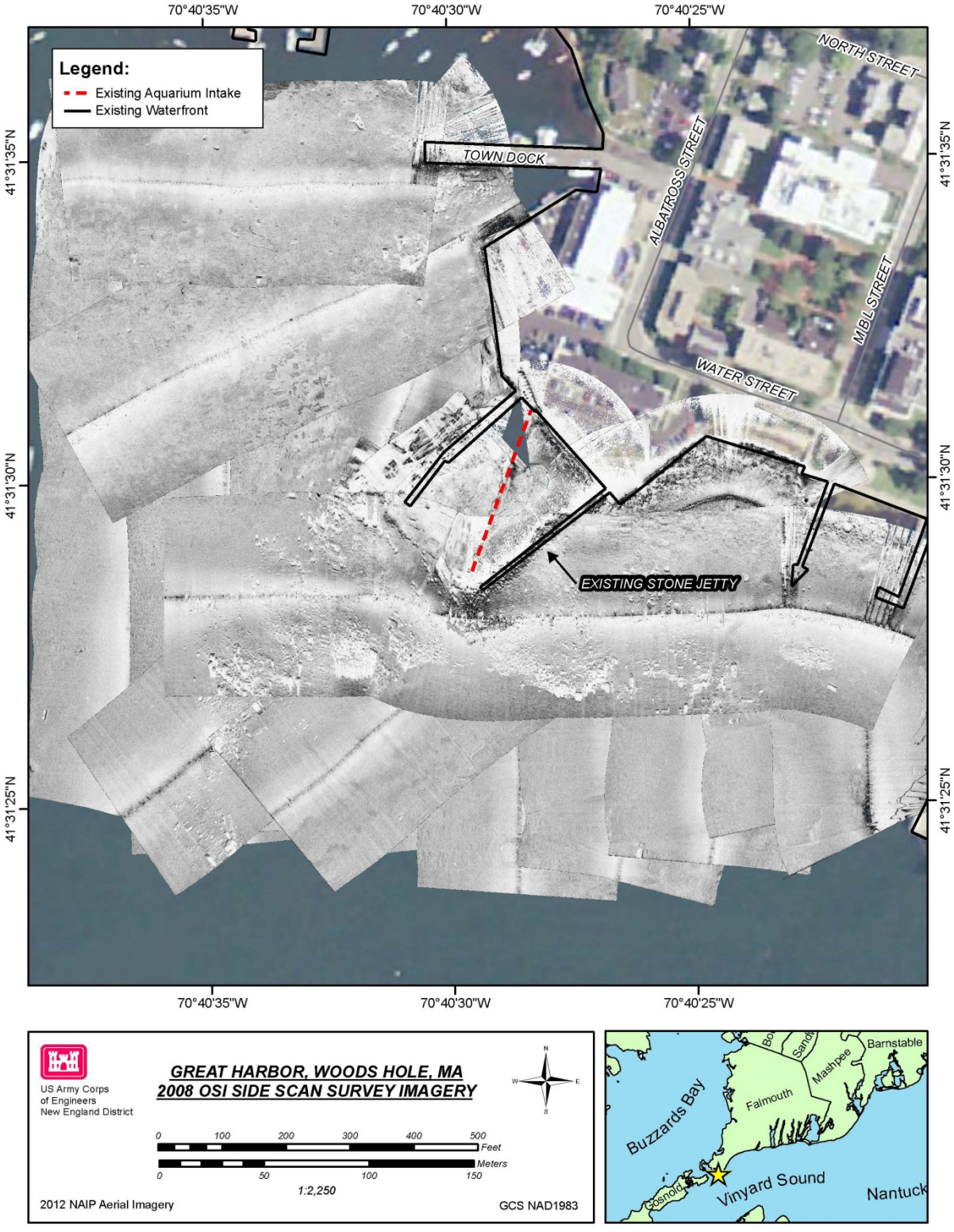
1.3 NO-ACTION ALTERNATIVE

The no-action alternative provides the basis for a comparative analysis of the action alternatives. The no-action alternative was considered, but would not fulfill the current needs of the project. The existing and continuing degradation of the jetty would further expose the NEFSC berthing area and endanger the protected eelgrass bed. In addition, the eelgrass bed would continue to be impacted

from maintenance/repair activities of the seawater intake lines. As a result, the no-action alternative was not selected and eliminated from consideration.

Figure 1. Location of the NOAA Northeast Fisheries Science Center.

Figure 2 . Location of the NEFSC stone jetty overlain on side scan imagery.



2.0 AFFECTED ENVIRONMENT

The affected environment of the proposed project area was described in detail in NOAA's 2008 Woods Hole Berthing Project EA (NOAA, 2008) and is incorporated by reference throughout this section. New information relative to the jetty repair and intake line realignment is also included.

2.1 GENERAL SETTING

Great Harbor is located in the Town of Falmouth in the Village of Woods Hole approximately 75 miles southeast of Boston, Massachusetts (Figure 1). Great Harbor and Little Harbor are two small harbors that are located along the Cape Cod shore east of Woods Hole (a narrow passage from Buzzards Bay to Vineyard Sound between the southwestern tip of Cape Cod and the Elizabeth Island chain). The channel through Woods Hole and the channel and basin at Little Harbor have both been subject to navigation improvement projects by the Federal government. No improvements have been made to Great Harbor, except for some works of preservation constructed in the mid-1800s on the spit bordering the harbor to the north. The Corps also constructed the wharf and basin for the US Fisheries Commission (now NOAA-National Marine Fisheries Service (NMFS)) in the 1880s.

Since the issuance of the 2008 EA, several winter storms and 2 significant hurricanes (Irene in 2011 and Sandy in 2012) have affected the NEFSC project area. While the NEFSC's existing bulkhead and wooden pier remain intact, the stone jetty in the project area (Figure 2) has fallen into disrepair.

2.2 SEDIMENT QUALITY

Physical and chemical properties of the sediments in the project area are described in NOAA (2008). No dredging has occurred in the inner harbor since the 2008 EA was prepared, therefore no significant changes to the sediments in the inner harbor have occurred.

A video survey of the stone jetty and its surrounding sediments was performed on May 13, 2013 (Appendix B). The sediments near the stone jetty were characterized visually as medium to coarse grained sands with fractions of silt and cobble.

2.3 WATER QUALITY

Water quality in the project area is described in NOAA (2008). No changes have occurred since that document was prepared. Water quality in the project area is still considered excellent.

2.4 AQUATIC RESOURCES

2.4.1 Benthos

Benthic communities in and around the project area are described in NOAA (2008). No significant changes to the majority of the benthic environment has occurred since the 2008 EA with the exception of small portions of the bottom being covered by stones displaced from the jetty due to recent storm events. The 2008 descriptions of the benthic communities are relevant to the areas

affected by the proposed action.

2.4.2 Fish

Fish communities in and around the project area are described in NOAA (2008). These descriptions are unchanged and considered relevant to the areas affected by the proposed action.

2.4.3 Shellfish and Lobster

Shellfish and lobster resources in and around the project area are described in NOAA (2008). These descriptions are unchanged and relevant to the areas affected by the proposed action.

2.4.4 Vegetation

Vegetation resources in and around the project area are described in NOAA (2008). To confirm that these descriptions were relevant to the jetty repair and new intake line areas, a video survey of the eelgrass in the project area was performed on May 13, 2013. Based on the video survey, it was concluded that the information presented in the 2008 EA is still accurate. In addition, areas that will be affected by the proposed action (i.e., the areas proposed for jetty reconstruction and reinforcement as well as the areas proposed to place the seawater intake lines and intake structures) do not contain eelgrass habitat. Appendix B contains the results of the 2013 survey.

2.5 WILDLIFE RESOURCES

Wildlife in and around the project area are described in NOAA (2008). No changes in wildlife communities have occurred since that document was prepared.

2.6 ESSENTIAL FISH HABITAT

An assessment of essential fish habitat (EFH) for managed fisheries species in and around the project area was included in NOAA (2008). No changes in EFH in the project area have occurred since the document was prepared.

2.7 THREATENED AND ENDANGERED SPECIES

The threatened and endangered species noted in NOAA (2008) are still applicable to the project area. Since 2008, Atlantic sturgeon (*Acipenser oxyrhynchus oxyrinchus*) populations in the North Atlantic region have been designated as either threatened or endangered. The population of Atlantic sturgeon in the project area is most likely a portion of the New York Bight distinct population segment and is listed as endangered.

Numbers of Atlantic sturgeon in the New York Bight distinct population segment are

extremely low compared to historical levels and have remained so for the past 100 years. For example, prior to 1890, there were an estimated 180,000 adult female Atlantic sturgeon spawning in the Delaware River, and 6,000-6,800 females contributed to the Hudson River spawning stock each year during the late 1800s. Currently, the existing spawning population in the Hudson River is estimated to have 870 adults spawning each year (600 males and 270 females). Currently, there is no population estimate for the Delaware River, but it is believed to have less than 300 spawning adults per year. The spawning population of this distinct population segment is thought to be one to two orders of magnitude below historical levels.

2.8 HISTORIC AND ARCHAEOLOGICAL RESOURCES

Cultural resources in the project area are described in NOAA (2008). No changes in cultural resources have occurred since that document was prepared.

2.9 RECREATION AND AESTHETICS

Recreation and aesthetics in the project area are described in NOAA (2008). No changes to recreational or aesthetic resources have occurred since the 2008 EA was prepared.

2.10 HYDROLOGY

The hydrology of the project area is described in NOAA (2008). No changes to the hydrology of the area have occurred since the EA was prepared.

2.11 GEOLOGY

The geology of the project area is described in NOAA (2008). No changes to the geology of the area have occurred since the EA was prepared.

2.12 AIR QUALITY

Air quality in the project area is described in NOAA (2008). No changes have occurred since that document was prepared and air quality it is still considered excellent.

2.13 NOISE

Noise in the project area was described in NOAA (2008). No changes to the noise environment have occurred since the EA was prepared.

2.14 SOCIOECONOMICS

The socioeconomics of the project area are described in NOAA (2008). Current socioeconomic conditions in the project area were reviewed for this EA and found to be similar to those described previously. Therefore, no significant changes have occurred since the 2008 document was prepared.

3.0 ENVIRONMENTAL CONSEQUENCES

3.1 GENERAL SETTING

In recent years, a stone jetty that extends seaward perpendicular to the NEFSC facility (Figure 2) has become severely damaged by coastal storms, including Hurricane Sandy in 2012. The landward portion of the jetty is in need of repair and the seaward portion of the jetty has been damaged beyond reasonable repair and must be deconstructed. As a result of the need to deconstruct the seaward portion of the stone jetty, two seawater intake lines (as well as their associated intake structures) that serve the NEFSC are required to be relocated to move them out of the thriving eelgrass bed in the lee of the jetty.

3.2 SEDIMENT QUALITY

The sediments along either side of the stone jetty are characterized as medium to coarse grained sands with small fractions of silt and cobble. The expansion of the width of the landward portion of the stone jetty being repaired will change some subtidal sandy/silty bottom to stone. Conversely, the deconstruction of the seaward 130 feet of the jetty will change stone bottom to sandy/silty bottom.

The impact to subtidal bottom sediments from the placement of the new intake lines and structures will be the conversion of approximately 650 square feet of sandy bottom to 600 square feet of crushed stone bottom and 50 square feet of concrete structure.

3.3 WATER QUALITY

The action of mechanically removing stones from sections of the jetty in the areas of jetty deconstruction will result in the temporary resuspension of sediments in the immediate and down-current portions of the water column. This may result in elevated turbidities near the construction operation. However, suspended sediment levels would be expected to decrease rapidly with distance from the work area. Sediment data (NOAA, 2008) show that the material in the proposed work area is predominately sand with portions of gravel and silt. Therefore, the turbidity associated with the resuspension of this material should be short-term and localized.

The action of mechanically placing stones in sections of the jetty being widened may also result in the temporary resuspension of sediments in the immediate and down-current portions of the water column should the stones have sediments attached. However, any material attached to the stones is anticipated to be sandy, therefore any turbidity effects should be short-term and localized to the immediate construction area.

No more than minimal impacts to water quality from turbidity are anticipated in the project area. After completion of the construction activity, these impacts would cease. The water quality in the project area is not anticipated to change as a result of the jetty repair and intake

line realignment.

3.4 AQUATIC RESOURCES

3.4.1 Benthos

Benthic resources in the project area will be affected by the proposed project. The direct impact of burial and sandy habitat loss will eliminate benthic communities in the footprint of the placement areas: 3,150 square feet associated with the jetty widening and 650 square feet associated with the intake line burial. Indirect impacts to adjacent benthic communities in the form of elevated turbidity levels should not be significant as the material that will likely be resuspended is predominately sand. Benthic resources would be expected to colonize the areas in which the jetty is being deconstructed and returned to sandy subtidal bottom.

3.4.2 Fish

Direct mortality to fish resources in the project area due to burial by stone should be minimal. Pelagic fish species such as blue fish and striped bass are very mobile and should be able to avoid the disturbance in the construction area. Demersal fish species such as winter flounder and windowpane flounder have a higher probability to be buried; however, they do have a degree of mobility that should allow them to avoid areas of active construction.

The proposed project is anticipated to have impacts on EFH for several different species of managed fish in Great Harbor, as discussed in Section 3.6; however, the footprint of the jetty repair and seawater intake line placement will result in a small loss of benthic habitat and is not anticipated to significantly alter fish resources in Great Harbor. In addition, no impacts to the endangered New York Bight distinct population segment of Atlantic Sturgeon are anticipated.

3.4.3 Shellfish and Lobster

Impacts to shellfish resources in the project area are anticipated to be minimal. Potential impacts to shellfish beds from typical jetty construction and subtidal marine construction activities include the direct destruction of beds by placing material on them or indirectly from increased turbidities and/or siltation in the bed areas. Shellfish concentration areas have been determined to be outside of the project footprint (NOAA, 2008). Therefore, no direct impacts to shellfish are expected. As noted in section 3.3, some elevated turbidity levels may be seen in the immediate area of construction. However, since the material is predominately sand, resuspension of sediments will be short-term in duration. Therefore, no indirect impacts to shellfish resources in Great Harbor are expected.

Impacts to lobster resources and habitat from the proposed action are not expected to be significant. The removal of approximately 3,500 square feet of jetty will reduce available lobster habitat. However, this area is minimal when compared to available lobster habitat within the Great Harbor ecosystem (530+ acres). In addition, the stone that is reused to widen the jetty structure will replace a portion (3,150 sf) of the lost jetty habitat. As noted above,

indirect impacts from elevated turbidities should be minimal. Therefore, the proposed project should not significantly alter lobster habitat and lobster resources in Great Harbor.

3.4.4 Vegetation

The proposed action is not anticipated to directly impact eelgrass habitat. Both phases of the project (jetty repair and intake line placement) have been designed to avoid existing eelgrass beds. As noted in section 3.3, some elevated turbidity levels may be seen in the immediate area of construction. However, since the material is predominately sand, resuspension of sediments will be short-term in duration. Therefore, no indirect impacts to eelgrass beds are expected.

3.5 WILDLIFE RESOURCES

The proposed project should not significantly affect wildlife (i.e., bird, mammals, reptiles and amphibians) resources in Great Harbor. Impacts to wildlife associated with the construction should be limited to temporary displacement of open water areas by heavy machinery. Additionally, minor noise impacts may be generated from the construction equipment which may temporarily cause wildlife to avoid the project area.

3.6 ESSENTIAL FISH HABITAT

The proposed project is anticipated to have impacts on essential fish habitat (EFH) for several different species of managed fish in Great Harbor. The jetty widening and intake line realignment will permanently alter benthic productivity in the direct footprint of the project where subtidal sandy bottom is being converted to stone bottom. In addition to the loss of benthic habitat, some short-term effects such as displacement and exposure to elevated turbidities may occur as a result of the proposed project. Conversely, the deconstruction of portions of the jetty will return sandy subtidal bottom to the areas where stone is being removed.

The following paragraphs detail the impacts to EFH of each of the managed species present in Great Harbor:

EFH for adult Atlantic cod (*Gadus morhua*) is designated within the project area. This project is expected to have minimal effects on EFH for cod as adults are generally found in deeper waters than those in the project area.

EFH for juvenile haddock (*Melanogrammus aeglefinus*) is designated in this area. This project is expected to have minimal effects on EFH for haddock as juveniles are generally found in deeper waters than those in the project area.
EFH for juvenile pollock (*Pollachius virens*) is designated in this area. Preferred habitat includes marine waters with bottom habitats of submerged aquatic vegetation, mud, and rock. The proposed project has the potential to impact EFH for juvenile pollock. However, the

effects will be limited to temporary displacement and short-term elevated turbidity levels. Juvenile pollack are highly mobile and should be able to avoid construction areas. Therefore, this project is expected to have minimal effects on EFH for pollock.

EFH is designated within the project area for all life stages of the winter flounder (*Pleuronectes americanus*). The eggs of winter flounder, which are demersal, are typically found at depths of less than 5 meters in bottom waters in a broad range of salinities (10-30 ppt). Spawning, and therefore the presence of eggs, occurs from February to June. EFH for eggs, larvae, juveniles, and adults includes bottom habitats of mud and fine-grained sandy substrate in waters ranging from 0.1 to 100 meters in depth. Spawning adults are typically associated with similar substrates in less than 6 meters of water. Although winter flounder EFH is located within the project area, juveniles and adults are very mobile and would be able to flee from the construction area once activities commence. Flounder adults and juveniles will have ample opportunity to avoid any potential impact. Minimal amounts of eggs and larvae may be affected by stone removal and placement. Impacts from increased turbidity will be localized as the material is sandy. Therefore, no more than minimal impacts on all life stages of the winter flounder EFH are anticipated as a result of this project.

EFH is designated within the project area for all life stages of the windowpane flounder (*Scopthalmus aquosus*). Eggs are buoyant and typically found in the water column in water depths of 1 meter to 70 meters. Larvae are found in pelagic waters. Juveniles and adults prefer bottom habitats of mud or fine-grained sand and can be found in salinities ranging from 5.5 ppt to 36 ppt. Seasonal occurrences in the project area are generally from February to November, with peaks occurring in May and October. Although EFH for the windowpane is within the project area, this species is broadly distributed in north and mid-Atlantic waters from the Gulf of Maine to Cape Hatteras. Any disruption of EFH will be associated with the construction activities and therefore will not be long-term. As was the case with the winter flounder, windowpane flounder adults and juveniles should be able to avoid any potential impacts because of their mobility. Eggs and larvae will have the potential to be impacted by localized, short-term turbidity and potential burial associated with the construction activities. Therefore, no more than minimal impact on all life stages of windowpane flounder EFH is anticipated as a result of this project.

EFH for adult bluefish (*Pomatomus saltatrix*) is designated within the project area. This project is expected to have minimal effects on EFH for bluefish as adults are mobile and will be able to avoid construction areas. No significant loss of EFH due to the placement of stone is anticipated.

EFH is designated in the project area for juvenile and adult long finned squid (*Loligo pealei*). This species is common inshore in warm weather months. The proposed project should have no more than minimal effects on long finned squid EFH as the project is not located in their preferred habitat. Additionally, squid are highly mobile and would be able to avoid construction activities should they be present.

EFH is designated within the project area for all life stages of Atlantic butterfish (*Peprilus triacanthus*). However, all life stages of this species are generally found in deeper waters than those found in Great Harbor. Therefore, no impacts to Atlantic butterfish EFH are anticipated.

EFH is designated within the project area for all life stages of Atlantic mackerel (*Scomber scombrus*). The early life stages of Atlantic mackerel are generally found in deeper waters than those found in Great Harbor, while juvenile and adult Atlantic mackerel have been documented to occur in the harbor. This project is expected to have minimal effects on EFH for Atlantic mackerel as juveniles and adults are mobile and will be able to avoid construction areas and rock structures are not preferred habitat for this species.

EFH is designated within the project area for all life stages of summer flounder (*Paralicthys dentatus*). Adults migrate into shallow coastal and estuarine systems during the warm summer months and then move offshore during colder months. Eggs and larvae are generally found in offshore waters. Although juvenile and adult summer flounder may occur in the project area, they should be able to avoid any potential impacts because of their mobility. In Great Harbor, eelgrass resources are located within areas designated as juvenile and adult summer flounder essential fish habitat. As such, they are designated as a Habitat Area of Particular Concern (HAPC) by the Mid-Atlantic Fishery Management Council. While the proposed project actions occur adjacent to existing eelgrass beds, it is not anticipated to directly or indirectly impact eelgrass resources. Some subtidal bottom habitat will be converted to stone habitat. However, the areal extent of the project footprint is minimal. Therefore, no more than minimal impacts to summer flounder EFH are anticipated as a result of this project.

EFH is designated in the project area for all life stages of Scup (*Stenotomus chrysops*). Scup juveniles and adults have the potential to occur in estuarine systems during the spring and summer months. All life stages of scup prefer salinities greater than 15 ppt. Juveniles and adults use structured areas for foraging and refuge. The proposed project may temporarily displace scup using the existing stone structure as habitat. However, once construction activities have stopped, scup should return to the structure. No more than minimal impacts to scup EFH are anticipated as a result of this project.

EFH is designated in the project area for all life stages of black sea bass (*Centropristes striata*). Black sea bass juveniles and adults have the potential to occur in estuarine systems during the spring and summer months. All life stages of scup prefer salinities greater than 15 ppt. Juveniles and adults use structured areas for foraging and refuge, however, they are highly mobile and should be able to avoid construction activities. The proposed project may temporarily displace black sea bass using the existing stone structure as habitat. However, once construction activities have stopped, sea bass should return to the structure. No more than minimal impacts to black sea bass EFH are anticipated as a result of this project.

EFH is designated for juvenile and adult surf clams (*Spisula solidissima*) in the project area. Surf clams are generally found in subtidal waters adjacent to ocean beaches. The project area is not identified as surf clam habitat and no surf clams were collected during biological surveys

of the area (NOAA, 2008). No effects to surf clam EFH and surf clam populations are expected as a result of the proposed project

EFH is designated in the project area for all life stages of the following coastal migratory species: king mackeral (*Scomberomorus cavalla*), Spanish mackerel (*Scomberomorus maculatus*), and cobia (*Rachycentron canadum*). EFH for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters from the surf to the shelf break zone, all coastal inlets, and all state-designated nursery habitats of particular importance to coastal migratory pelagics. These species prefer warm water about 20° C. For cobia, EFH also includes seawater salinity zones in bays, estuaries, and seagrass habitat. These species would be anticipated to be in the Great Harbor system in the summer months. However, they are all highly mobile and would be expected to avoid construction activities. The stone jetty habitat and adjacent sandy subtidal bottom habitat that will be impacted by the proposed project are not critical EFH for these species. Therefore, no more than minimal impacts to coastal migratory species EFH are anticipated as a result of this project.

3.7 THREATENED AND ENDANGERED SPECIES

Based upon the anticipated impacts of the proposed action, the project is not likely to affect threatened or endangered species in the area. The activities proposed (which include jetty deconstruction, jetty repair, placing intake lines, and burying intake lines) will produce highly localized impacts including burial of sandy subtidal bottoms, elevated turbidities and increased noise levels associated with construction equipment. While the burial of minimal amounts of sandy habitat will be permanent, all other impacts will be limited to the duration of the construction period and will cease once the project is complete. Coordination with NMFS-Protected Resource Division and US Fish and Wildlife Service is on-going.

3.8 HISTORIC AND ARCHAEOLOGICAL RESOURCES

No impacts to cultural resources in the project area are anticipated. NOAA has completed coordination with the State Historic Preservation Office , which determined that no significant historic or archaeological resources are located within the underwater portions of the project area.

3.9 RECREATION AND AESTHETICS

Minor impacts to recreation and aesthetics in the area may occur as a result of the proposed activities. Recreational and commercial boating traffic may be inconvenienced and/or delayed during construction activities as navigable water may be limited in the areas surrounding the equipment. Every effort will be made to accommodate vessel traffic in the harbor. Aesthetics of the area may be affected due to the presence of large construction equipment such as barges, cranes, and excavators. However, these impacts will be limited to the duration of the project.

3.10 HYDROLOGY

No significant changes to the hydrology of the area are anticipated as a result of the proposed action. The deconstruction of a portion of the stone jetty may alter water velocities in the area of removal, which in turn may lead to the erosion of some sediments in the deconstructed area. However, the bottom materials in the project area and surrounding the project area are similar in composition and therefore should not be significantly altered.

3.11 GEOLOGY

No significant changes to the geology of the project area are anticipated as a result of the proposed action. As noted in Section 3.10 of this EA, the removal of portions of the stone jetty may lead to the erosion of some sediments to the west of the existing jetty. However, data from NOAA (2008) indicate that the sediments in the project area are predominately a heterogeneous mix of sands from the surface to project depths. Any erosion associated with the project should not significantly alter the geology of the project area.

3.12 AIR QUALITY

The proposed project is subject to Clean Air Act requirements. An air quality conformity analysis (Appendix C) was completed to demonstrate compliance. The conformity analysis details projected emissions that would result from the construction of the proposed project. These data are then compared to Federal and State air quality standards to determine impacts to air quality. It was determined that the direct and indirect ozone emissions from this project were considerably less than the conformity threshold value of 100 tons of NOx per year.

The project would have no long-term impacts on air quality. During construction equipment operating on the site would emit minor amounts of pollutants including nitrogen oxides that can lead to the formation of ozone. In order to minimize air quality effects during construction, construction activities would comply with applicable provisions of the Massachusetts Air Quality Control Regulations pertaining to dust, odors, construction, noise, and motor vehicle emissions. This project therefore conforms to the Federal requirements for activities under the Clean Air Act within the Massachusetts State Implementation Plan.

3.13 NOISE

Construction equipment used to deconstruct and repair the damaged portions of the jetty and install the intake lines and intake structures will contribute some noise to the project area. However, the affects will be short-term and localized to areas near the jetty. No significant changes to noise in the area are anticipated as a result of the proposed action.

3.14 SOCIOECONOMICS

The proposed project may provide minor positive impacts to the socioeconomics of the area by providing a limited number of construction jobs. However, no long term positive or negative

socioeconomics impacts are anticipated as the construction effort will be temporary.

4.0 COORDINATION

The following agencies and entities have been consulted during the preparation of this environmental assessment:

US Army Corps of Engineers – New England District
National Marine Fisheries Service
U.S. Fish and Wildlife Service
Environmental Protection Agency
Massachusetts Department of Environmental Protection
Massachusetts Office of Coastal Zone Management
Massachusetts Division of Marine Fisheries
Massachusetts Natural Heritage and Endangered Species Program
Massachusetts Historic Preservation Officer
Massachusetts Board of Underwater Archaeological Resources
Town of Falmouth

5.0 CUMULATIVE EFFECTS

NEPA defines cumulative effects as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR§1508.7). Past, present, and foreseeable future activities in Great Harbor include the maintenance dredging of various areas of the harbor, navigation through the harbor by commercial and recreational vessels, commercial and recreational fishing activities, shoreline development, and shore-side construction. Reasonably foreseeable future actions include construction of a new pier for the NEFSC facility and improvement dredging of the NEFSC berthing areas, as discussed in the Woods Hole Berthing project EA, and maintenance dredging activities for the NEFSC facility as well as other facilities in the harbor. Maintenance dredging of harbors such as Great Harbor (in New England) is generally on 10 to 25 years maintenance cycles depending upon sediment input to the system. As the material in Great Harbor is predominately sand, the effects of these previous and existing actions are generally limited to infrequent disturbances of the benthic communities in the dredged areas. Water quality, air quality, hydrology, and other biological resources (including eelgrass) are generally not significantly affected by these actions. Therefore, no significant cumulative impacts are projected as a result of this jetty repair and seawater intake line realignment project.

6.0 ENVIRONMENTAL COMPLIANCE

Federal Statutes

1. Archaeological Resources Protection Act of 1979, as amended, 16 USC 470 et seq.

Compliance: Not applicable. No archaeological resources are located in the project area.

2. Preservation of Historic and Archeological Data Act of 1974, as amended, 16 U.S.C. 469 et seq.

Compliance: Project has been coordinated with the State Historic Preservation officer. No impacts to significant historic and archaeological resources in the underwater portions of the project area are anticipated.

3. American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996.

Compliance: Must ensure access by Native Americans to sacred sites, possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. Coordination revealed no conflicts.

4. Clean Air Act, as amended, 42 U.S.C. 7401 et seq.

Compliance: Public notice of the availability of this report to the Environmental Protection Agency is required for compliance pursuant to Sections 176c and 309 of the Clean Air Act.

5. Clean Water Act of 1977 (Federal Water Pollution Control Act Amendments of 1972) 33 U.S.C. 1251 et seq.

Compliance: A State Water Quality Certification pursuant to Section 401 of the Clean Water Act will be requested for this project.

6. Coastal Zone Management Act of 1982, as amended, 16 U.S.C. 1451 et seq.

Compliance: A CZM consistency determination will be provided to the Commonwealth of Massachusetts for review. Concurrence that the proposed project is consistent with the approved State CZM program is anticipated.

7. Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

Compliance: Coordination with the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) determined that formal consultation requirements pursuant to Section 7 the Endangered Species Act was not required.

8. Estuarine Areas Act, 16 U.S.C. 1221 et seq.

Compliance: Applicable only if report is being submitted to Congress. This report is not being submitted to Congress.

9. Federal Water Project Recreation Act, as amended, 16 U.S.C. 4601-12 et seq.

Compliance: Public notice of availability to the project report to the National Park Service (NPS) and

Office of Statewide Planning relative to the Federal and State comprehensive outdoor recreation plans signifies compliance with this Act.

10. Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661 et seq.

Compliance: Coordination with the FWS, NMFS, and State fish and wildlife agencies determined that this project would have no significant impacts on fish and wildlife resources. Therefore, this project complies with the Fish and Wildlife Coordination Act.

11. Land and Water Conservation Fund Act of 1965, as amended, 16 U.S.C. 4601-4 et seq.

Compliance: Public notice of the availability of this report to the National Park Service (NPS) and the Office of Statewide Planning relative to the Federal and State comprehensive outdoor recreation plans signifies compliance with this Act.

12. Marine Protection, Research, and Sanctuaries Act of 1971, as amended, 33 U.S.C. 1401 et seq.

Compliance: Not applicable.

13. National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq.

Compliance: Coordination with the State Historic Preservation Office signifies compliance. No significant historic or archaeological resources are located within the underwater portions of the project area.

14. Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3000-3013, 18 U.S.C. 1170

Compliance: Regulations implementing NAGPRA will be followed if discovery of human remains and/or funerary items occur during implementation of this project.

15. National Environmental Policy Act of 1969, as amended, 42 U.S.C 4321 et seq.

Compliance: This preparation of this Environmental Assessment was performed in compliance with NEPA. If appropriate, a Finding of No Significant Impact (FONSI) will be prepared which will conclude the NEPA process.

16. Rivers and Harbors Act of 1899, as amended, 33 U.S.C. 401 et seq.

Compliance: No requirements for NOAA projects or programs authorized by Congress. A Public Interest Review will be incorporated into the USACE permit (Clean Water Act Section 404 and Section 10).

17. Watershed Protection and Flood Prevention Act as amended, 16 U.S.C 1001 et seq.

Compliance: Floodplain impacts were considered in project planning.

18. Wild and Scenic Rivers Act, as amended, 16 U.S.C 1271 et seq.

Compliance: Coordination with the Department of the Interior to determine projects impacts on designated Wild and Scenic Rivers must occur. No Wild and Scenic Rivers are present in the project area.

19. Magnuson-Stevens Act, as amended, 16 U.S.C. 1801 et seq.

Compliance: Coordination of the new action with the National Marine Fisheries Service and preparation of an Essential Fish Habitat (EFH) Assessment within this Environmental Assessment signifies compliance with the EFH provisions of the Magnuson-Stevens Act.

Executive Orders

1. Executive Order 11593, Protection and Enhancement of the Cultural Environment, 13 May 1971

Compliance: Coordination with the State Historic Preservation Officer signifies compliance.

2. Executive Order 11988, Floodplain Management, 24 May 1977 amended by Executive Order 12148, 20 July 1979.

Compliance: Public notice of the availability of this report or public review fulfills the requirements of Executive Order 11988, Section 2(a)(2).

3. Executive Order 11990, Protection of Wetlands, 24 May 1977.

Compliance: Public notice of the availability if this report for public review fulfills the requirements of Executive Order 11990, Section 2 (b).

4. Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, 4 January 1979.

Compliance: Not applicable to projects located within the United States.

5. Executive Order 12898, Environmental Justice, 11 February 1994.

Compliance: Not applicable, the project is not expected to have a significant impact on minority or low income population, or any other population in the United States.

6. Executive 13007, Accommodation of Sacred Sites, 24 May 1996

Compliance: Not applicable unless on Federal lands, then agencies must accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoid adversely affecting the physical integrity of such sacred sites.

7. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. 21 April, 1997.

Compliance: Not applicable, the project would not create a disproportionate environmental health or safety risk for children.

8. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, 6 November 2000.

Compliance: Consultation with Indian Tribal Governments, where applicable, and consistent with executive memoranda, DoD Indian policy, and USACE Tribal Policy Principles signifies compliance.

Executive Memorandum

1. Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA, 11 August 1980.

Compliance: Not applicable. This project does not involve or impact agricultural lands.

2. White House Memorandum, Government-to-Government Relations with Indian Tribes, 29 April 1994.

Compliance: Consultation with Federally Recognized Indian Tribes, where appropriate, signifies compliance.

7.0 CONCLUSION

In summary, the NOAA-NEFSC jetty repair and seawater intake line realignment project is anticipated to have limited environmental consequences. Most impacts associated with the project will be short-term and localized to the project footprint.

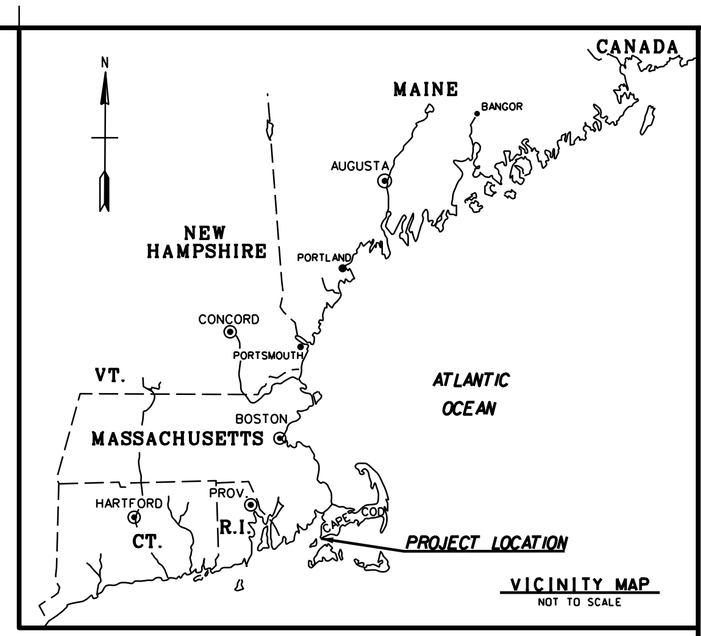
8.0 REFERENCES

NOAA. 2008. Woods Hole Berthing Project, Northeast Fisheries Science Center, Falmouth, Massachusetts: Environmental Assessment and Finding of No Significant Impact. Prepared by US Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742.

APPENDIX A

NOAA NEFSC Woods Hole Jetty Repair Project
Design Drawings

US Army Corps
of Engineers®
New England
District



WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR

FALMOUTH,
MASSACHUSETTS

SOLICITATION #: W912WJ-14-B-XXXX

INDEX TO DRAWINGS			
SHEET NO.		DESIGN FILE	SHEET TITLE
1	G-001	WHO-2_G-001.DGN	COVER SHEET AND INDEX
2	G-002	WHO-2_G-002.DGN	GENERAL PLAN, NOTES, LEGEND, AND TIDAL DATUMS
3	G-101	WHO-2_G-101.DGN	SITE PLAN ENTRANCE CHANNEL & INNER HARBOR
4	C-101	WHO-2_C-101.DGN	EXISTING CONDITIONS PLAN
5	C-102	WHO-2_C-102.DGN	DEMOLITION PLAN
6	C-103	WHO-2_C-103.DGN	JETTY SITE PLAN, JETTY PROFILE AND TYPICAL JETTY REPAIR DETAIL

SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL DRAWINGS IN THIS SET AS INDEXED ON THIS SHEET

REVIEWED BY:

CHIEF, SURVEY SECTION — DATE

APPROVED FOR TECHNICAL ADEQUACY BY:

TECHNICAL LEAD ENGINEER — DATE

REVIEWED BY:

CHIEF, GEOTECHNICAL/WATER RESOURCES BRANCH — DATE

REVIEWED BY:

CHIEF, GEO-ENVIRONMENTAL BRANCH — DATE

APPROVAL RECOMMENDED BY:

CHIEF, DES BR / DEPUTY CHIEF, ENGINEERING/PLANNING DIVISION — DATE

APPROVED BY:

CHIEF, ENGINEERING / PLANNING DIVISION — DATE

This project was designed by the U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents, within the scope of their employment as required by ER 1110-1-8152.

US Army Corps
of Engineers®
New England
District

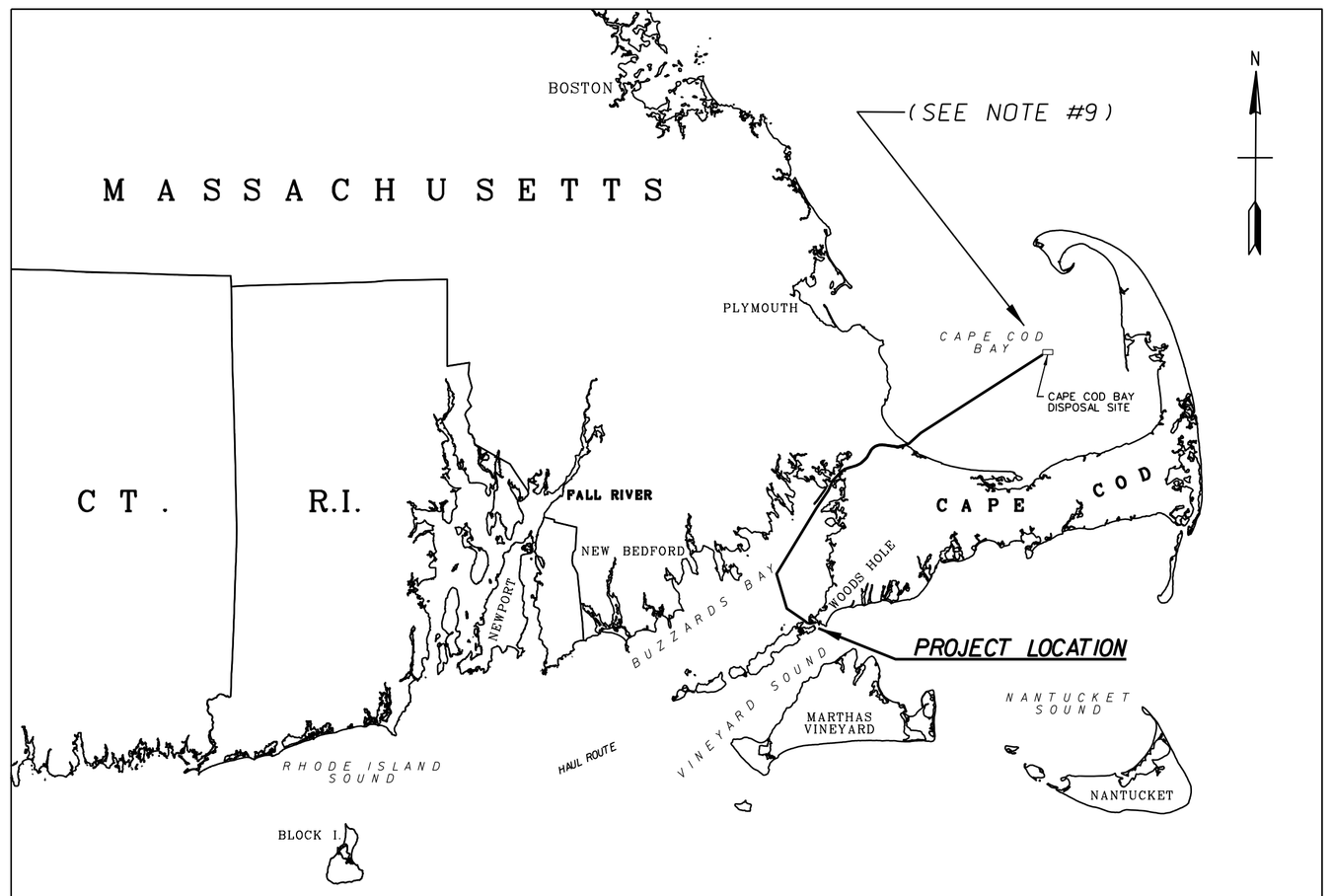
MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

DESIGNED BY: M. CULLEN
DWN BY: MEC
CKD BY: MT
SUBMITTED BY: M. TESSIER
PLOT SCALE: 1" = 1'
SIZE: ANSI D
DATE: NOV 2013
SOLICITATION NO.: W912WJ-14-B-XXXX
CONTRACT NO.:
DRAWING CODE: WHO-2
PLOT DATE: NOV 2013
FILE NAME: WHO-2_G-001

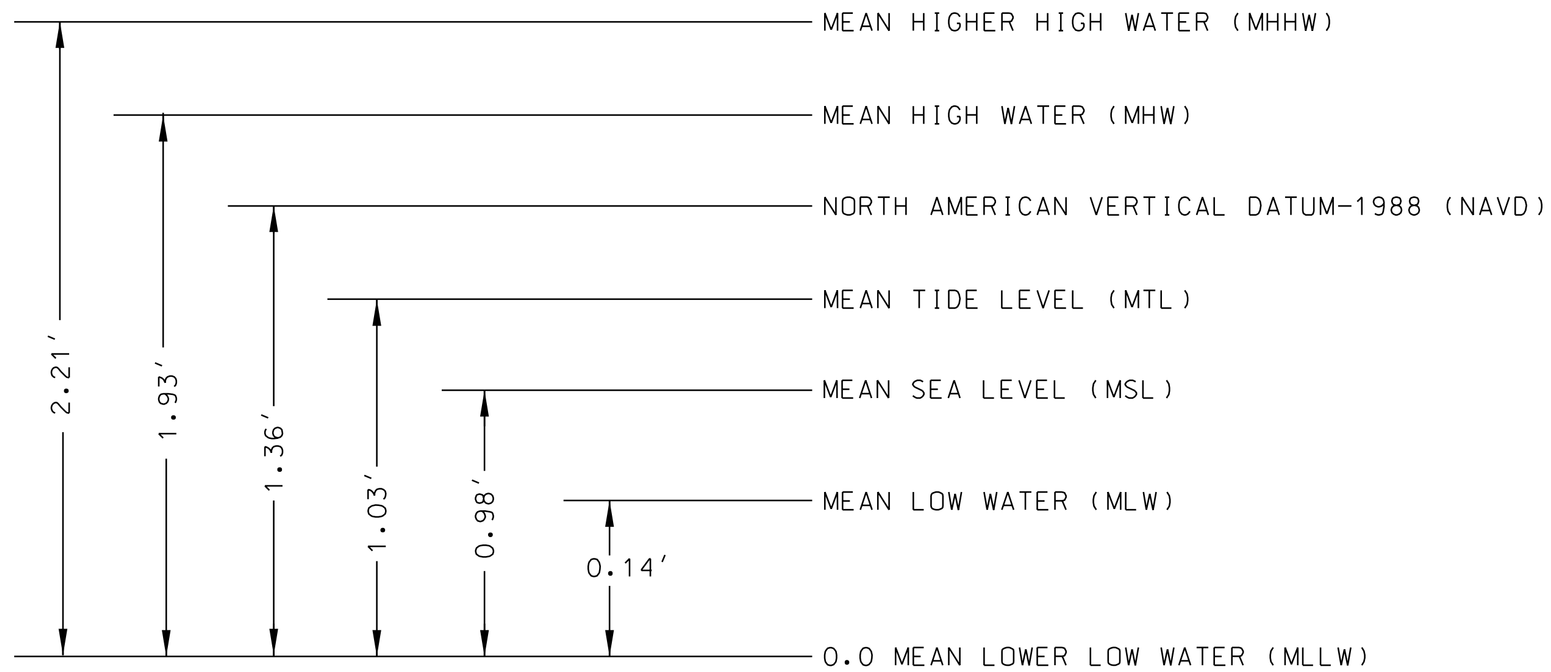
WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR
FALMOUTH, MASSACHUSETTS
COVER SHEET AND INDEX

SHEET IDENTIFICATION
G-001
SHEET 1 OF 6



LOCATION MAP
NOT TO SCALE

LEGEND	
DESCRIPTION	SYMBOL
EELGRASS AREA NO DISTURBANCE	
AREA OF DEMOLITION	
BORING	B-4



TIDAL DATUM PLANES
(Based upon National Ocean Survey Tidal datums of Woods Hole, Buzzards Bay Massachusetts 1983-2001 Tidal Epoch)

GENERAL NOTES:

1. *SOUNDINGS ARE IN FEET AND TENTHS AND REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW). ALL ELEVATIONS REFER TO MLLW.*
2. *TOPOGRAPHY SHOWN IS FROM PREVIOUS SURVEYS AND/OR NOAA CHART NO. 13235. ALL TOPOGRAPHY, INCLUDING SHORELINE, BRIDGES, PIERS, ETC., IS LOCATED APPROXIMATE UNLESS OTHERWISE NOTED AND SHOULD BE USED AS A GENERAL REFERENCE ONLY.*
3. *BENCH MARK DATA: BM NO. 7 (1913) IS A DISK SET VERTICALLY IN THE GRANITE FOOT SILL LOCATED ON THE WEST SIDE OF THE MOST EASTERLY FRONT ENTRANCE STEPS OF THE EAST WING OF THE MARINE BIOLOGICAL LABORATORY, 200 FEET EAST OF THE U.S. NATIONAL MARINE FISHERIES SERVICE PROPERTY, 115.8 FEET NW OF THE SW CORNER OF THE HISTORIC GRANITE BUILDING REFERRED TO AS "CANDLE HOUSE", 67 FEET NORTH OF THE CENTERLINE OF WATER STREET, 6.3 FEET SOUTH OF THE SOUTH FACE OF THE BUILDING AND 0.2 FEET ABOVE GROUND. ELEVATION IS 12.27 FEET ABOVE MLLW.*
4. *COORDINATES SHOWN ARE BASED ON THE LAMBERT GRID SYSTEM FOR THE COMMONWEALTH OF MASSACHUSETTS (MAINLAND ZONE) & NAD 1983.*
5. *THE SOUNDING INFORMATION SHOWN ON THESE PLANS REPRESENTS THE SHOALEST SOUNDINGS OF THOSE OBTAINED FROM HYDROGRAPHIC SURVEYS CONDUCTED DURING JULY AND AUGUST 2007.*
6. *THE SOUNDING INFORMATION DEPICTED ON THESE PLANS SHOULD NOT BE USED TO DETERMINE VOLUMES. VOLUMES ARE DETERMINED FROM MORE SOUNDING INFORMATION THAN SHOWN. ADDITIONAL SOUNDING INFORMATION IS AVAILABLE UPON REQUEST.*
7. *THE SOUNDING INFORMATION SHOWN ON THESE PLANS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.*
8. *FIELD BOOK: R&H 3464. SURVEY BY: J. PRESTON AND CREW.*

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MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U. S. ARMY ENGINEER DISTRICT
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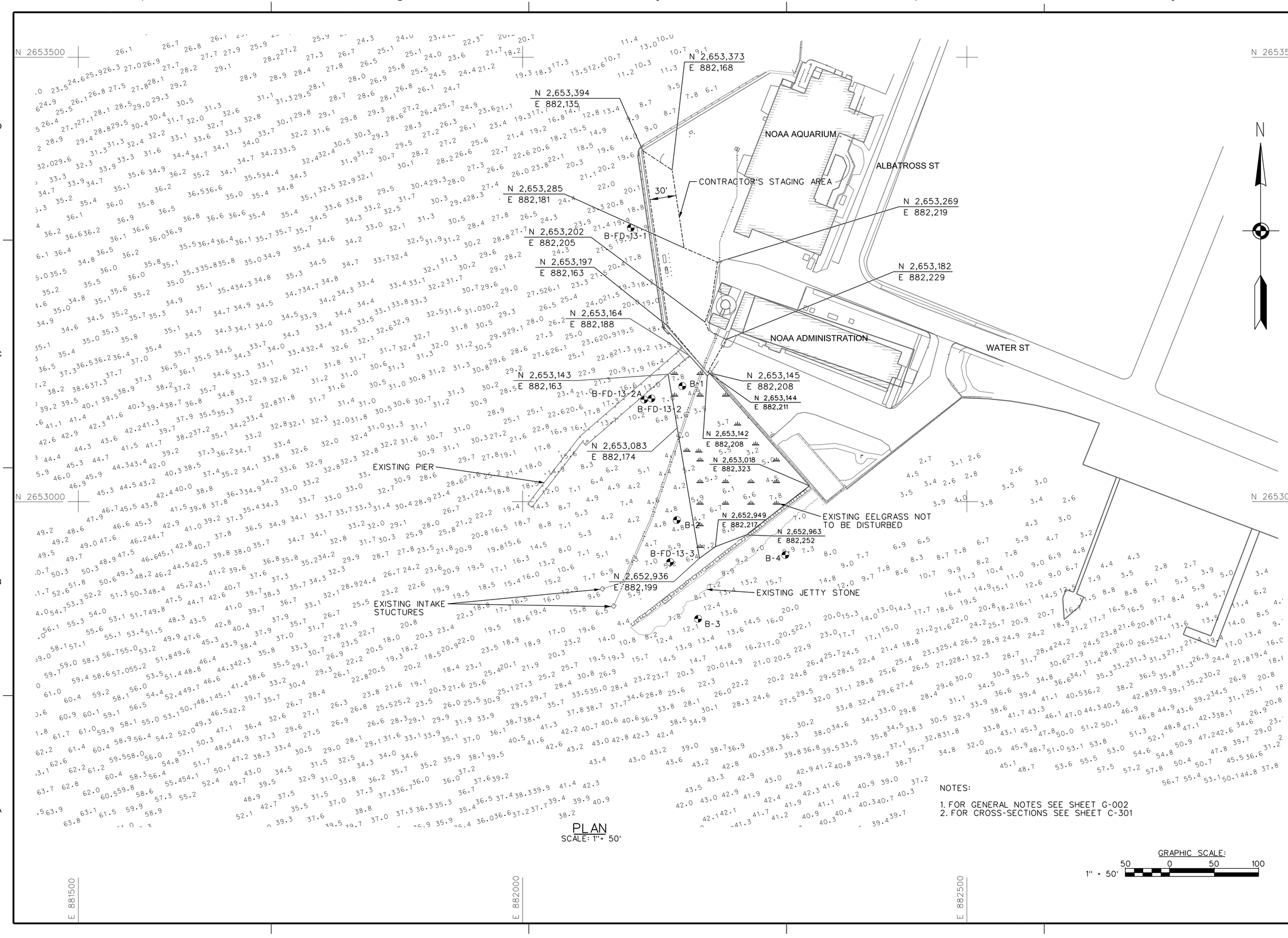
CONCORD, MASSACHUSETTS

DESIGNED BY: M. CULLEN
DWN BY: MEC
SUBMITTED BY: M. TESSIER
CKD BY: MT
PLOT SCALE: 1=1
SIZE: ANSI D
DATE: NOV 2013
SOLICITATION NO.: W912WJ-14-B-XXXX
CONTRACT NO.:
PLOT DATE: NOV 2013
FILE NAME: WHG_G-002
DRAWING CODE: WHG-2

WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR
FALMOUTH, MASSACHUSETTS

GENERAL PLAN, NOTES, LEGEND, AND TIDAL DATUMS

SHEET IDENTIFICATION
G-002
SHEET 2 OF 6



PLAN
SCALE: 1" = 50'

NOTES:

1. FOR GENERAL NOTES SEE SHEET G-002
2. FOR CROSS-SECTIONS SEE SHEET C-301

GRAPHIC SCALE:
50 0 50 100
1" = 50'

US Army Corps of Engineers®
New England District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

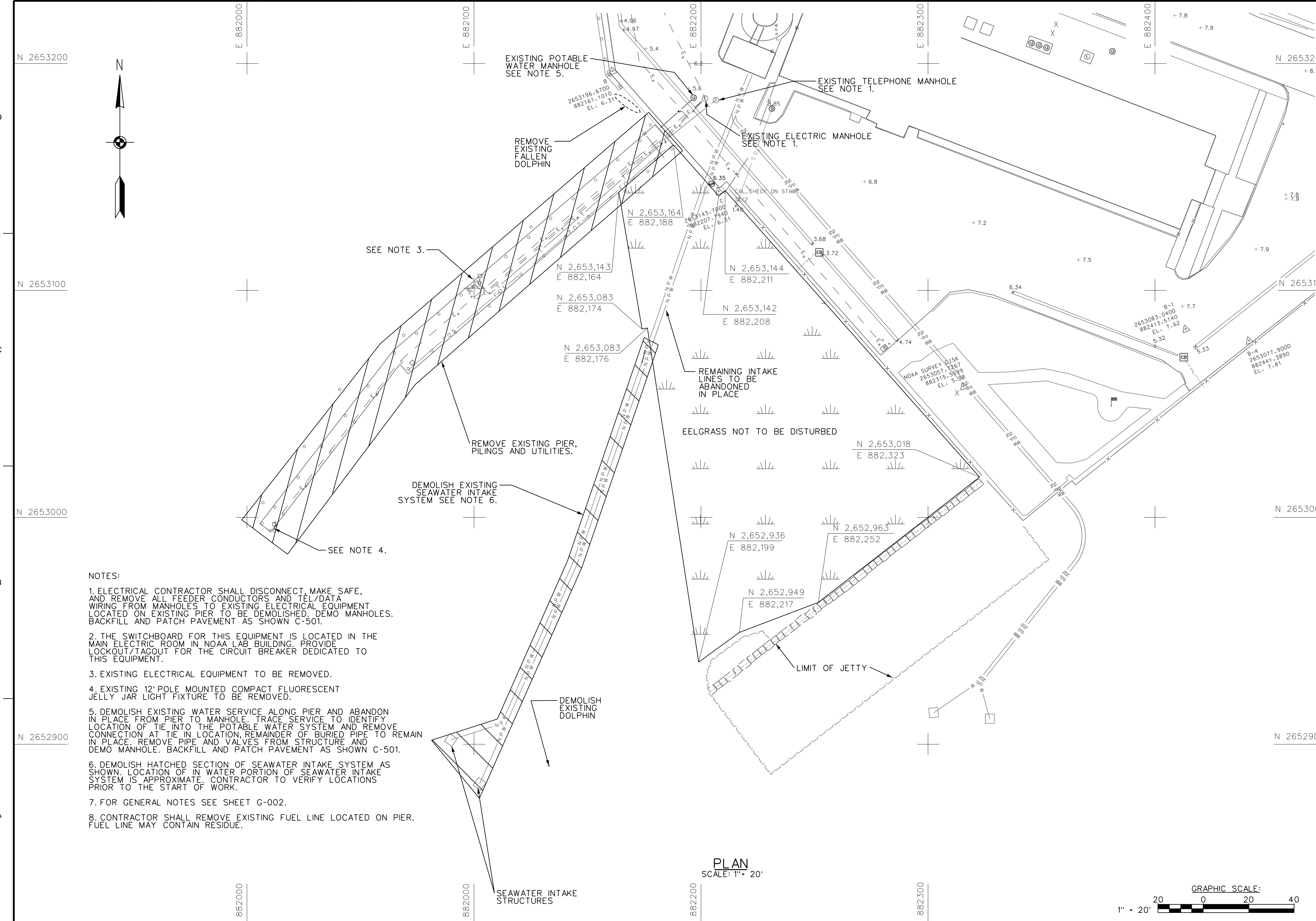
DESIGNED BY: B. MEADER
DWN BY: B. MEADER
CKD BY: M. TESSIER
SUBMITTED BY: M. TESSIER
DATE: JUNE 2013
SOLICITATION NO.: W912WJ-XX-X-XXXX
CONTRACT NO.:
DRAWING CODE: WH42
PLOT SCALE: 1=40'
PLOT DATE: 6/6/2013
SIZE: ANSI D
FILE NAME: WHXX_C101

U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR
FALMOUTH, MASSACHUSETTS

EXISTING CONDITIONS PLAN

SHEET IDENTIFICATION
C-101
SHEET 3 OF 6



NOTES:

1. ELECTRICAL CONTRACTOR SHALL DISCONNECT, MAKE SAFE, AND REMOVE ALL FEEDER CONDUCTORS AND TEL/DATA WIRING FROM MANHOLES TO EXISTING ELECTRICAL EQUIPMENT LOCATED ON EXISTING PIER TO BE DEMOLISHED. DEMO MANHOLES. BACKFILL AND PATCH PAVEMENT AS SHOWN C-501.

2. THE SWITCHBOARD FOR THIS EQUIPMENT IS LOCATED IN THE MAIN ELECTRIC ROOM IN NOAA LAB BUILDING. PROVIDE LOCKOUT/TAGOUT FOR THE CIRCUIT BREAKER DEDICATED TO THIS EQUIPMENT.

3. EXISTING ELECTRICAL EQUIPMENT TO BE REMOVED.

4. EXISTING 12' POLE MOUNTED COMPACT FLUORESCENT JELLY JAR LIGHT FIXTURE TO BE REMOVED.

5. DEMOLISH EXISTING WATER SERVICE ALONG PIER AND ABANDON IN PLACE FROM PIER TO MANHOLE. TRACE SERVICE TO IDENTIFY LOCATION OF TIE INTO THE POTABLE WATER SYSTEM AND REMOVE CONNECTION AT TIE IN LOCATION, REMAINDER OF BURIED PIPE TO REMAIN IN PLACE. REMOVE PIPE AND VALVES FROM STRUCTURE AND DEMO MANHOLE. BACKFILL AND PATCH PAVEMENT AS SHOWN C-501.

6. DEMOLISH HATCHED SECTION OF SEAWATER INTAKE SYSTEM AS SHOWN. LOCATION OF IN WATER PORTION OF SEAWATER INTAKE SYSTEM IS APPROXIMATE. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO THE START OF WORK.

7. FOR GENERAL NOTES SEE SHEET G-002.

8. CONTRACTOR SHALL REMOVE EXISTING FUEL LINE LOCATED ON PIER. FUEL LINE MAY CONTAIN RESIDUE.

US Army Corps of Engineers® New England District

MARK	DESCRIPTION	DATE	APPR.

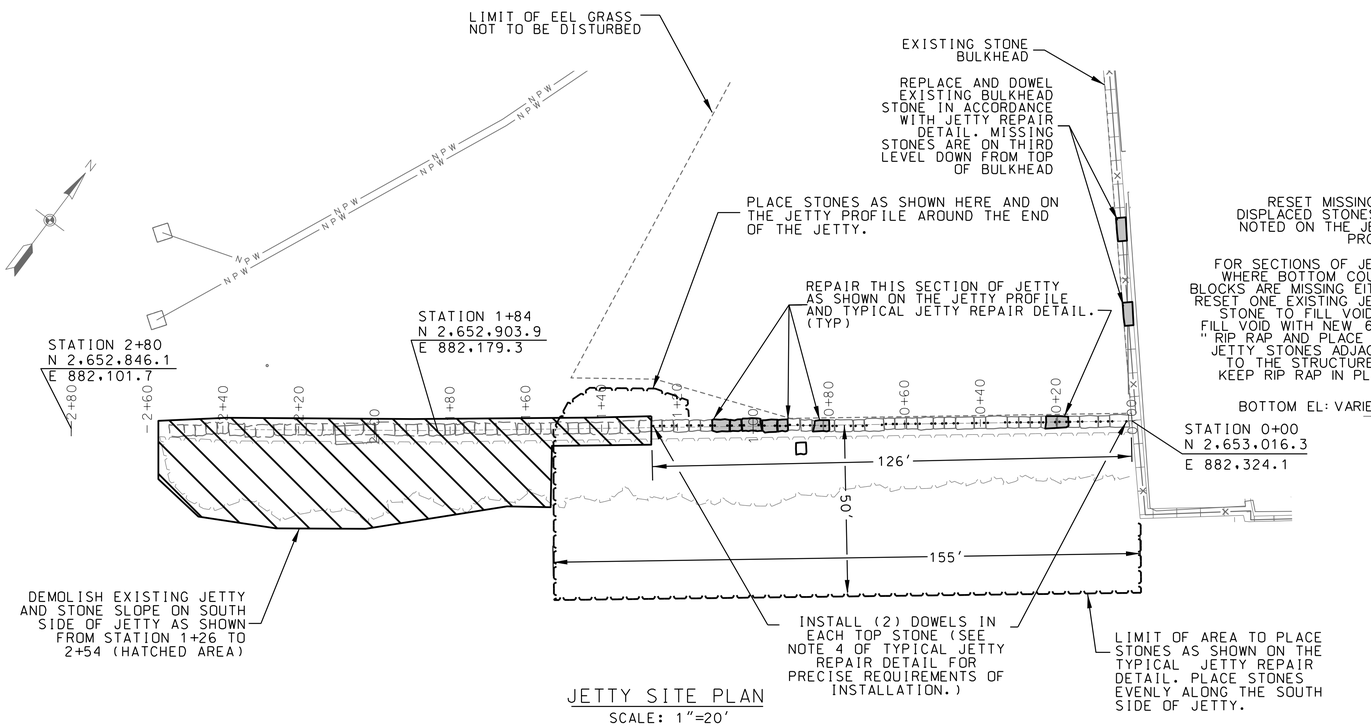
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

DATE: JANUARY 2014
SOLICITATION NO.: W912WJ-14-X-XXXX
CONTRACT NO.:
DRAWING CODE: WH0-2C
DESIGNED BY:
DWN BY:
CKD BY:
SUBMITTED BY: MATTHEW TESSIER
PLOT SCALE: 1"=20'
PLOT DATE: 1/4/2012
SIZE: ANSI D
FILE NAME: WHO-2_C-102

WOODS HOLE BERTHING PROJECT
INNER HARBOR DREDGING AND PIER DEMOLITION
FALMOUTH, MASSACHUSETTS

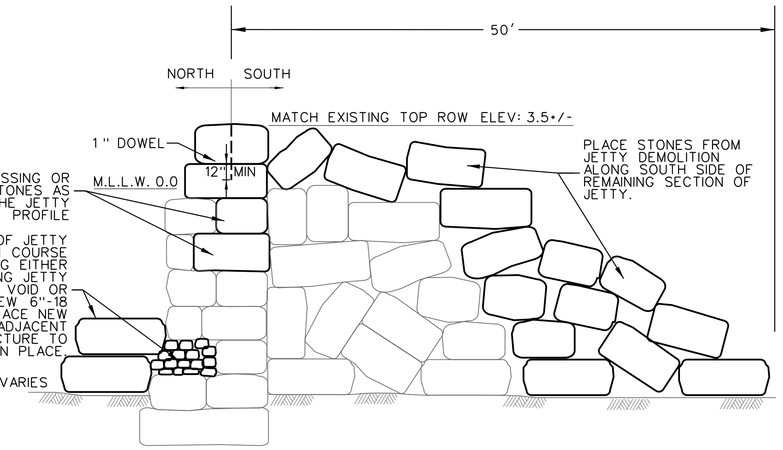
DEMOLITION AND UTILITY RELOCATION PLAN

SHEET IDENTIFICATION
C-102
SHEET 5 OF 7



JETTY SITE PLAN

SCALE: 1"=20'



1. PLACE ALL STONE FROM DEMOLISHED WALL SECTION EVENLY ALONG REMAINING LENGTH OF JETTY. PROVIDE A UNIFORM ELEVATION. WRAP EXCESS STONES AROUND END OF JETTY AS SHOWN. DO NOT DISTURB EEL GRASS NOTED ON SITE PLAN.

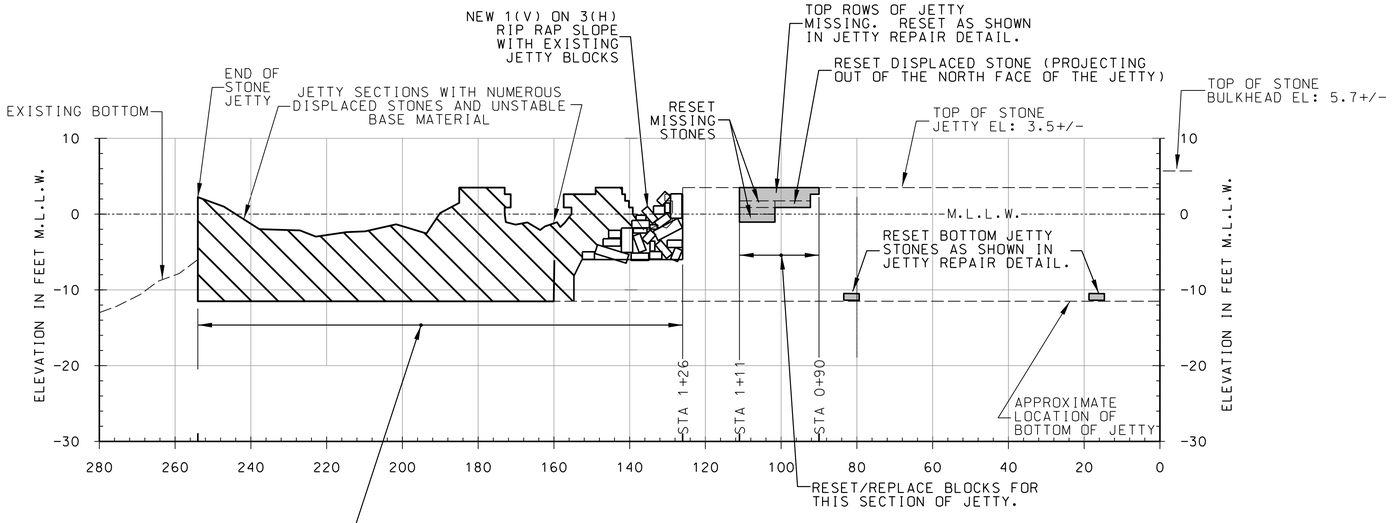
2. RESET STONE BLOCKS TO MATCH EXISTING ELEVATION OF TOP ROW.

3. STONE BLOCKS IN THE TOP ROW SHALL BE ATTACHED TO NEXT LOWER ROW USING 1" DIAMETER DOWELS, INSERTED INTO 1¼" DIA. HOLES AND EPOXY GROUT, AS SPECIFIED AND SHOWN ON THE PLANS.

4. DOWELS SHALL EXTEND THROUGH TOP BLOCK AND APPROX. 12" INTO THE BOTTOM STONE BLOCKS. TWO DOWELS SHALL BE INSTALLED IN EACH STONE. THE DOWELS SHALL BE INSTALLED A MINIMUM OF 12" FROM THE EDGE OF THE BLOCK. DOWELS SHALL BE INSTALLED ON BOTH THE REPAIRED SECTION OF THE JETTY AND THE REMAINDER OF THE 126' OF JETTY TO REMAIN IN PLACE.

TYPICAL JETTY REPAIR DETAIL

NOT TO SCALE



JETTY PROFILE

SCALES: H. 1"=20'
V. 1"=10'

GENERAL NOTE:

1. ALL EXISTING CONDITIONS INFORMATION FOR THE JETTY HAS BEEN TAKEN FROM RECORD PLANS, USACE SITE VISIT AND PHOTOGRAPHS OF STRUCTURE AND DATA PROVIDED TO USACE FROM NOAA. DATA PROVIDED WAS BASED ON TWO CONDITIONS SURVEYS ON THE JETTY DURING FALL 2011 CONDUCTED BY NOAA.

1" = 20' (20 0 20 40)

1" = 10' (10 0 10 20)

US Army Corps of Engineers® New England District

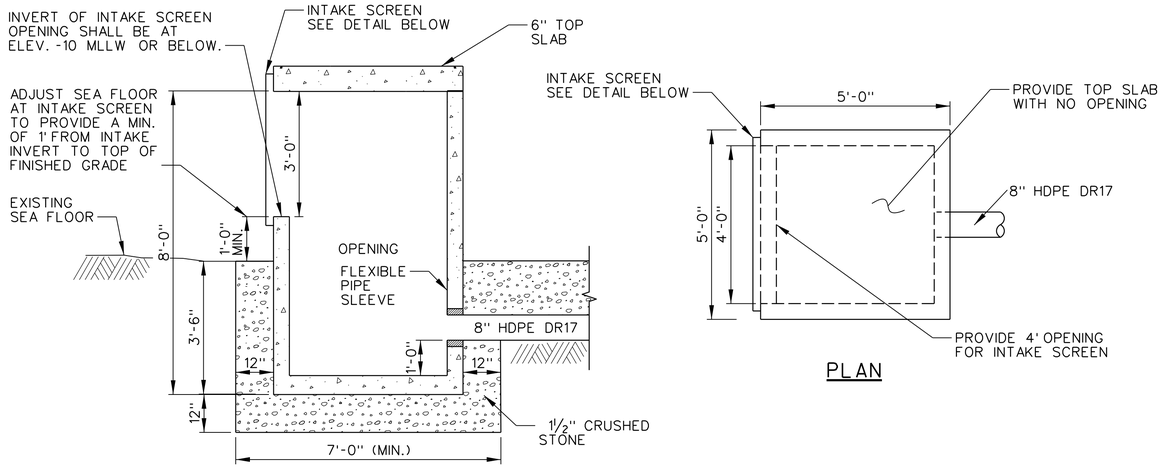
MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: J.KEDKERSKI, M. TESSIER
DRN BY: MEC
CKD BY: MT
SUBMITTED BY: M. TESSIER
PLOT SCALE:
PLOT DATE: NOV 2013
FILE NAME: WHOI-2_C103
SIZE: ANSI D
DRAWING CODE: WHOI-2
CONTRACT NO.:
SOLICITATION NO.: W912WJ-14-B-XXXX
DATE: NOV 2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR
FALMOUTH, MASSACHUSETTS
JETTY SITE PLAN, JETTY PROFILE AND TYPICAL JETTY REPAIR DETAIL

SHEET IDENTIFICATION
C-103
SHEET 6 OF 6



SECTION

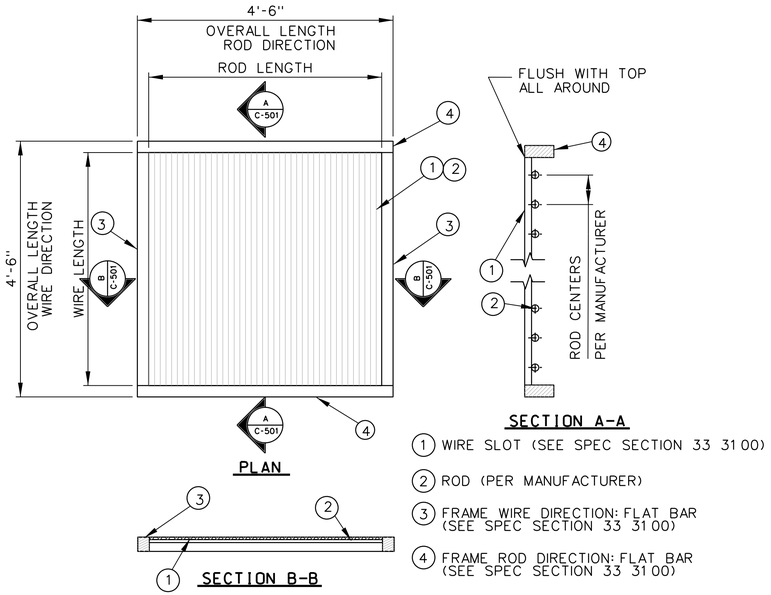
PLAN

SEAWATER INTAKE STRUCTURE

SCALE: NOT TO SCALE

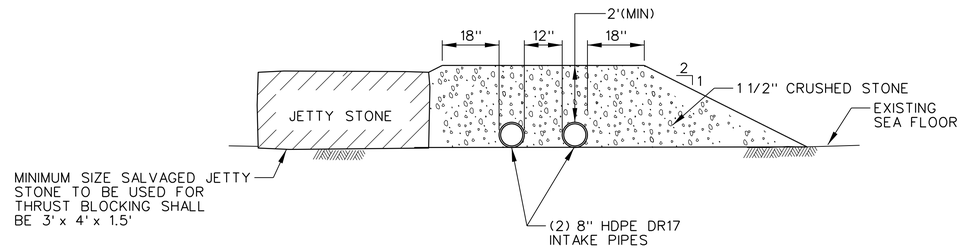
NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: 4 X 4/4 X 4 W.W.M. SLAB TOP - NO. 5'S AT 8" O.C.
3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER SEALANT.
4. BASE AND TOP SECTIONS OF STRUCTURE SHALL BE SQUARE OLDCASTLE PRECAST CONCRETE CATCH BASINS WITH FLAT TOP OR APPROVED EQUAL.
5. CONTRACTOR SHALL SAW CUT INTAKE SCREEN OPENING OR HAVE MANUFACTURER PROVIDE OPENING IN PRECAST UNIT.
6. INTAKE SCREEN SHALL BE BOLTED TO STRUCTURE WITH STAINLESS STEEL HARDWARE PROVIDED BY MANUFACTURER.



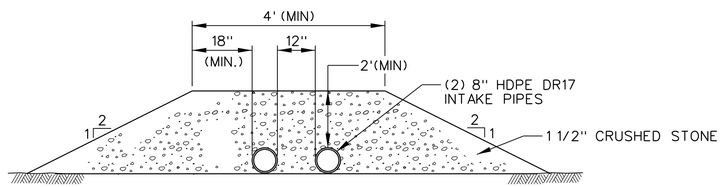
INTAKE SCREEN

NOT TO SCALE



PIPE RESTRAINT DETAIL

NTS



INTAKE PIPE INSTALLATION DETAIL

NTS

US Army Corps of Engineers® New England District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: M. TESSIER
DWN BY: SAF
CKD BY: R. MEADER
SUBMITTED BY: M. TESSIER
PLOT SCALE: FULL
PLOT DATE: 6/6/2013
FILE NAME: NWO2_C501.dgn
SIZE: ANSI D
DATE: JUNE 2013
SOLICITATION NO.: W912WJ-XXX-XXXX
CONTRACT NO.:
DRAWING CODE: WIN42

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

WOODS HOLE BERTHING PROJECT
JETTY DEMOLITION AND REPAIR
FALMOUTH, MASSACHUSETTS

DETAILS

SHEET IDENTIFICATION
C-501

SHEETXXX OF 6

APPENDIX B

NOAA NEFSC Woods Hole Jetty Repair Project
Video Survey of Project Area

TRIP REPORT

NOAA NEFSC Woods Hole Jetty Repair

Underwater Video Survey

Woods Hole, Massachusetts

US ARMY CORPS

OF ENGINEERS

New England District

May 2013

1.0 INTRODUCTION

The objective of this trip was to perform a video survey of the project area for NOAA-Northeast Fisheries Science Center's jetty repair and intake realignment project. This report describes the field methods employed and results of the video survey conducted in the aforementioned location.

2.0 MATERIALS AND METHODS

The video survey was conducted on May 13, 2013. Two transects parallel to the southeast side of the stone jetty were established as well as five transects between the stone jetty and existing wooden pier (Figure 1). The survey documented the state of the stone jetty as well as the subtidal bottom features of the areas adjacent to the jetty. Additionally, the transects located between the jetty and wooden pier were run to document the presence or absence of eelgrass

Work was carried out from the stone jetty located on the NEFSC property. Video footage was collected using a Video Ray PRO3-SE Underwater ROV and recorded to a portable DVR system outfitted with an LCD monitor for real time viewing. The position of the ROV was maintained along the predetermined transects parallel and perpendicular to the jetty using compass bearings. Distances along the transect from the ROV's starting point were measured by surfacing the ROV and using a Bushnell Scout 1000 ARC laser rangefinder to identify position.

Video files were reviewed after the conclusion of field activities using CyberLink PowerDirector video editing software. Representative screen captures were taken from each video transect to represent typical bottom conditions along the transect.

Figure 1. Location of video survey transects for the NEFSC jetty repair and intake line realignment.

3.0 RESULTS

The following section documents the observations along each transect (Figure 1). Screen captures from select locations along the transect are provided.

Transect 1

Eelgrass was present throughout the length of Transect 1 in continuous beds. Some small patches of bare sand were noted along the transect.

Figure 2. Eelgrass beds in Transect 1.

Transect 2

Eelgrass was present throughout the length of Transect 2 in continuous beds. Some small patches of bare sand were noted along the transect.

Figure 3. Eelgrass beds in Transect 2.

Transect 3

Eelgrass was present throughout the length of Transect 3 in continuous beds. Some small patches of bare sand were noted along the transect.

Figure 4. Eelgrass beds in Transect 3.

Transect 4

Eelgrass was present throughout the length of Transect 4 in continuous beds. Some small patches of bare sand were noted along the transect.

Figure 5. Eelgrass beds in Transect 4.

Transect 5

Eelgrass distribution was patchy along the length of Transect 5. Numerous large patches of bare sand were noted along the transect. The existing intake structures were observed adjacent to Transect 5.

Figure 6. Patch of bare sand along Transect 5.

Figure 7. Intake structure adjacent to Transect 5.

Transect 6

Transect 6 was along the base of the stone jetty. The bottom substrate adjacent to the stone blocks was bare sand. Attached macroalgae was present on the stone. Three stations along the transect are noted on Figure 1 – Station 1, 2 and 3. The video captures below represent conditions at those stations.

Figure 8. Bottom substrate at Transect 6, Station 1.

Figure 9. Bottom substrate at Transect 6, Station 2.

Figure 10. Bottom substrate at Transect 6, Station 3.

Transect 7

Transect 7 was to the southeast of the stone jetty. The bottom substrate was bare sand. Some drift macroalgae was present. Three stations along the transect are noted on Figure 1 – Station 4, 5 and 6. The video captures below represent conditions at those stations.

Figure 8. Bottom substrate at Transect 7, Station 4.

Figure 9. Bottom substrate at Transect 7, Station 5.

Figure 10. Bottom substrate at Transect 7, Station 6

APPENDIX C

NEFSC Woods Hole Jetty Repair Project

Clean Air Conformity

RECORD OF NON-APPLICABILITY (RONA)

Emissions Calculations for:

NOAA NEFSC Woods Hole Jetty Repair Project

Woods Hole, Massachusetts

GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY

Project/Action Name:

NOAA NEFSC Woods Hole Jetty Repair Project

Woods Hole, Massachusetts

Project/Action Point of Contact:

Joseph B. MacKay,

Chief, Environmental Resources Section

phone: 978-318-8142

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because:

Total direct and indirect emission from this project/action are estimated at less than 100 tons for Ozone, and are below the conformity threshold value established at 40 CFR 93.153(b) of 100 tons/year of Ozone;

AND

The project/action is not considered regionally significant under 40 CFR 93.153(i).

Supporting documentation and emissions estimates are:

(X) ATTACHED
( ) APPEAR IN THE NEPA DOCUMENTATION
( ) OTHER

SIGNED_____

Jay MacKay, Chief, Environmental Resources Section

General Conformity Review and Emission Inventory for the NOAA Woods Hole Jetty Demo/Repair Project (Woods Hole, MA)
Estimates from Project Manager
15-Jan-13

1	2	3	4	5	6	7	8	9	10	11
	Project Emission Sources and Estimated Power						NOx Emission Estimates		VOC Emission Estimates	
Equipment/Engine Category	# of Engines	hp	LF	hrs/day	Days of Operation	hp-hr	NOx EF (g/hp-hr)	NOx Emissions (tons)	VOC EF (g/hp-hr)	VOC Emissions (tons)
Derrick Barge - Prime Engine	1	330	0.60	10	85	168,300	9.200	1.71	1.300	0.24
Air Compr. 375 CFM 100 PSI	1	115	1.00	10	85	97,750	9.200	0.99	1.300	0.14
Tugboat - Prime Engine	1	150	0.40	10	85	51,000	9.200	0.52	1.300	0.07
Crew/Survey Workboat - Prime Engine	1	100	0.40	10	85	34,000	9.200	0.34	1.300	0.05
TRK, HWY 21,000GVW 4x2 2 Axel	1	175	0.40	10	85	59,500	9.200	0.60	1.300	0.09
	0									
Total Emissions							NOx Total	2.46	VOC Total	0.35

Horsepower Hours
hp-hr = # of engines*hp*LF*hrs/day*days of operation

Load Factors
Load Factor (LF) represents the average percentage of rated horsepower used during a source's operational profile. For this worst case estimate, LF is held at 1 for all equipment. Typical is 0.4 to 0.6

Emission Factors
NOx Emissions Factor for Off-Road Construction Equipment is 9.20 g/hp-hr
VOC Emissions Factor for Off-Road Construction Equipment is 1.30 g/hp-hr

Emissions (g) = Power Demand (hp-hr) * Emission Factor (g/hp-hr)

Emissions (tons) = Emissions (g) * (1 ton/907200 g)

FINDING OF NO SIGNIFICANT IMPACT

The Council on Environmental Quality (CEQ) Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 Section 6.01b. 1 - 11 provides eleven criteria, the same ten as the CEQ Regulations and one additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

The majority of impacts of the proposed action will be short-term and localized and are not considered significant. The alteration of some bottom habitat from sandy substrate to stone block will be permanent. However this change in substrate type is not anticipated to significantly alter functions and values of habitat in the project area.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

No negative impacts to public health or safety are associated with these activities.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

The proposed jetty repair and intake line realignment will not significantly impact any historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

No, the proposed action's effects are not likely to be highly controversial.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The effects are not likely to involve unique or unknown risks.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

No, the proposed action will not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

No, the action will not lead to significant cumulative impacts.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

No, the action will not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places and will not cause loss or destruction of significant scientific, cultural, or historical resources.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

No, the proposed action is not expected to significantly impact endangered or threatened species, or their critical habitat.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

No, the action will not threaten a violation of Federal, state, or local law or requirements imposed for environmental protection.

11. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

No, the action will not result in the introduction or spread of a nonindigenous species.

DETERMINATION

In view of the information presented in this document, it is hereby determined that the NOAA Woods Hole Jetty Repair Project will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

Edward C. Horton
NOAA Chief Administrative Officer

3/28/2014
Date