SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

MARSH ISLAND SALT MARSH RESTORATION PROJECT
FAIRHAVEN, MASSACHUSETTS

Prepared by:

NOAA Restoration Center

New Bedford Harbor Trustee Council

Executive Summary

This Supplemental Environmental Assessment (EA) has been prepared by the National Oceanic and Atmospheric Administration (NOAA), on behalf of the New Bedford Harbor Trustee Council (NBHTC), to provide information to the public regarding potential site-specific impacts of the proposed Marsh Island Salt Marsh Restoration Project. The two restoration alternatives considered by the NBHTC and presented in this document are the proposed action, the Marsh Island Salt Marsh Restoration Project, and a no action alternative, as required under the National Environmental Policy Act (NEPA).

Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP), New Bedford Harbor was designated as a Superfund Site and placed on the National Priorities List in Appendix B of the NCP in 1983. The sediments, water column, and biota of New Bedford Harbor, Massachusetts are highly contaminated with polychlorinated biphenyls (PCBs) as a result of industrial discharges into the Harbor.

CERCLA further provides for the designation of federal, state, or tribal authorities who act on behalf of the public as “natural resource trustees”. Natural resource trustees are authorized by Congress to assess natural resources injuries arising from the release or threatened release of hazardous substances and recover natural resources damages, including the reasonable costs of assessing such injuries, from responsible parties. (42 U.S.C. § 9607(a)(4)). The Trustees must use any recovered damages to restore, replace or acquire the equivalent of the injured natural resources. (42 U.S.C. § 9607(f)(1). Prior to implementing restoration, the trustees must prepare a restoration plan and are required to involve the public in the development of the restoration plan (42 U.S.C. §9607(f) (1) and §9611(i); 40 C.F.R. §300.600; 43 C.F.R. §11.93).

The designated natural resource trustees for the natural resources impacted by the New Bedford Harbor Superfund Site are the Commonwealth of Massachusetts, the U.S. Department of the Interior (DOI), and the U.S. Department of Commerce (DOC). The Commonwealth’s designated Trustee is the Secretary of Environmental Affairs of the Executive Office of Energy and Environmental Affairs (EOEEA), with assistance provided by its departments and divisions. DOI is represented by the U.S. Fish and Wildlife Service. The National Oceanic and Atmospheric Administration (NOAA) is designated as the DOC’s trustee responsible for damage assessment and restoration. NOAA’s lead agency for restoration is the National Marine Fisheries Service (NMFS). In 1991, the above named trustees formed the New Bedford Harbor Trustee Council (NBHTC or Trustee Council).

Under the National Environmental Policy Act (NEPA), federal agencies must prepare a detailed statement on the environmental impacts of any major Federal action significantly affecting the quality of the human environment. (42 § U.S.C. 4321 et seq.) In order to satisfy the requirements of CERCLA and NEPA, the NBHTC combined restoration planning with the development of an Environmental Impact Statement (EIS)

to guide the Council through the selection, planning, and implementation of restoration projects. To date, the Council has issued three additional Environmental Assessments (EA) to assess over 100 proposed restoration projects. The projects selected by the NBHTC are designed to restore the natural resources and services, including public use, that have been injured by releases and threatened releases of hazardous substances from the New Bedford Harbor Superfund Site. Through the preparation and publication of the EIS and supplemental EAs and numerous public meetings and outreach activities, the NBHTC has involved the public in the identification, evaluation, and selection of general restoration goals and specific restoration alternatives.

The NBHTC has developed this Supplemental EA to address potential site-specific impacts of the proposed Marsh Island Salt Marsh Restoration Project and is providing a 15 day notice and comment for this proposed action.

The two alternatives evaluated in this EA are: the Proposed Action, which is a modified design from the 2005 Feasibility Study Alternative (Berger 2005); and No Action, under which NOAA and its co-Trustee Council would provide no funds for the project. NEPA requires evaluation of the No Action Alternative to compare the effects of not taking action to the effects of the action alternative(s). For this EA, the No Action Alternative assumes that no action will be taken by the Trustee Council to restore any salt marsh habitat in the affected environment, resulting in no net ecological benefit. The Proposed Action Alternative would directly restore approximately 11.7 acres of salt marsh and tidal creeks by removing fill to establish salt marsh elevations, reconstructing a tidal creek system, and planting with appropriate native marsh species. The proposed project will improve hydrology and water quality, enhance fish and wildlife habitat, and provide opportunities for the public to access the shoreline and restored marsh for passive recreational activities.

NOAA has determined under CEQ Regulations and NOAA's Administrative Order 216-6 that a Supplemental Environmental Assessment (SEA) is sufficient for this project. Therefore, an environmental impact statement will not be prepared for this project, unless future information and/or comments make it necessary.

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1.0 PURPOSE AND NEED FOR ACTION

1.1 *Background*

The sediments, water column, and biota of New Bedford Harbor, Massachusetts are highly contaminated with polychlorinated biphenyls (PCBs) as a result of industrial discharges into the Harbor and nearby coastal environments in western Buzzards Bay. As a result, the U.S. Environmental Protection Agency (EPA) designated New Bedford Harbor a Superfund Site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund," 42 U.S.C. §9601 et seq.) in 1983.

Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP), New Bedford Harbor was designated as a Superfund Site and placed on the National Priorities List in Appendix B of the NCP in 1983. The sediments, water column, and biota of New Bedford Harbor, Massachusetts are highly contaminated with polychlorinated biphenyls (PCBs) as a result of industrial discharges into the Harbor.

CERCLA further provides for the designation of federal, state, or tribal authorities who act on behalf of the public as “natural resource trustees”. Natural resource trustees are authorized by Congress to assess natural resources injuries arising from the release or threatened release of hazardous substances and recover natural resources damages, including the reasonable costs of assessing such injuries, from responsible parties. (42 U.S.C. § 9607(a)(4)). The Trustees must use any recovered damages to restore, replace or acquire the equivalent of the injured natural resources. (42 U.S.C. § 9607(f)(1). Prior to implementing restoration, the trustees must prepare a restoration plan and are required to involve the public in the development of the restoration plan (42 U.S.C. § 9607(f) (1) and § 9611(i); 40 C.F.R. § 300.600; 43 C.F.R. § 11.93).

The designated natural resource trustees for the natural resources impacted by the New Bedford Harbor Superfund Site are the Commonwealth of Massachusetts, the U.S. Department of the Interior (DOI), and the U.S. Department of Commerce (DOC). The Commonwealth’s designated Trustee is the Secretary of Environmental Affairs of the Executive Office of Energy and Environmental Affairs (EOEEA), with assistance provided by its departments and divisions. DOI is represented by the U.S. Fish and Wildlife Service. The National Oceanic and Atmospheric Administration (NOAA) is designated as the DOC’s trustee responsible for damage assessment and restoration. NOAA’s lead agency for restoration is the National Marine Fisheries Service (NMFS). In 1991, the above named trustees formed the New Bedford Harbor Trustee Council (NBHTC or Trustee Council).

Under the National Environmental Policy Act (NEPA), federal agencies must prepare a detailed statement on the environmental impacts of any major Federal action significantly affecting the quality of the human environment. (42 § U.S.C. 4321 et seq.) In order to satisfy the requirements of CERCLA and NEPA, NEPA, the NBHTC combined restoration planning with the development of an Environmental Impact

Statement (EIS) to guide the Council through the selection, planning, and implementation of restoration projects. To date, the Council has issued three additional Environmental Assessments (EA) to assess over 100 proposed restoration projects. The projects selected by the NBHTC are designed to restore the natural resources and services, including public use, that have been injured by releases and threatened releases of hazardous substances from the New Bedford Harbor Superfund Site. Through the preparation and publication of the EIS and supplemental EAs and numerous public meetings and outreach activities, the NBHTC has involved the public in the identification, evaluation, and selection of general restoration goals and specific restoration alternatives.

This EA is a supplement to the "New Bedford Harbor Restoration Round II" EA issued by the NBHTC in January 2001. It was developed to address site-specific impacts of the proposed Marsh Island Salt Marsh Restoration Project pursuant to CERCLA and NEPA. As part of that Restoration Plan the NBHTC works to fund and implement the Plan's goals, and identified restoration of living resources especially the estuary and adjacent coastal areas, as these marine and coastal resources were primarily affected.

Proposed Action (Preferred)

The Marsh Island Salt Marsh Restoration project will directly restore approximately 11.7 acres of salt marsh and tidal creeks by removing fill to establish salt marsh elevations, reconstructing a tidal creek system, and planting with appropriate native marsh species (Figure 1). This increase in salt marsh acreage is a substantial gain for the New Bedford Harbor/Acushnet River area where extensive areas of coastal marsh have been filled and/or contaminated. The project is the result of extensive planning, consultation, and coordination with project partners, local, state, and federal resource agencies, site abutters, the local neighborhood, and other stakeholders. Restoration plans for the preferred alternative are included as Appendix A.

1.2 *Purpose and Need for the Proposed Action*

The purpose of the Marsh Island Salt Marsh Restoration Project is to restore the highly disturbed landscape that resulted from previous quarrying and the placement of dredged materials from the Harbor over former salt marsh habitat. In New Bedford Harbor and the Acushnet River, extensive areas of coastal marsh have been filled and/or contaminated. The filling of various salt marsh areas, for the construction of textile mills (1880's), resulted in an estimated loss of 134 acres of wetlands along the Acushnet River.

The Proposed Action is needed because dredged material from New Bedford Harbor was placed on Marsh Island in the late 1930s and in the early 1950s, filling most of the salt marsh on the site. The proposed project will improve hydrology and water quality, enhance fish and wildlife habitat, and provide opportunities for the public to access the shoreline and restored marsh for passive recreational activities.

1.3 *Regulatory Process*

Pursuant to Section 301 CMR 11.03(3)(a)(1), the Marsh Island Salt Marsh Restoration Project is subject to the Massachusetts Environmental Policy Act (MEPA) review because it requires a state permit and involves alteration of one or more acres of salt marsh or bordering vegetated wetlands. An Expanded Environmental Notification Form (EENF) was submitted to the EOEA MEPA Unit in April 2010 (EEA № 14575). The EENF was presented to a public meeting with an overview of the preferred alternative at Millicent Library in Fairhaven on May 10, 2010[1]. Public Notice of this meeting was published in The (New Bedford) Standard-Times on April 21, 2010.

Figure 1-1-1Site Locus of Marsh Island, Fairhaven, Massachusetts (Source: USGS)

[1] MEPA becomes effective at the state level when a project involves an action by a state-level agency. In addition, MEPA is the Commonwealth's complement to the National Environmental Policy Act (NEPA), which is effective at the Federal level when a project involves an action by a Federal agency. This proposed project must comply with both MEPA and NEPA due to state and Federal agency involvement.

Following public review and comment on the EENF, the EOEEA Secretary, in a certificate dated May 28, 2010, found that the project did not require the preparation of an Environmental Impact Report (EIR). In addition, the EOEEA Secretary granted a waiver request in a Final Record of Decision (ROD) dated 30 June 2010, allowing the project to proceed to the state permitting agencies.

A Notice of Intent, in accordance with the Massachusetts Wetlands Protection Act (M.G.L. c. 131, §40 and 310 CMR 10.00), was filed with the Fairhaven Conservation Commission and the Massachusetts Department of Environmental Protection, Bureau of Resource Protection –Wetlands on July 8, 2010. The Fairhaven Conservation Commission held a Public Hearing on August 2, 2010. The Fairhaven Conservation Commission issued an Order of Conditions[2] for the project on August2, 2010.

An application for the Marsh Island Salt Marsh Restoration project was filed with the U.S. Army Corps of Engineers (USACE), New England District, in accordance with Section 404 of the Clean Water Act on October 14, 2010. An individual permit application was filed with the USACE based on the possible large area of wetland alteration and additional opportunities for public comment. However, subsequent to this filing, the USACE has indicated they would review the project under Category 2 of the Massachusetts Programmatic General Permit.

A Waterways Program Chapter 91 Waterways License Application, in accordance with 310 CMR 9.00, was submitted to the Massachusetts Department of Environmental Protection, Bureau of Resource Protection – Waterways Regulation Program for the project on October 14, 2010. Additionally, an application for the project was also filed with the Massachusetts Department of Environmental Protection, Bureau of Resource Protection – Wetlands and Waterways, in accordance with the Massachusetts Surface Water Quality Standards (314 CMR 9.00: 401 Water Quality Certification) on October 14, 2010, as well. Furthermore, the project requires a Coastal Zone Management Federal Consistency Review from the Office of Coastal Zone Management (CZM) and Public Benefits Determination pursuant 301 CMR 13.00..

According to Code of The Town of Fairhaven, Zoning Bylaw—Chapter 198, Section 31, Earth Removal Regulations, revised May 5, 2007, the project will require a special permit from the Zoning Board of Appeals as the project would result in the removal of more than 50 cubic yards of material from a lot. A Zoning Board of Appeals Application was filed on June 30, 2010 and the petition was reviewed by the ZBA on September 7, 2010, at which time the ZBA granted a special permit.

Through the regulatory process described herein, the Marsh Island Salt Marsh Restoration design has been revised to avoid, minimize, and mitigate adverse environmental impacts. These revisions have resulted in the restoration activities described as the Proposed Action Alternatives (Preferred) in this document.

[2] The Conservation Commission ensures that proposed activities will not alter resource areas and the public interests they provide, by reviewing projects on a case-by-case basis according to regulations [310 Code of Massachusetts Regulations (CMR) 10.00]. Following the Public Hearing, the Commission issued a permit, the Order of Conditions, which approved the project -- with special conditions that protect the public interests.

2.0 DESCRIPTIONS OF ALTERNATIVES

The two alternatives evaluated in this EA are: the Proposed Action, which is a modified design from the 2005 Feasibility Study Alternative (Berger 2005); and No Action, under which NOAA and its co-Trustee Council would provide no funds for the project. NEPA requires evaluation of the No Action Alternative to compare the effects of not taking action to the effects of the action alternatives.

The project proposed herein is the result of extensive planning, consultation, and coordination with project partners, local, state, and federal resource agencies, site abutters, the local neighborhood, and other stakeholders. The local neighborhood was invited to two public informational meetings held at the Millicent Library where details of the project were presented and potential concerns were received. The proposed project represents the consensus design, developed after consideration of many alternative conceptual designs that balances goals to maximize restoration on the site while avoiding and minimizing impact to existing resource areas and to abutters and the local neighborhood.

2.1 *Alternative 1 – Proposed Action Alternative (Preferred)*

During earlier planning phases (Berger 2005), a series of restoration concepts were developed for the Marsh Island Salt Marsh Restoration Project. Two of the concepts involved restoration work only on the northern portion of Marsh Island as the availability of the southern portion of the project site was unresolved at that time. Design components that factored into the development of each restoration concept included:

- Maximizing the size of salt marsh restoration area within the existing property limits;
- Maximizing tidal circulation and placing an emphasis on the re-establishment of low marsh and the lower range of high marsh communities to reduce the potential for *Phragmites* encroachment;
- Avoiding and minimizing disturbance to existing intertidal zones known to have PCB contamination issues;
- Avoiding known conflicts with the existing sewer easement, other utilities, and radio tower infrastructure;
- Encouraging passive recreation and education opportunities by: (1) including provisions for pedestrian access to and within the site; (2) providing sufficient parking; (3) incorporating a foot path with boardwalks to areas of interest (with the potential for interpretative signage); and (4) constructing overlook platforms;
- Maximizing habitat potential and wildlife viewing opportunities with the incorporation of salt marsh pools;
- Avoiding impacts to existing large trees (which were previously surveyed) and other important upland locations; and
- Controlling access to the site for intended uses.

The restoration concepts served as a foundation for the advancement of the preferred alternative. The most important change in the design from the earlier concepts involving the entire site was the elimination of a northern tidal connection and the

proposed construction of a low berm/access trail across the northern portion of the site. Other modifications to the design from the earlier concepts arose from concerns raised by agencies and/or abutters. These additional design modifications included:

- Public access improvements to the trail design, timber bridge and parking area;
- Provisions for a temporary construction access road to avoid construction impacts to residential streets; and
- Shifting of the proposed restoration limits off the existing sewer line and away from property boundaries.

The Proposed Action Alternative would directly restore approximately 11.7 acres of salt marsh and tidal creeks by removing fill to establish salt marsh elevations, reconstructing a tidal creek system, and planting with appropriate native marsh species. The preferred alternative represents the consensus design, developed after consideration of many alternative conceptual designs that balances goals to maximize restoration on the site while avoiding and minimizing impact to existing resource areas and to abutters and the local neighborhood. The design modifications included but are not limited to: the incorporation of the northern berm to protect the newly restored salt marsh from potential PCB contamination; improving public access to the site (i.e., timber bridge, parking area, Americans with Disabilities Act (ADA)compliant pedestrian trail, observation platforms); and minimizing construction impacts to the residential neighborhood.

The targeted marsh plain elevations have been determined based on biological benchmarks and tidal monitoring data obtained from the site. Similarly, the tidal channel system has been designed using reference marsh channel morphometry as well as modeling. The preferred alternative will generate approximately 100,000 cubic yards of earth material that will be hauled and disposed of off the site. The project will result in the restoration of 1.4 acres of tidal creek, 6.0 acres of low marsh, and 4.2 acres of high marsh habitat. To enhance the vegetative buffer surrounding the restoration site and to improve wildlife habitat, those areas that are sparsely vegetated or disturbed during construction will be amended with at least four inches of loam and seeded with a native warm-season grassland and wildflower mixture. Additionally, the upland slopes and other disturbed upland areas will be planted with woody shrubs within like species clusters.

2.2 *Alternative 2 – No Action Alternative*

The No Action Alternative assumes that no action will be taken by the Trustee Council to restore any salt marsh habitat in the affected environment.

As previously noted, the filling of salt marsh for the construction of textile mills (1880's) resulted in an estimated loss of 134 acres of wetlands along the Acushnet River. Historic aerial photography of the site is available from 1936, 1952, and 1962. The 1936 Massachusetts Department of Transportation (MassDOT) aerial photographs, although

photographed from high altitude, indicate that most of the site consisted of ditched salt marsh. This finding corroborates the 1938 account in the *Fairhaven Star* that indicated that navigational dredging of the Acushnet River north of the New Bedford-Fairhaven Bridge generated the spoils deposited at Marsh Island. The 1936 photography indicated two areas of upland abutting the river at the site. These two upland areas included the existing bedrock outcrops where past quarrying had occurred. Within the southern portion of the site, there appeared to be fill extending in a linear fashion from Taber Street. This would have been the most likely location of any discarded household waste materials anecdotally referenced in early newspaper accounts. Although depicted on earlier tax maps (circa 1910), no indication of a tidal creek system extending into Marsh Island from the south appeared on the 1936 aerial photograph.

In the 1936 photographs, the eastern wetland boundary of the site was relatively well defined by uplands along the abutting cemetery (present Riverside Cemetery). A main tidal creek lies in this location with several perpendicular channels extending to the west. The current location of the Moby Dick Marina (immediately north of the site) was likely, in part, salt marsh in 1936.

The 1952 aerial photography obtained from the Natural Resource Conservation Service (NRCS) clearly depicts deposition of dredged material over the southern half of the site. The northern portion of the site appears to reflect current conditions. Further dredged material deposition may have occurred after 1952. Between 1936 and 1952, wetlands along the northern shoreline and the northeastern boundary with the cemetery (including the former tidal creeks) were altered. Photography from the early 1960s viewed at the Fairhaven Department of Public Works was generally similar to the 1952 image, indicating no significant changes over the preceding decade.

The proposed project would substantially improve the hydrology and water quality of site wetlands, vegetation cover, wildlife habitat, and many important wetland functions. Under the no action alternative, without the implementation of the proposed restoration actions, existing wetland resource areas would remain in their current degraded condition and would be expected to degrade further over time.

3.0 AFFECTED ENVIRONMENT

3.1 *Wetlands*

The entire project area was inspected for the presence of areas protected under state and federal wetland regulations. Limits of wetlands were delineated in the field and subsequently field located by GAF Engineering, as shown on the project plans (Appendix A). A narrow band of relatively unaltered estuarine intertidal emergent wetland (salt marsh) as defined in Cowardin *et al* (1979) lies along the intertidal portion of the site's perimeter. Most of the salt marsh is low marsh dominated by smooth cordgrass (*Spartina alterniflora*). Smaller zones of high marsh exist along the site's northern and southern edges. Other common salt-tolerant wetland species observed near the upper salt marsh boundaries included marsh elder (*Iva frutescens*), northern sea lavender (*Limonium carolinianum*), and seaside goldenrod (*Solidago sempervirens*). Several areas along the upper marsh are dominated almost exclusively by common reed (*Phragmites australis*). The wetland delineation took into consideration the disturbed physical nature of the site such as tidal restriction and specific species composition.

The majority of the jurisdictional wetlands on the property are associated with remnant and/or partially filled salt marsh within the northern and central portions of the property and classified as palustrine emergent wetland. Much of the former tidal creek which existed along the boundary with the cemetery currently consists of a linear non-tidal swale bordered by woody vegetation such as black willow (*Salix nigra*). The southern perimeter of this wetland consists of palustrine scrub-shrub swamp. Common species within this disturbed transition zone include red maple (*Acer rubrum*)*, quaking aspen (Populus tremuloides),* bayberry (*Myrica pensylvanica),* meadowsweet (*Spiraea latifolia*)*,* pussy willow (*Salix discolor),* glossy buckthorn (*Rhamnus frangula*)*,* smooth sumac *(Rhus glabra), and* poison ivy (*Toxicodendron radicans).* Only a few small patches of high marsh dominated by salt meadow grass (*Spartina patens*) remain in the northern portion of the site. The majority of the remaining Emergent Wetland zone is dominated by *Phragmites.* The altered conditions (i.e., slightly higher elevations, mineral soil conditions, and existing restrictions to tidal flow) are ideal for the colonization and advancement of *Phragmites.*

A small isolated palustrine emergent wetland occupies a depression at the base of a quarried granite outcrop in the southwest corner of the parcel. It is separated from the river by a narrow coastal beach. The depression, likely a portion of the former quarry works, still supports wetland hydrology. The sandy mineral soils within the depression support a dense stand of *Phragmites* and the depression could fall under the jurisdiction of the USACE due to the adjacent coastal wetlands.

A Request for Determination of Applicability (RDA) was submitted and approved by the Fairhaven Conservation Commission in 2004 for the wetland resources delineated in the northern portion of Marsh Island. In 2007, a second RDA was submitted to the Fairhaven Conservation Commission for approval of all wetland resources delineated for the property. The Commission issued a positive Determination of Applicability approving the resource area delineations.

3.2 *Threatened and Endangered Species*

Correspondence with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) and the U.S. Fish and Wildlife Service (USFWS) has determined that the site is not mapped by the NHESP as Priority or Estimated Habitat and neither agency has any rare species concerns associated with this project.

3.3 *Vegetation and Wildlife Habitat*

The project lies in the Narragansett/Bristol Lowland sub-ecoregion of Massachusetts. This sub-ecoregion is variable in its topography with uncommon bedrock outcrops and thick glacial till and outwash deposits found covering the area (Swain and Kearsley 2001). Typically, vegetation in this sub-ecoregion consists of central hardwoods. However, the vegetation found within the project area is indicative of disturbed sites and includes, but is not limited to: red maple; red cedar (*Juniperus virginiana*); black locust (*Robina pseudoacaia*); Asiatic bittersweet (*Celastrus orbiculatus*); rugosa rose (*Rosa rugosa*); common reed; grey birch (*Betula populifolia*); staghorn sumac (*Rhus typhina*); winged sumac (*Rhus copallina*); bayberry; switch grass (*Panicum virgatum*); broom sedge (*Andropogon virginicus*); and seaside goldenrod. The vegetated terrestrial communities, which consist of shrubland with isolated stands of larger trees, provide habitat for a number of habitat generalists that use shrubland and thickets. These may include many common species such as raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), eastern coyote (*Canis latrans*), bluejay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius),* northern cardinal (*Cardinalis cardinalis*), gray catbirds (*Dumetella carolinensis*), northern mockingbirds (*Mimus polyglottos*), American kestrel (*Falco sparverius*),and common grackles (*Quiscalus quiscula*). The lack of tree cavities within the project area limits the area's habitat potential for cavity nesting birds (i.e., tufted titmouse (*Baeolphus bicolor*), nuthatches (Sittidae), black-capped chickadees (*Poecile atricapillus),* and wrens (Troglodytidae)).

Northern brown snake (*Storeria dekayi*), eastern hognose snake (*Heterodon platyrhinos*), northern black racer (*Coluber constrictor*), and eastern smooth green snake (*Opheodrys vernalis*) could potentially inhabit the site. The vegetated terrestrial areas are interspersed on the site with the wetland communities and xeric unvegetated substrate. The site's location between the Acushnet River and abutting development indicates that it does not serve as connecting habitat linking other areas of important habitat value. The disturbed nature of the site most likely explains the poor development of discrete habitat features (woody debris, tree cavities, and complex microtopography). Invasive plants such as Asiatic bittersweet and common reed are scattered throughout the upland area.

The on-site wetland habitat (salt marsh, emergent wetland, scrub-shrub swamp) also affords wildlife habitat. The fringe of salt marsh surrounding the project area provides valuable stopover and feeding areas for migrating wading birds and shorebirds (Scolopacidae, Charadriidae, Ardeidae, Threskiornithidae), waterfowl (Anatidae), and raptors (Accipitridae, Falconidae). The coastal wetland has functional importance as shellfish habitat and as a nursery for a wide variety of fish.

Interior (landward) of the on-site salt marsh, the dense tall reeds of the *Phragmites*-dominated emergent wetland likely provide less suitable cover for small animals (amphibians, small mammals, reptiles) that would otherwise use marsh habitat. The disturbed nature of the site most likely explains the lack of vegetative structure (hummocks, woody debris) and the general paucity of topographic complexity. The general absence of standing water during the breeding season may limit the value of this area for swamp sparrows (*Melospiza georgina*) and red-winged blackbirds (*Agelaius phoeniceus*), despite suitable vegetative structure. The dominance of invasive species (*Phragmites,* purple loosestrife (*Lythrum salicaria*)) is evidence of habitat degradation.

The plant species and structure of the scrub-shrub swamp are suitable for a number of mammal species including eastern cottontail (*Sylvilagus floridanus*), ermine (*Mustela ermine*), opossum, raccoon, fox (*Vulpes vulpes*) and eastern coyote. The shrubs and small trees provide perches for flycatchers (Fluvicolinae) and cedar waxwings (*Bombycilla cedrorum*), as well as suitable nesting habitat for song sparrows (*Melospizamelodia*), common yellowthroats (*Geothylpis trichas*), yellow warblers (*Dendroica petechia*), and for habitat generalists such as gray catbirds, northern mockingbirds and common grackles. However, the small size (narrow band) of the site, in concert with the short hydroperiod, limits the number of wildlife species able to use this area.

3.4 *Geology and Soils*

Geologically, the project area is part of the Avalonian Tectonic Terrane(Milford-Dedham Zone) and the underlying bedrock is light grey, pinkish-gray to tan, mafic-poor gneissic granite commonly containing muscovite (Zen *et al*. 1983). The remnant of a once larger bedrock outcrop in the western portion of the project area serves as evidence of past quarrying activity that occurred on the site. Much of the rock quarried from the site was used to construct the mills surrounding the Harbor.

According to the Bristol County Soil Survey (Southern Part), the project area consists of Udorthents. Udorthents are described as made land over loose sandy and gravelly glaciofluvial deposits and/or firm course-loamy basal till derived from granite and gneiss (Roffinoli and Fletcher 1981). Salt marshes in this area are typically underlain by very poorly drained Pawcatuck and Ipswich peat. However, the placement of dredged material within the project area, as confirmed by the soil sampling conducted in 2003, 2004, and 2008, resulted in burial of the historic marsh plain soil under six to seven feet of sandy dredged soil.

Multiple soil investigations and analyses within Marsh Island site have indicated that the soils do not represent hazardous waste or contain PCB concentrations (in the areas addressed in this study) that would require special management. Neither PCB nor volatile petroleum hydrocarbons (VPH) were detected in any of the soil samples. A complete description of the soil testing and characterization can be found in the Interim Report (Berger 2005) and the South Marsh Island Sampling and Analysis Results letter dated July 2005 and March 7, 2008, respectively.

3.5 *Water Resources*

The project area is located along the Acushnet River in southeastern Massachusetts. The headwaters of the Acushnet River are located in the Town of Lakeville. The River runs approximately nine miles in a southerly direction before discharging into New Bedford Harbor/Buzzards Bay, immediately south of Marsh Island. Recently NOAA and the Trustee Council provided funding to restore effective fish passage on the Acushnet River at the Hamlin Street and Sawmill Dams through the construction of step-pool nature-like fishway. Similar to the Marsh Island Salt Marsh project currently proposed by the Trustees, these projects were designed to support environmental restoration in New Bedford Harbor and the surrounding environment.

3.6 *Land Use*

According to MassGIS land use mapping, the majority of the project area has been mapped as Open Land. A small portion of the project area in the general area of the proposed gravel parking area, as well as the Riverside Cemetery to the east, has been classified as Urban Open Land. The neighborhoods surrounding Taber Street have been mapped as High Density Residential Land (MADEP 2002).

The site has two radio towers, multiple tower anchors and stays, and two small concrete block buildings at the base of each tower. The site also contains a transformer pole supplying electrical power to the building at the base of the eastern radio tower. Subsurface utilities include a sanitary sewer pipeline, water line, electrical conduit supplying electricity to the western tower, and an antenna ground plane system. The sanitary facilities are connected to the municipal sewer line, which parallels the eastern edge of the property. A fuel underground storage tank historically supplied fuel to a generator within the eastern radio tower (Tower No. 1).

As part of the Phase I Environmental Assessment for Marsh Island South completed by CLC Consulting Group (2006), a review of the Fairhaven Fire Department records indicated that in 1990 a 500-gallon fuel oil underground storage tank was removed from the property. At the time of the tank removal, three holes were identified in the tank. Due to the presence of the holes in the tank it is possible a release of fuel oil occurred potentially impacting soil and groundwater (CLC Consulting Group 2006). According to a letter written by Deputy Chief Crowley, Harborline Engineering was on the site during the removal and screened soil beneath the tank grave. Chief Crowley also stated the tank grave did not appear to have any obvious visual or olfactory signs of contamination.

The radio towers are owned and operated by Citadel Broadcasting Company in Fairhaven, Massachusetts. The towers were constructed in the mid-1950s. The towers are approximately 271 feet tall and are supported by systems of stays/guy wires. The guy system for each tower is composed of three sets of four wires that connect to different elevations on the tower. Each set of four wires is connected to the ground through a single concrete anchor. The three anchors are positioned 120 degrees from each other around the base of each tower and are located approximately 171 feet from

the tower base. The southernmost anchor for Tower No. 2 is situated on a short spit of land in the harbor, and is surrounded by water during the higher periods of the tide cycles.

To enhance the radio signal, a subsurface ground plane network was installed radially around the base of each tower. The ground plane for each tower consists of 120 No. 10 bare copper wires that radiate 175 feet from the base. In between the towers, the radials (from both towers) extend until they intersect and are connected to a 4-inch-wide copper strap running north and south, halfway between the two towers. The ground plane is just a few inches to a few feet below the ground surface. The extent to which the ground plane extends to the east beyond the property limits is unclear (F. Doremus, WBSM radio engineer, pers. comm.) Ground planes are reported to be most effective when placed in or near groundwater. According to Mr. Doremus the existing ground plane, installed “forty plus” years ago, needs repair.

At the base of each tower is a small concrete-block service building. The building on the south side of Tower No. 1 (the eastern tower) is approximately 25 by 10 feet in width and 10 feet in height. This building is served by municipal water and sanitary facilities. The building on the north side of Tower No. 2 (the western tower) is approximately 7 by 7 feet in width and 10 feet in height. Both buildings are served by electrical power. The first is served by overhead lines. This structure houses the radio transmitting equipment. Radio frequency energy from the radio transmitting equipment is conveyed to Tower No. 2 via an underground coaxial cable encased in conduit. A 10-gauge, 3-conductor direct cable is buried in the vicinity of the conduit and provides AC power for tower lighting. The locations of these underground facilities are uncertain. They likely are laid in a straight line from the structure at Tower No. 1 to the structure at Tower No. 2 (F. Doremus, pers. comm. May 25, 2009).

3.7 *Social and Economic Environment*

The project is proposed within the Town of Fairhaven and would not disproportionately affect populations of minorities or low income households and individuals. The percentage of minority individuals living within this area is lower than the percentage of minority individuals living within the nation and state. The percentages of both families and individuals living below the poverty line are below the percentages of individuals and families living below the poverty line within the nation, state, and county. These data are presented in Table 3-1. Based on these results, no disproportionate, adverse impacts to minority or low-income populations are expected. The Proposed Action Alternative seeks to encourage passive recreation and education opportunities by: (1) including provisions for pedestrian access to and within the site; (2) providing sufficient parking; (3) incorporating a foot path with boardwalks to areas of interest (with the potential for interpretative signage); and (4) constructing overlook platforms. In addition, the restoration actions are intended to maximize habitat potential for wildlife viewing opportunities and control access to the site for intended uses. As a result, these

ecological restoration actions and passive recreation opportunities will benefit the community.

Table 3- 1Comparison of the Town of Fairhaven, Bristol County, Massachusetts, and the United States

Demographic	Fairhaven Town	Bristol County	Massachusetts	United States
Race				
White	97.3%	91.0%	84.5%	75.1%
Black/African American	0.9%	2.0%	5.4%	12.3%
American Indian/Alaska Native	0.6%	0.2%	0.2%	0.9%
Asian	0.1%	1.3%	3.8%	3.6%
Native Hawaiian	0.0%	0.0%	0.0%	0.1%
Other	1.8%	3.1%	3.7%	5.5%
Two or More Races	1.2%	2.3%	2.3%	2.4%
Income				
Percentage of Families Below Poverty Line	6.5%	7.8%	6.7%	9.2%
Percentage of Individuals Below Poverty Line	9.0%	10.0%	9.3%	12.4%

Source: U.S. Census 2000

3.8 *Cultural Resources*

According to Howland (1907) the Acushnet River and surrounding areas (including present day Dartmouth, New Bedford, Fairhaven, and Acushnet) were purchased by the Plymouth colonists from the Wampanoag Indians in the 17th century. The Acushnet River functioned as a transportation route as well as a source of food, water, and power supply (Cherau et al. 2006). Various mills were constructed along the river and early settlers took advantage of local resources initially as a means of subsistence and later for industrial exploitation. By the late 18th century, local communities thrived on fishing, whaling, shipbuilding industry, ironworks, and tanneries. Textile mills flourished for a period and then decreased in importance following the advent of railroads, which bypassed the area, in the 19th Century (McNab and Avers 1994). Correspondence with the Massachusetts Historical Commission (MHC) per Section 106 of the National Historic Preservation Act, has determined the project is unlikely to affect significant historical or archeological resources.

3.9 *Air Quality*

Bristol County is currently designated as a moderate nonattainment area for 8-hour ozone (U.S. EPA 2010). EPA defines nonattainment as an area that “does not meet (or

that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant". Bristol County is also located in the Ozone Transport Region, which consists of the mid-Atlantic and northeastern states extending from northern Virginia to Maine.

Regional sources of air pollutants in the project area are likely the result of stationary and mobile emissions from surrounding industrial/commercial sources in the greater New Bedford metropolitan area. No stationary sources of air pollution occur on the project site. Mobile sources from abutting vehicular traffic along Interstate 195 and local streets are only transient sources.

3.10 *Noise*

The project is located in a densely developed urban harbor environment where existing noise is generated from abutting car and truck traffic (Interstate 195), surrounding industry as well as recreational and commercial boats.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 *Wetlands*

4.1.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

The intent of the Marsh Island Salt Marsh Restoration Project is to improve the historically-altered wetland resource areas previously filled with dredged material from the Harbor. In addition to improving the marsh hydrology and naturalizing a channelized creek, the project would restore approximately 11.7 acres of filled salt marsh. The project would substantially improve the hydrology and water quality of site wetlands, vegetation cover, wildlife habitat, and many important wetland functions. In order to implement the restoration project, existing wetland resource areas would be altered.

As mentioned, the Proposed Action Alternative will involve the alteration of inland and coastal resource areas. The grading necessary to construct the tidal channel would result in 186 and 40 square feet of permanent and temporary alteration of salt marsh, respectively. An additional 26,200 and 1,780 square feet of permanent and temporary alteration to salt marsh would occur in the northern portion of the project area, respectively. The total proposed permanent and temporary alteration to salt marsh would be 26,386 and 1,820 square feet. The Proposed Action Alternative will include the conversion of 70,088 square feet (excavation) of existing palustrine emergent and scrub-shrub wetland to salt marsh. An additional 3,738 square feet (fill) of emergent wetland will be impacted as a result of the proposed northern berm, resulting in a total 73,826 square feet (excavation and fill) of impact to the on-site emergent wetland and scrub-shrub wetland. An additional 911 square feet of temporary impact will occur to the emergent wetland to accommodate the temporary construction access road in the northeastern portion of the project area and associated grading. However, the proposed habitat restoration will result in a substantial improvement to the natural functional values of the resource area. Both the existing wetland vegetation and salt marsh vegetation function in a similar manner to slow down and reduce the passage of flood waters and dissipate wave energy. The removal of fill within the restoration area

would substantially increase flood storage volume. The plant material and substrate within the salt marsh remove pollutants (such as nitrogen and phosphorus) and toxic substances (e.g., heavy metal compounds) from surrounding waters.

The smallest berm practicable has been designed that would serve the dual purposes of keeping PCB-contaminated water and sediments out of the restored marsh while providing maintenance vehicle access to the radio towers. The proposed height of the northern berm (4.5 feet NAVD 88) was designed to keep out the river waters up to the elevation at which the Hurricane Barrier closes. The width of the berm is the minimum width necessary to accommodate typical vehicles for the radio tower maintenance. At the proposed location, the berm would result in the filling of jurisdictional wetlands. The height of the berm is only approximately 1.5 feet above the existing ground surface. Because of the berm's shallow profile, steepening the proposed 2:1 side slopes by using retaining walls or some other hard structure would have only a negligible reduction in the amount of fill, with substantial additional project costs.

EPA and USACE officials working on the New Bedford Harbor Superfund cleanup strongly recommended a low berm to prevent PCBs suspended in the water column from entering the site and to prevent PCB-contaminated sediments and soils on the north shoreline of Marsh Island from contaminating the restored marsh areas. The berm would remain in place until the remediation of the river is complete (remediation may not occur for as long as 35 years depending on funding levels). Thus, the proposed marsh restoration would be well protected from remnant PCBs in the nearby harbor, and the tidal inlet for the restoration site is located on the southern shore where no PCB contamination has been detected.

While the southern shoreline of Marsh Island is not exposed to substantial wave action and transport of sediments, this headland location is considered to be more stable than locations further to the west within the crenulated coastal beach lying between the two headlands. The proposed tidal channel outlet would not change the form of adjacent or down drift coastal beach.

The overall, long-term ecological and resource area benefits to the Marsh Island site greatly outweigh minor, short-term adverse impacts associated with temporary construction disturbance and conversion of degraded habitat to restored salt marsh habitat.

4.1.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

The No Action Alternative would not restore any salt marsh habitat or any ecological functions in the affected environment. Over the long term, the existing *Phragmites* stands would expand to the north and displace the remaining small patch of native salt marsh found within the project area. Under the No Action Alternative, no upland enhancement would occur throughout the existing sparsely vegetated areas. Natural upland plant succession would be expected to occur slowly, over decades due to the sandy, sterile mineral soils present over much of the site.

4.2 *Threatened and Endangered Species*

4.2.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

There are no known occurrences of rare, threatened or endangered species, including species listed under the Endangered Species Act (ESA) as threatened or endangered within the project area. Both NHESP and the USFWS have determined that the site is not mapped by the NHESP as Priority or Estimated Habitat and neither agency has any rare species concerns associated with this project.

4.2.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

There would be no impacts to rare, threatened, or endangered species under the No Action Alternative.

4.3 *Vegetation and Wildlife Habitat*

4.3.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

The disturbed nature of the site and the presence of invasive *Phragmites* within the existing emergent marsh reduces the ability of this resource area to provide wildlife habitat. This wetland currently lacks the diversity and interspersion of the vegetative structure that typically provides important food, cover and breeding/spawning areas for fish and wildlife species. In contrast, the restored marsh area would provide spawning and nursery habitat for several important estuarine forage finfish as well as important food, shelter, breeding areas, and migratory and overwintering areas for many wildlife species. The proposed restoration of salt marsh will substantially improve the natural capacity of the wetland system as a whole.

4.3.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

No construction-related impacts to the existing vegetation or wildlife under the No Action Alternative will occur. Over the long term, the existing *Phragmites* stands would expand to the north and displace the remaining small patch of native salt marsh found within the project area. Under the No Action Alternative, no upland enhancement would occur throughout the existing sparsely vegetated areas. Wildlife habitat values at this site would continue to be severely limited due to the lack of vegetation, a lack of habitat diversity, and the presence of sandy sterile and droughty soils characterizing the site.

4.4 *Geology and Soils*

4.4.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

The Marsh Island restoration project will generate approximately 100,000 cubic yards of excess material that will be hauled and disposed of off the site. The options available for the disposal of excavated material from Marsh Island were assessed and the potential issues, benefits, and costs associated with each option were examined. Sampling and analysis of the site soils indicates that no contamination exists and suggests that the material could be used as common fill for nearby public or private development projects.

Based on comments received from the Fairhaven-Acushnet Land Preservation Trust, opportunities to cover the existing bedrock outcrops with the excavated material were also explored. At the time, it was assumed that this approach might result in substantial

savings by avoiding some costs associated with hauling excavated material from the site. Two scenarios were considered. The first was based on two mounds separated by restored salt marsh. The second maximized the amount of filling by connecting the two mounds and losing the potential restoration area in between. The approximate amount of fill material incorporated into the two designs ranged from 6,000 to 16,000 cubic yards. These volumes represent approximately 6.5 to 17.5% of the total excavation estimated for the two scenarios. Implementing this strategy for material management for the site raises several concerns. Stabilizing the created slopes will require a substantial quantity of topsoil to promote vegetative cover. The finish grades would have the visual appearance of a capped landfill, while covering an area that is both an important historical feature of the site and one with visual and geological appeal. This strategy would also result in the substantial loss of potential restoration area. In addition, the radio station expressed concerns that elevating the ground surface at this location would likely interfere with the radio signal. For these reasons, the option of on-site disposal was dismissed from further consideration, and off-site alternatives are preferred.

The following discussion is based on the key finding of the aforementioned soils characterization, which resulted in no evidence of a potential release of oil or hazardous material (OHM) or other evidence that would, on the basis of chemical constituents, restrict the potential reuse of the soil as common fill. Based on the ability to use or market the material as common borrow, costs associated with the disposal or reuse of the excavated materials is dramatically reduced. The excavated Marsh Island soils could be used as construction materials in landfill operations for cell closures, sand buffers, or daily cover. Four active landfills are situated within an approximately 15-mile radius of the site. These include the Carver-Marion-Wareham Ash Landfill in Carver, the Bourne Municipal Solid Waste Landfill, the Browning Ferris Industries (BFI) Municipal Solid Waste Landfill in Fall River, and the Crapo Hill Municipal Solid Waste Landfill on the New Bedford/Dartmouth line. While all these landfills have daily cover requirements, the Crapo Hill Landfill is by far the closest (approximately 8 miles) and therefore would have the lowest hauling costs. Mr. Hank Van Laarhoven, Operations Director for the landfill, was generally familiar with the Marsh Island restoration project and the nature of the material on the site. He stated the landfill would take any amount of material deemed uncontaminated at no cost (H. Van Laarhoven, Director, Crapo Hill Landfill, pers. comm.). There are no important timing considerations, as the landfill is scheduled to remain open until 2016.

The Trustees also considered the potential reuse of the material in ongoing Confined Aquatic Disposal (CAD) cell construction for the placement of contaminated material dredged for navigation of the New Bedford Harbor. This option was discussed with project Coordinator Steven Tobin of the New Bedford Harbor Development Commission (Commission). While this work would occur near Marsh Island, it would involve marine construction and could result in costs of $15 per cubic yard. The creation of the cells through the excavation of clean granular material below the relatively thin lens of contaminated sediment typically has a surplus of clean borrow and the Commission does not have a need for additional clean material. The current CAD cell which lies just

north of Route 6, generated approximately 100,000 cubic yards of surplus fill. The Commission typically explores off-shore options for the disposal of this material followed by construction projects within the Harbor (e.g., bulkhead construction). The Commission has not sought to have the excess material from the CAD cell excavation hauled to upland sites away from the Harbor.

Finally, representatives at the USACE, MassDOT, Department of Conservation and Recreation (DCR), and municipal officials in Fairhaven, New Bedford, and Acushnet were contacted regarding the potential to use the excavated material from Marsh Island for beneficial reuse. However, no viable options were identified.

Regardless of the selected off-site disposal alternative, the removal of the material will require a substantial hauling effort. Currently, there are no known difficulties with hauling the excavated material through the surrounding streets. The proposed route for trucks will be to use the construction access road to River Avenue to minimize impact to the residential area on Taber Street. It is estimated that approximately 6,200 vehicle trips throughout the two-year construction period will be needed, depending on trucks utilized. The trip numbers assume that dump trailers (16 to 18 cubic yards) will be used to haul the material off the site. Relocating a portion of the Moby Dick Marina's chain link fence by ten feet to the north would allow for the use of dump trailers and provide a five-foot buffer zone between the typical dump trailer, the Cemetery wall, and the relocated fence. This would also provide sufficient space for the placement of jersey barriers around the stone wall to provide an added degree of protection against accidental damage of the wall. The results from an initial traffic analysis (April 2010) indicate that traffic control may not be necessary.

South of the Kendrick Avenue right-of-way, the proposed temporary construction access road will follow the alignment of the existing sanitary sewer easement. This easement is 25 feet wide and runs the length of the project site from north to south. The sanitary sewer line was reportedly constructed in 1969 using 24-inch-diameter concrete pipe. The depth to the pipe invert ranges from approximately 12 feet to 14 feet below grade. This implies an overburden depth ranging from approximately 10 feet to 12 feet above the pipe. Ordinarily, this should be sufficient to protect the pipe against vehicular loads. However, additional protection from surface loading will provided. The proposed 12-inch road base would provide adequate protection. It may be necessary to mound material at the manholes to prevent damage to the concrete risers from truck traffic.

When contacted, Superintendents for the Highway and Sewer Departments of the Board of Public Works (BPW) voiced concern about the sewer line breaking during off-site soil disposal. To address this concern, the project specifications will include the requirement that pre-construction and post-construction closed circuit television (CCTV) inspections of the sewer and manholes within the project limits be performed. The results of the inspections, including DVD recordings, will be transmitted to the Town. Monitoring of the sewer will also be required during the project to determine if any settlement is occurring. Monitoring will consist of weekly vertical elevation monitoring of two manholes during construction. In the event that the line is damaged during

construction, the Contractor will be required to make repairs in a timely manner to minimize disruption to service. It is anticipated that letters of approval will be required from the BPW for the use of the Kendrick Avenue right-of-way and the sewer easement. A road opening permit would be required for all work within Town-owned right-of-ways and work associated with alteration of the Town-owned utilities. Coordination with the Fairhaven Highway Department would also be required for the protection of the existing storm water collection system located in River and Kendrick Avenues.

4.4.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

No impacts to geologic resources will occur under the No Action Alternative.

4.5 *Water Resources*

4.5.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

The conversion of shrub swamp and *Phragmites*-dominated emergent marsh to salt marsh would not negatively impact the interests of water supply and groundwater supply. While there are no public water supplies or private wells near the site, the restoration project is anticipated to result in a minor decrease in fresh groundwater elevations surrounding the project. As previously noted, the project will restore historically-altered wetland resource areas previously filled with dredged material from the Harbor, improving the marsh hydrology, amending water quality, and naturalizing a channelized creek.

4.5.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

The No Action Alternative assumes that no work would be completed to restore the impacted salt marsh on-site, and therefore, there would not be significant changes or improvements to the on-site wetlands, underlying groundwater, or nearby Harbor estuarine waters.

4.6 *Land Use*

4.6.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

To encourage passive recreation and educational opportunities, the project will include provisions for pedestrian access through the construction of a gravel parking area at the terminus of Taber Street. The parking lot will be located on the southeast portion of the site at the end of Taber Street. Approximately six parking spaces will be available, one of which will be a van-accessible handicapped parking space.

The parking lot will be surrounded with a timber guardrail to prevent unauthorized vehicular access onto the proposed salt marsh. There will be a pair or bollards with a lockable chain at the north edge of the parking lot to allow maintenance vehicles to access the radio station infrastructure. On the southern edge of the parking lot, there will be a pair of bollards allowing pedestrian access to the ADA-compliant pedestrian trail. This trail will run from the beginning of the parking lot to the timber observation platform and to the timber pedestrian bridge. The trail will be lined with a compact stone dust material to provide an ADA-compliant walkway. The width would exceed the minimum width of 3.5 feet to allow wheel chairs and other assistance devices to

navigate freely and permit all visitors to experience the natural setting the salt marsh provides.

The elevated berm in the northern portion of the project area will also function as a footpath to the general public. To facilitate an uninterrupted footpath around the entire perimeter of the restoration, a timber bridge is proposed to span the tidal channel in the southern portion of the site. The low chord elevation of the bridge has been taken into consideration and has been set at elevation 6.0 feet (NAVD 88). Targeting the elevation of 6.0 feet (NAVD 88) will allow recreational paddle craft to pass under the bridge during most tidal cycles. The bridge will also function as a vantage point to view the entire restoration area and New Bedford Harbor. A series of three overlook platforms are proposed around the perimeter of the restoration area to enhance wildlife viewing opportunities. As part of the project, the radio ground plane will be replaced and the towers will continue to operate under the terms of the current lease.

4.6.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

Under the No Action Alternative, the radio ground plane and towers will continue to operate under the terms of the current lease and there will be no known change from the current land use.

4.7 *Social and Economic Environment*

4.7.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

When compared to the No Action Alternative, the Proposed Action Alternative would result in a short-term economic benefit from the creation of construction jobs. The creation of estuary nursery habitat will likely enhance prey fishery which may contribute to an improved marine fishery by increasing the forage base for recreational and commercial fish species, which in turn may provide long-term benefits to both recreational and commercial fisheries.

The Proposed Action Alternative seeks to encourage passive recreation and education opportunities by: (1) including provisions for pedestrian access to and within the site; (2) providing sufficient parking; (3) incorporating a foot path with boardwalks to areas of interest (with the potential for interpretative signage); and (4) constructing overlook platforms. In addition, the restoration actions are intended to maximize habitat potential for wildlife viewing opportunities and control access to the site for intended uses. As a result, these ecological restoration actions and passive recreation opportunities will benefit the social environment.

4.7.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

No impacts to the social and economic environment would occur under the No Action Alternative.

4.8 *Cultural Resources*

4.8.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

As part of the National Historic Preservation Act, Section 106 consultations, the MHC was informed of the proposed project through the submission of a Project Notification

Form. MHC determined the project is unlikely to affect significant historical or archeological resources.

4.8.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

The No Action Alternative will not modify or impact any portion of the site.

4.9 *Air Quality*

4.9.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

No long-term impacts to air quality will occur as a result of implementation of the Proposed Action Alternative. No long-term stationary or mobile sources of air emissions will result from the project. Temporary air quality impacts could result from construction activities associated with vegetation clearing, dewatering, excavation, grading, ground plane installation, and landscaping. There are requirements established by Federal Conformity Rules regarding construction periods and impact evaluation procedures, which include quantitative analysis for construction emissions - except for short-term construction activities lasting less than two to five years. Should the restoration work be deemed to have a lengthy construction period that would not be exempt from analysis, an air quality analysis of construction impacts would be conducted. Such analysis would quantify construction emissions from heavy equipment and trucks.

In an effort to reduce criteria pollutants from temporary construction activities, construction contractors will be contractually required to adhere to all applicable regulations regarding control of construction vehicles emissions. This will include, but not be limited to, maintenance of all motor vehicles, machinery, and equipment associated with construction activities, and proper fitting of equipment with mufflers or other regulatory-required emissions control devices. Also, the prohibition of excessive idling of construction equipment engines will be implemented, as required.

Construction specifications will stipulate that all on-site diesel construction equipment will be fitted with after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). Construction contractors will be required to utilize ultra-low sulfur diesel fuel for all off-road construction vehicles as an additional measure to reduce air emissions from construction activities. Idling restriction signs will be placed on the premises to remind drivers and construction personnel of the State's idling regulation.

The contractor will be required to implement protective measures around the construction work to protect pedestrians and prevent dust and debris from leaving the site or entering the surrounding community. Fugitive dust generated from earthwork and other construction activities (e.g., stockpiled soils) will be controlled by spraying with water to mitigate wind erosion on open soil areas. Other dust suppression methods will be implemented to ensure minimization of the off-site transport of dust. Regular sweeping of the pavement of adjacent roadway surfaces will be required during the construction period to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

4.9.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

Under the No Action Alternative, no impacts to air quality will occur.

4.10 *Noise*

4.10.1 ALTERNATIVE 1 – PROPOSED ACTION ALTERNATIVE (PREFERRED)

No long-term noise impacts are anticipated from the Proposed Action Alternative. Only short-term impacts resulting from construction activities are expected when compared to the No Action Alternative. These short-term noise impacts will be associated with construction equipment and vehicle traffic. It is anticipated the affected parties would include nearby residents, adjacent commercial workers, and site workers. It is expected this impact will be short-term, lasting as long as construction activities are scheduled (two-year construction period). The Department of Public Works will limit construction work hours to 7 am to 5 pm Monday thru Saturday to reduce impacts on nearby residences. Work outside of this window requires prior approval from the town.

4.10.2 ALTERNATIVE 2 – NO ACTION ALTERNATIVE

No noise impacts are anticipated from the No Action Alternative.

4.11 *Cumulative Effects of the Proposed Action Alternative*

Cumulative effects are defined by the Council on Environmental Quality (CEQ) as “the impact on the environment which 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” (CEQ, 1997). A cumulative effects analysis must take into consideration both direct and indirect effects of the proposed action, as well as the action’s spatial and temporal effects when considered with other past, present, or future actions. A description of the affected environment can be found in Chapter 3.

Past Action

At the mouth of the Acushnet River on Buzzards Bay, New Bedford Harbor is an estuary. Numerous habitats are found within the Harbor environment including freshwater and upland habitats, tidal marsh, tidal flats and soft bottoms, beaches and rocky shores, submerged aquatic vegetation, and open water habitat. Whaling and its support services was an early industry which grew up around the Harbor. Ship repair and construction also developed throughout the Harbor. Significant growth of the textile industry in the early 1900s was followed by metal works and tanneries. This period also saw the growth of the fishing industry, which replaced the whaling industry in economic importance. To support the whaling, fishing, and water-dependent transportation and industrial activities, wharves and piers were built along and into the Harbor, and tidal marshes were filled for commercial development (NOAA 2006). It is estimated the construction of textile mills (1880’s) resulted in the loss of 134 acres of wetlands along the Acushnet River.

Present Action

One of the major impacts to the area was the release of PCBs and other contaminants into New Bedford Harbor from two manufacturing facilities over a period spanning four decades (NOAA 2006). The transport of PCB-laden sediments occurred through tidal movement, causing the contamination to spread within the Harbor. To restore the ecological balance disrupted by this contamination, the Trustee Council has completed or is planning a number of ecological restoration projects, as described in the Final New Bedford Harbor Restoration Environmental Assessment (NBHTC 2001). The proposed Marsh Island Salt Marsh Restoration (Proposed Action Alternative) is one of those projects.

Reasonable Foreseeable Future Actions

A single project that could directly affect the project area in the future is associated with the New Bedford Harbor Superfund cleanup. Since 2004, EPA has coordinated sediment remediation within the New Bedford Superfund Site at target locations in and along the Acushnet River. EPA's cleanup program will encompass remediation of intertidal soil or sediment exceeding remediation criteria along the Marsh Island shoreline. Additional sampling of the Marsh Island shoreline in 2004 and 2005 refined the location of areas exceeding the remediation criteria (ENSR 2006), as shown on project base mapping (Appendix A). There are two general areas along the northern shore of Marsh Island that the EPA's remedial programs will address. The smaller of the two areas is located immediately south of the Moby Dick Marina while the second area is on the northwestern most portion of Marsh Island. The schedule for implementation of the broader EPA-directed shoreline remediation depends on the rate of dredging operations progress, available funding, and other remediation priorities, such as dredging related to construction in utility corridors. Annually, dredging operations commence in late summer and entail a dredging season of approximately 40 days. In 2009, the American Recovery and Reinvestment Act (ARRA) provided supplemental funding that permitted a 120-day season. EPA anticipates that the 2010 funding will support 80 days of dredging operations. EPA intends to conduct testing as necessary in the vicinity of the proposed construction access road. Following the completion of the restoration project, the northern berm could provide access for future remediation activities as remediation could take as a long as 35 years depending on funding levels. There are no other specific habitat improvement projects for the project area known at this time.

As previously mentioned, the Acushnet River and New Bedford Harbor have experienced growth over the last three centuries. Development and growth of the Acushnet River watershed is anticipated to continue into the future. However, impacts to the project area are minimized by the current land use(s) surrounding the project area as well as current laws and regulations.

Improvements to Marsh Island are expected to provide benefits to fish and wildlife resources that utilize the River, Harbor and coastal wetlands during the life cycles of these fauna. The project area has been closed to public access. The Proposed Action

Alternative would allow public access and recreation on the site while providing a benefit to both wildlife and humans.

Summary of Cumulative Effects of the Proposed Action Alternative (Preferred)
The proposed Marsh Island Salt Marsh Restoration project is located at the mouth of the Acushnet River on Buzzards Bay. The adverse impacts from this project would be associated with construction activities and would be short-term and minor in magnitude. Construction is expected to take up to two years and by design would disturb the smallest area practicable to construct the project. Several erosion control measures would be taken to prevent impacts to the Harbor and adjacent northern marsh. Construction barriers and siltation fencing would be used to demarcate the limit of work and to prevent sediment from entering the waterway. Prior to any land disturbance, erosion control measures will be installed and catch basins will be protected as shown on the Site Preparation and Erosion Control Plan (Appendix A). Such controls would be maintained, replaced, supplemented, or modified as necessary throughout the life of the project to minimize soil erosion and to prevent sediment from being deposited in any jurisdictional wetlands not subject to disturbance.

There are no other known projects that would occur in the area affected by the project during the same period. The design avoids potential conflicts with the EPA's remedial program and facilitates its eventual implementation. There would be no long-term adverse impact from the project after construction is complete. The project would directly restore salt marsh and tidal creeks, requiring little to no long-term maintenance. The incremental cumulative adverse impact of the project, therefore, is minor when compared to other past, present and foreseeable future actions. The Marsh Island Salt Marsh Restoration is one of many projects contributing to the restoration of New Bedford Harbor and the Acushnet River. Independently and incrementally the proposed project would contribute toward the goal of restoring the natural environment with the least adverse impacts. Furthermore, the project would allow public access and recreation on the site while providing a benefit to both wildlife and humans.

5.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

5.1 *Alternative 1 – Proposed Action Alternative (Preferred)*

The Marsh Island Salt Marsh Restoration is expected to provide a net ecological benefit to the Acushnet River and New Bedford Harbor/Buzzards Bay system. Specific benefits include:

- Improved fish and wildlife habitat;
- Public access to the shoreline;
- Improved water quality;
- Passive recreation; and
- Environmental education opportunities.

The Proposed Action Alternative, if implemented, could include the long-term impacts to wetland resources to accommodate the proposed northern berm, the temporary construction access road and associated grading. The total proposed permanent and temporary alteration to estuarine intertidal emergent wetland (salt marsh) would be 26,386 and 1,820 square feet (Table 2). The Marsh Island Salt Marsh Restoration will also include the conversion of 70,088 square feet (excavation) of existing palustrine emergent and scrub-shrub wetland to salt marsh. An additional 3,738 square feet (fill) of emergent wetland will be impacted as a result of the proposed northern berm, resulting in a total 73,826 square feet (excavation and fill) of impact to the on-site emergent and scrub-shrub wetland. An additional 911 square feet of temporary impact will occur to the emergent wetland to accommodate the temporary construction access road in the northeastern portion of the project area and associated grading.

The post-construction project performance monitoring plan will be completed to document the extent of restoration progress and level of success over a three-to-five year period. The project proponent will work with the Bristol County Mosquito Control Project to monitor Marsh Island for mosquito breeding pre- and post-construction for the first three years following construction. In the event that measured parameters are not deemed adequate in meeting the restoration objectives, an adaptive management plan will be developed and will be implemented. However, these adjustments are not expected to influence the long-term viability of the project as a whole and are intended to yield maximum ecological benefits. The proposed project is expected to restore ecological function as a natural salt marsh requiring little to no long-term maintenance.

The proposed habitat restoration was designed specifically for this site to provide the necessary tidal flushing for the rejuvenation of salt marsh species and the re-establishment of the historic and higher value wetlands habitat. The improved creek design would not negatively influence storm-related flood levels within the marsh. The project proposes to remove wetland fill associated with the placement of dredged materials. The restoration plans propose detailed grading, native plantings and seeding, and monitoring plans specifically addressing each natural community to be altered or restored.

Table 5-1 Comparison of Wetland Impacts and Restoration Potential by Alternative.

Alternative	Area of Resource Impact (square feet)				Area of Restoration (square feet)
	Salt Marsh		Emergent and Scrub-Shrub Wetland		Salt Marsh (*high/low marsh and tidal creeks*)
	Permanent	Temporary	Permanent	Temporary	
Proposed Action Alternative	26,386	1,820	73,826	911	511,394
No Action Alternative	0	0	0	0	0

5.2 *Alternative 2 – No Action Alternative*

The No Action Alternative would not restore any salt marsh habitat or improve any ecological functions associated with the affected environment.

5.3 *Conclusion*

The Preferred Action Alternative would directly restore approximately 11.7 acres of salt marsh and tidal creeks by removing fill to establish salt marsh elevations, reconstructing a tidal creek system, and planting with appropriate native marsh species. However, implementation of the Preferred Alternative would result in minor negative impacts to non-tidal wetland resources as a result of the proposed grading, temporary construction access, the proposed berm and tidal channel that are needed to restore native salt marsh habitat and improve tidal ecosystem function. Alternative 2 (No Action Alternative) would not restore any salt marsh habitat and not result in a net ecological benefit. Under the No Action Alternative, there would be no direct adverse impacts to wetland resources; however, none of the predicted benefits of the Preferred Alternative would be realized.

6.0 PREPARERS

The Louis Berger Group, Inc.

Craig Wood, P.W.S., Principal Ecologist
Jason Ringler, CWB®, Senior Environmental Scientist
Daniel Lanier, L.S.P., L.E.P., Principal Environmental Scientist
Christopher Feeney, P.E., Director of Environmental Engineering

7.0 LIST OF AGENCIES AND PERSONS CONSULTED

The Coalition for Buzzards Bay
114 Front Street
New Bedford, MA 02740
Attn: Mark Rasmussen

U.S. Fish and Wildlife Service
70 Commercial Street
Concord, NH 03301
Attn: Anthony Tur

Bristol County Mosquito Control Project
140 North Walker Street
Taunton, MA 02780
Attn: Wayne Andrews

Fairhaven-Acushnet Land Preservation Trust
P.O. Box 491
Fairhaven, MA 02719
Attn: John Darwin

MA Division of Fisheries and Wildlife
One Rabbit Hill Road
Westborough, MA 01581

Massachusetts Historical Commission
220 Morrissey Boulvard
Boston, MA 02125
Attn: Edward Bell

Town of Fairhaven
Zoning Board of Appeals
40 Center Street
Fairhaven, MA 02719
Attn: Wayne Fostin

WBSM-AM 1420
Frank Doremus, Engineer
22 Sconticut Neck Road
Fairhaven, MA 02719

8.0 COMPLIANCE WITH FEDERAL ENVIRONMENTAL STATUTES AND EXECUTIVE ORDERS

Federal Statutes

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

Compliance: A Project Notification Form was filed with the Massachusetts Historical Commission (MHC) on 26 August 2008. The MHC determined that the project is unlikely to affect significant historic or archeological resources in a response dated 2 September 2008. Consultation was sought from the Massachusetts Board of Underwater Archeological Resources, the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010. The Massachusetts Board of Underwater Archeological Resources determined that the project is unlikely to adversely affect submerged cultural resources in a response dated 11 February 2011. No responses were received from either tribe.

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

Compliance: A Project Notification Form was filed with the Massachusetts Historical Commission (MHC) on 26 August 2008. The MHC determined that the project is unlikely to affect significant historic or archeological resources in a response dated 2 September 2008. Consultation was sought from the Massachusetts Board of Underwater Archeological Resources, the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010. The Massachusetts Board of Underwater Archeological Resources determined that the project is unlikely to adversely affect submerged cultural resources in a response dated 11 February 2011. No responses were received from either tribe.

3. 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 will signify compliance pursuant to Sections 176c and 309 of the Clean Air Act.

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

Compliance: An application for the project was filed with the U.S. Army Corps of Engineers, New England District, in accordance with Section 404 of the Clean Water Act, and a permit was issued on 9 March 2011. An applications for the project was filed with the Massachusetts Department of Environmental Protection, Bureau of Resource Protection – Wetlands and Waterways, in accordance with the Massachusetts Surface

Water Quality Standards, 314 CMR 9.00: 401 Water Quality Certification, and a permit was issues on 25 May 2011.

5. Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1451 et seq.
Compliance: A CZM consistency determination has been provided to the State for review and concurrence that the proposed project is consistent with the approved State CZM program.

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

Compliance: Coordination with the USFWS and Massachusetts NHESP was completed on 26 September 2008 and 9 October 2008, respectively. The NHESP and USFWS have indicated that there are no rare species concerns or federally listed or proposed, threatened or endangered species critical habitat known to occur in the project area. Consultation pursuant to Section 7 of the Endangered Species Act is not required.

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

Compliance: Only applicable if report is being submitted to Congress.

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

Compliance: Public Notice of availability of this 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.

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

Compliance: The U.S. Fish and Wildlife Service (FWS) along with State fish and wildlife agencies have reviewed the proposed project as part of the MEPA, Section 401 Water Quality Certification, Chapter 91 Waterways License, and Wetlands Protection Act – Notice of Intent review processes.

10. 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.

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

Compliance: Applicable if the project involves the transportation or disposal of dredged material in ocean waters pursuant to Sections 102 and 103 of the Act, respectively. Disposal of dredge material in ocean waters will not occur.

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

Compliance: A Project Notification Form was filed with the Massachusetts Historical Commission (MHC) on 26 August 2008. The MHC determined that the project is unlikely to affect significant historic or archeological resources in a response dated 2 September 2008. Consultation was sought from the Massachusetts Board of Underwater Archeological Resources, the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010. The Massachusetts Board of Underwater Archeological Resources determined that the project is unlikely to adversely affect submerged cultural resources in a response dated 11 February 2011. No responses were received from either tribe.

13. 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.

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

Compliance: Preparation of an EA signifies partial compliance with NEPA. Full compliance shall be noted at the time the Finding of No Significant Impact or ROD is issued.

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

Compliance: No requirements for projects or programs authorized by Congress. The proposed aquatic ecosystem restoration project is being conducted pursuant to the Congressionally-approved authority.

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

Compliance: Floodplain impacts have been considered in project planning. No long-term floodplain impacts are projected to occur through implementation of this project.

17. 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. The Acushnet River is not a designated Wild and Scenic River.

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

Compliance: Coordination with the National Marine Fisheries Service and issuance of a general permit by the Army Corps of Engineers under 404 of the Clean Water Act signifies compliance with Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Act.

Executive Orders

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

Compliance: A Project Notification Form was filed with the Massachusetts Historical Commission (MHC) on 26 August 2008. The MHC determined that the project is unlikely to affect significant historic or archeological resources in a response dated 2 September 2008. Consultation was sought from the Massachusetts Board of Underwater Archeological Resources, the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010. The Massachusetts Board of Underwater Archeological Resources determined that the project is unlikely to adversely affect submerged cultural resources in a response dated 11 February 2011. No responses were received from either tribe.

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

Compliance: Floodplain impacts have been considered in project planning and approved by applicable local, state, and federal regulatory agencies. No long-term floodplain impacts are projected to occur through implementation of this project.

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

Compliance: A Notice of Intent, in accordance with the Massachusetts Wetlands Protection Act (M.G.L. c. 131, §40 and 310 CMR 10.00), was filed with the Fairhaven Conservation Commission and the Massachusetts Department of Environmental Protection, Bureau of Resource Protection – Wetlands. Public Notices for both projects were issued. The Fairhaven Conservation Commission held a Public Hearing for the project on 2 August 2010. The Fairhaven Conservation Commission issued an Order of Conditions for the project on 2 August 2010.

An application for the Marsh Island Salt Marsh Restoration project was filed with the U.S. Army Corps of Engineers (USACE), New England District, in accordance with Section 404 of the Clean Water Act on October 14, 2010. On March 9, 2011, the USACE determined that the project was authorized as a Category II activity under the Massachusetts General Permit.

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

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

4. 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 populations, or any other population in the United States.

5. Executive Order 13007, Accommodation of Sacred Sites, 24 May 1996

Compliance: Not applicable unless on Federal lands, and 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. Consultation was sought from the Massachusetts Board of Underwater Archeological Resources, the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010. The Massachusetts Board of Underwater Archeological Resources determined that the project is unlikely to adversely affect submerged cultural resources in a response dated 11 February 2011. No responses were received from either tribe.

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, 6November 2000.

Compliance: Consultation was sought from the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010; no responses were received.

Executive Memorandums

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

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

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

Compliance: Consultation with Federally-recognized Indian Tribes, where appropriate, signifies compliance. Consultation was sought from the Mashpee Wampanoag Tribe

and the Wampanoag Tribe of Gayhead (Aquinnah). These entities were informed of the proposed project in letters delivered on 6 December 2010; no responses were received.

9.0 REFERENCES

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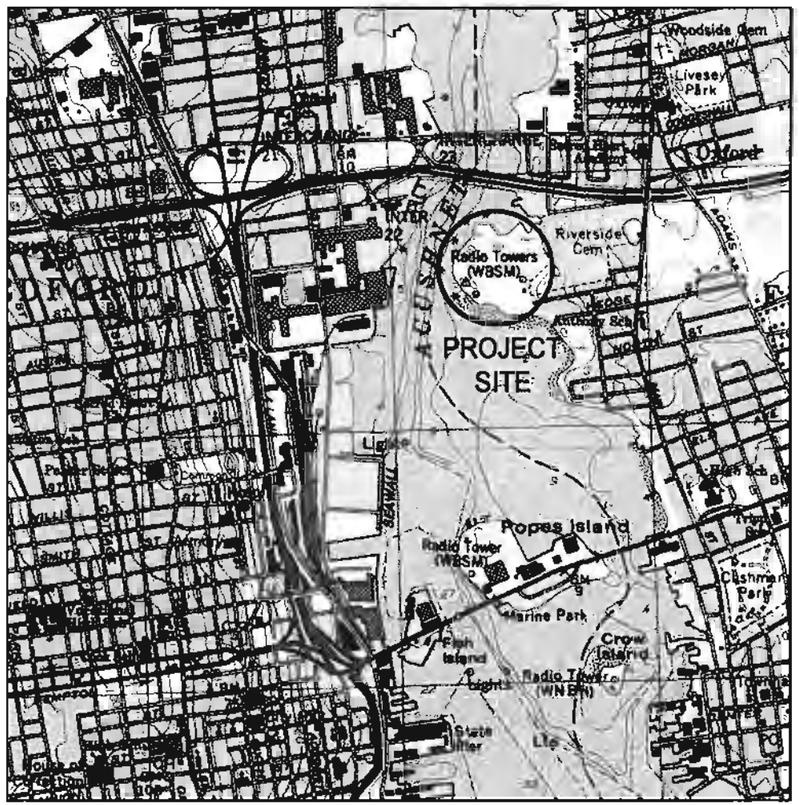
Appendix A: Preliminary Design Plans

NATIONAL OCEANIC AND ATMOSPHERIC ADMINSTRATION
RESTORATION CENTER

MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

PERMITTING PLANS - REVISED
JUNE 2010



LOCATION MAP
SCALE: 1"=1,000'

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SITE MAP
SCALE: 1"=200'

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER E. PEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:

National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

PREPARED BY:

THE Louis Berger Group, INC.
ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS
MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

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GENERAL NOTES

1. TOPOGRAPHICAL BASE MAPPING PREPARED BY EASTERN TOPOGRAPHICS, WOLFEBORO, NH. REFERENCE PLAN ENTITLED "TOPOGRAPHICAL WORKSHEET OF THE WINSEGANSET RESERVE MARSHES, FAIRHAVEN, MA FOR TETRA TECH EM, INC. CAMBRIDGE MA." SCALE 1"=200', CONTOUR INTERVAL: 1', PLAN PHOTO DATE: 19 MAR 03 (1:3600), COMPILATION DATE 13 MAY 03, GROUND CONTOUR BY: NORDE-DIST SURVEY QUINCY, MA.

2. SUPPLEMENTAL SPOT GRADES, WETLAND LOCATIONS, SANITARY SEWER LOCATIONS, SOUNDINGS AND DETAILED LOCATIONS AT RIVER AVE. ARE FROM A FIELD SURVEY CONDUCTED BY G.A.F. ENGINEERING, INC OCTOBER 2007, NOVEMBER 2004, AND JUNE 2003.

3. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. THE EXACT SIZE, LOCATION, AND TYPE OF EXISTING UTILITIES IN THE AREA IS NEITHER INTENDED OR IMPLIED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING FIELD INVESTIGATIONS AND OBTAINING INFORMATION FROM UTILITY COMPANIES AND INDIVIDUALS TO DETERMINE EXACT LOCATION AND ELEVATIONS OF ALL SUBSURFACE UTILITIES AND STRUCTURES. CONTRACTOR SHALL NOTIFY DIGSAFE BEFORE PROCEEDING WITH WORK (MINIMUM 72 HOUR ADVANCED NOTICE).

4. ALL ELEVATIONS ON THIS PLAN RELATE TO NAVD 1988.

5. LIMITS OF ALL PROPERTIES SHOWN ON PLANS ARE APPROXIMATE AND WERE INTERPOLATED FROM TAX MAPS.

6. THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE AND OUTLINE OF CONSTRUCTION METHODOLOGIES FOR CONSTRUCTION OF THE PROPOSED SALT MARSH, WOODEN PEDESTRIAN BRIDGE, AND ACTIVITIES/RESTORATION OF THE PROPOSED STAGING AREAS PRIOR TO CONSTRUCTION, FOR APPROVAL BY THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR). STABILIZED CONSTRUCTION ENTRANCES SHALL BE USED AT ACCESS POINTS FOR ALL NON-PAVED STAGING AREAS.

7. THE CONTRACTOR SHALL PROTECT EXISTING VEGETATION OUTSIDE OF THE WORK LIMITS.

8. THERE SHALL BE NO DISTURBANCES TO THE SHORELINE REMEDIATION AREAS AS SHOWN ON THE PLANS.

9. DEWATERING SHALL BE CONDUCTED DURING EXCAVATION. THE PRIMARY OBJECTIVE OF THE DESIGN OF THE DEWATERING PROGRAM IS TO CONTROL SURFACE AND GROUNDWATER LEVELS TO PROVIDE A RELATIVE STABLE WORKING SURFACE. THE DEWATERING SHALL INCLUDE A SERIES OF CRUSHED STONE SUMPS CONSTRUCTED AT LOW POINTING WITHIN THE CONSTRUCTION AREA. ACCUMULATED WATER SHALL BE PUMPED TO A DEWATER BASIN FOR TREATMENT ANF CONTROL OF SEDIMENT PRIOR TO BEING DISCHARGED TO THE HARBOR.

10. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS CONTAINED IN RELEVANT PERMITS, INCLUDING THOSE ISSUED BY THE US ARMY CORPS OF ENGINEERS, THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND FAIRHAVEN CONSERVATION COMMISSION.

11. THE CONTRACTOR SHALL USE EXTREME CAUTION TO MINIMIZE EROSION AND SEDIMENTATION DURING CONSTRUCTION NEAR THE CREEK AND WETLANDS.

12. REQUIRED EROSION AND SEDIMENTATION CONTROL SHOWN ON THE PLAN IS APPROXIMATE. ACTUAL TYPE AND LOCATION SHALL BE DETERMINED BY THE COTR. THE CONTRACTOR SHALL INSTALL PROPOSED EROSION CONTROL DEVICES PRIOR TO CONSTRUCTION ACTIVITY AND SHALL BE RESPONSIBLE FOR THEIR MAINTENANCE, REPOSITIONING AND REMOVAL THROUGH THE DURATION OF CONSTRUCTION.

13. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT DAMAGE TO WORK AREA OR EQUIPMENT BY HIGH WATER OR BY STORMS. CONTRACTOR SHALL CONSULT LOCAL TIDE CHARTS TO SCHEDULE SENSITIVE WORK DURING TIMES OF LOWER PERIOD TIDES. THE OWNER AND COTR MAY PROHIBIT THE CARRYING OUT OF WORK AT ANY TIME WHEN IN HIS/HER JUDGMENT HIGH WATERS OR STORM CONDITIONS ARE UNFAVORABLE OR UNSUITABLE, OR AT ANY TIME REGARDLESS OF THE WEATHER WHEN PROPER PRECAUTIONS ARE NOT BEING TAKEN TO SAFEGUARD PREVIOUSLY CONSTRUCTED WORK OR WORK IN PROGRESS. IN CASE OF DAMAGE CAUSED BY FAILURE OF THE CONTRACTOR TO TAKE ADEQUATE PRECAUTIONS, THE CONTRACTOR SHALL REPAIR OR REPLACE EQUIPMENT/WORK DAMAGED AND SHALL MAKE SUCH REPAIRS OR REBUILD PARTS OF THE DAMAGED WORK AS DIRECTED BY THE COTR, AT NO ADDITIONAL COST.

14. THE CONTRACTOR SHALL SUBMIT A PROPOSED STAGING PLAN TO THE COTR FOR APPROVAL. AT A MINIMUM, THE STAGING PLAN SHALL IDENTIFY STAGING AREA LOCATIONS, CONSTRUCTION ACCESS, EROSION CONTROL MEASURES. EROSION CONTROL DETAILS, REFUELING SITE DETAILS, AND STABILIZED CONSTRUCTION ENTRANCE DETAILS. THE CONTRACTOR SHALL RESTORE STAGING AREAS AFTER THE SALT MARSH RESTORATION IS COMPLETE. THE CONTRACTOR SHALL NOT STORE, HANDLE AND / OR DISPOSE OF HAZARDOUS MATERIALS WITHIN THE WORK AREA OR STAGING AREA. DERIVED WASTE SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS. ALL ROCK, SAND, GRAVEL, FILL OR OTHER FOREIGN SUBSTRATE MATERIAL STORED IN STAGING AREA MUST BE STORED ON TOP OF FILTER FABRIC TO FACILITATE RECOVERY AND PREVENT DEGRADATION OF NATIVE SOILS DURING SITE CLEAN-UP. NO FOREIGN SAND, TOPSOIL, LOAM OR OTHER FOREIGN SUBSTRATE MAY BE ADDED TO STAGING AREA DURING SITE CLEAN-UP AND REGRADING WITHOUT PRIOR APPROVAL FROM THE COTR. EXISTING PAVEMENT SHALL BE SWEPT CLEAN OR RESTORED TO EXISTING CONDITIONS BY OTHER MEANS TO THE SATISFACTION OF THE COTR. ALL COSTS ASSOCIATED WITH THE PROPOSED STAGING AREAS (INCLUDING EROSION CONTROL, REFUELING SITE, STABILIZED CONSTRUCTION ENTRANCES, AND RESTORATION) SHALL BE SUBSIDIARY TO THE PROJECT.

15. THE REFUELING SITE, IF REQUIRED, SHALL ONLY BE USED FOR SITE CONSTRUCTION VEHICLES (I.E. EXCAVATORS AND BULLDOZERS). NO TRUCKS ARE TO BE REFUELED OR STORED IN THE PROJECT OR STAGING AREA. THE FUEL MUST BE TRANSPORTED TO THE SITE DAILY. NO FUEL IS TO BE STORED ON SITE.

16. ALL WORK WILL BE CONDUCTED WITHIN DEFINED LIMITS OF DISTURBANCE (L.O.D). DISTURBANCES OUTSIDE THE L.O.D. SHALL BE STRICTLY PROHIBITED UNLESS APPROVED IN WRITING BY THE COTR.

17. WORK HOURS SHALL BE 7:30 AM TO 5:00 PM MONDAY THROUGH SATURDAY. NO WORK OUTSIDE THESE HOURS SHALL BE PERMITTED WITHOUT APPROVAL FROM THE TOWN OF FAIRHAVEN AND COTR.

18. RIVER AVENUE SHALL BE RESTORED AT THE CONCLUSION OF THE RESTORATION PROJECT FROM THE MOBY DICK MARINA TO THE INTERSTATE 195 OVERPASS FOR APPROXIMATELY 310-FEET. THE ROAD SHALL RECEIVE A 2-INCH MILL AND OVERLAY. ALL RIMS AND CATCHBASINS SHALL BE RESTORED AND RESET AS NEEDED.

CONSTRUCTION SEQUENCE

THE FOLLOWING IS THE RECOMMENDED CONSTRUCTION SEQUENCE TAKING INTO CONSIDERATION SITE CONDITIONS, TIDAL FLOW, AND THE AVAILABLE CONSTRUCTION WINDOW. THE CONTRACTOR MAY SUBMIT TO THE COTR ANOTHER CONSTRUCTION SEQUENCE, EROSION CONTROL PLAN, AND DETAILS FOR APPROVAL.

1. INSTALL EROSION AND SEDIMENT (E&S) CONTROLS AND PERIMETER CONTROLS AT THE LIMITS OF CONSTRUCTION, AROUND STAGING AREAS, AS INDICATED ON THE PLANS.

2. CONSTRUCT CONSTRUCTION CONSTRUCTION ACCESS ROAD, WHEEL WASH AREA, STAGING AREA AND STABILIZED CONSTRUCTION ENTRANCES TO NON-PAVED STAGING AREAS (IF NEEDED). INSTALL JERSEY BARRIERS AS DIRECTED BY THE COTR.

3. CONSTRUCT REFUELING AREA WITHIN STAGING AREA AS REQUIRED/DIRECTED BY THE COTR.

4. EXCAVATE MATERIAL ACCORDING TO INTERIM GRADING PLAN FOR PROPOSED SALT MARSH. USE EXCAVATED MATERIALS TO CONSTRUCT BERM.

5. IMPLEMENT CONSTRUCTION DE-WATERING PROVISIONS AS APPROPRIATE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.

6. COORDINATE INSTALLATION OF UNDERGROUND RADIO ANTENNA (SEE RADIO ANTENNA UNDERGROUND LIMITS PLAN SHEET).

7. CONSTRUCT ROADWAY AND PARKING AREA AND INSTALL FENCING.

8. INSTALL WOODEN PEDESTRIAN VIEWING AREAS.

14. INSTALL PLANTINGS AND SOIL STABILIZATION MEASURES. SEE PLANTING DETAIL.

15. COMPLETE EXCAVATION OF TIDAL INLET.

16. CONSTRUCT PEDESTRIAN BRIDGE.

17. REMOVE REFUELING SITE FROM STAGING AREA.

18. REMOVE ALL MATERIAL FROM THE STAGING AREAS.

19. RESTORE THE STAGING AREAS TO EXISTING CONDITIONS. SEE NOTE 14 IN GENERAL NOTES.

20. RESTORE REMAINING DISTURBED AREAS AND SALT MARSH AREAS AS DIRECTED.

21. REMOVE ALL TEMPORARY E&S CONTROLS AFTER ALL DISTURBED AREAS ARE STABILIZED AND AS APPROVED BY THE COTR.

LEGEND

EXISTING	DESCRIPTION
20	INTERMEDIATE CONTOUR
5.0	INDEX CONTOUR
× 5.7	SPOT GRADE
	EDGE OF WETLAND
5.0	F.E.M.A. FLOOD ZONE AT EL. 5.0 NAVD 1988
	DITCH/SWALE
W	WATER LINE
WV	WATER GATE/VALVE
	WATER SHUTOFF/CURB STOP
	HYDRANT
	UTILITY POLE
	GUY POLE
	FENCE
	GUARD RAIL
	BOUND
	TREELINE
	BORING LOCATION
STA#02 4.4	BENCHMARK
	PROPERTY LINE
	ROCK OUTCROP
	AREA OF PCB SHORELINE REMEDIATION (BY OTHERS)

PROPOSED	DESCRIPTION
2+00	CONSTRUCTION BASELINE
2	PROPOSED GRADE CONTOUR
× 10.4	FINISHED GRADE ELEVATION
	24-INCH RIPRAP
	SALT MARSH POOL
LOD LOD	LIMIT OF DISTURBANCE
SF SF	SILT FENCE
	CHAIN LINK FENCE
	WALKING TRAIL
	ADA COMPLIANT WALKING TRAIL

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

THE Louis Berger Group, INC.
ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS
MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

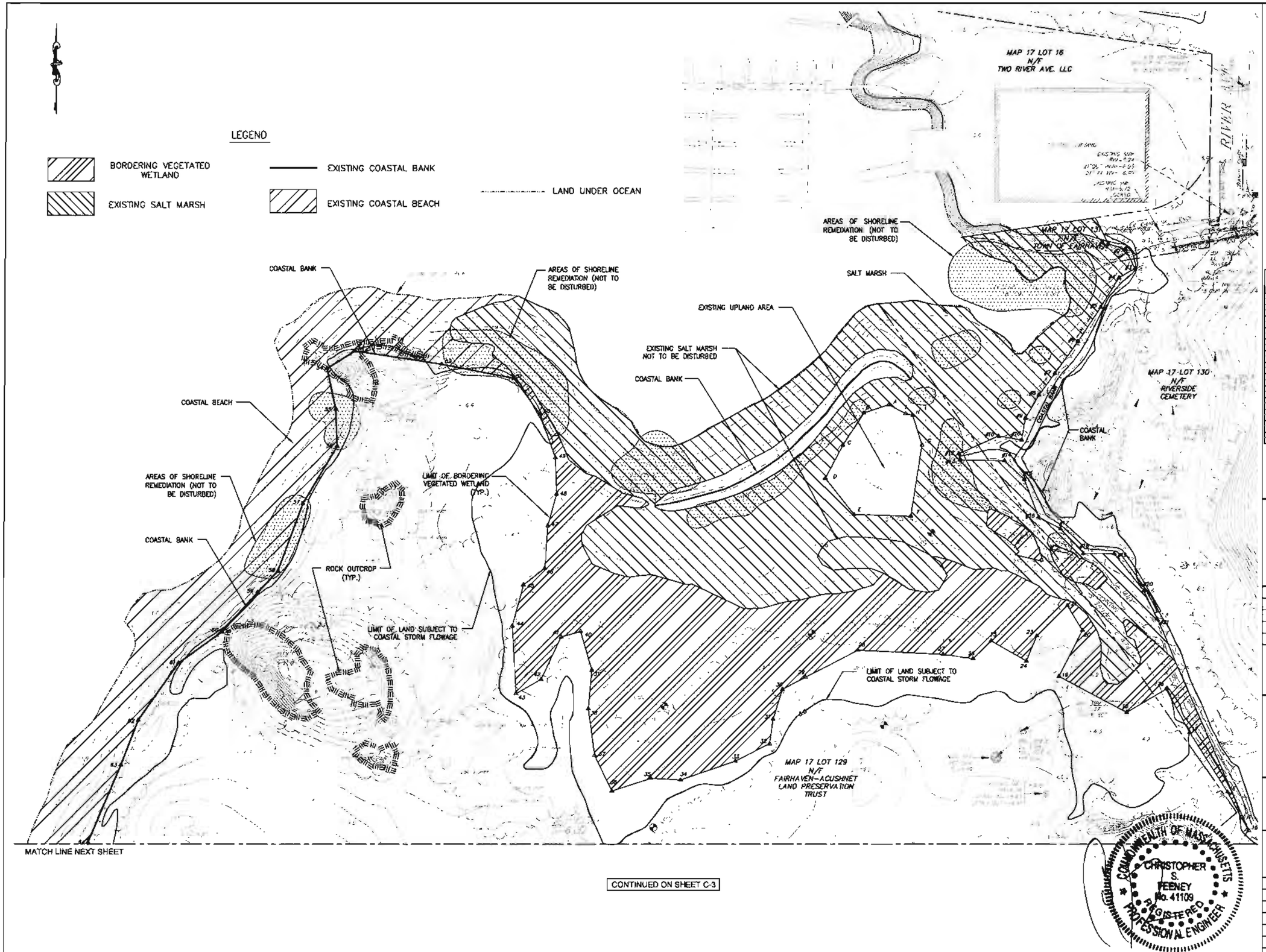
MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

LEGEND & GENERAL NOTES

SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-1
DRAWN BY:	AG		
JOB NUMBER:	J18B22		

LEGEND

- BORDERING VEGETATED WETLAND
- EXISTING SALT MARSH
- EXISTING COASTAL BANK
- EXISTING COASTAL BEACH
- LAND UNDER OCEAN



CONTINUED ON SHEET C-3

NOTE:
RESOURCE AREA DELINEATION PERFORMED BY THE LOUIS BERGER GROUP INC., AND APPROVED BY THE FAIRHAVEN CONSERVATION COMMISSION, 2004.

LIST OF ABBUTTERS

PLAT	LOT	ADDRESS	OWNER
17	016	2 RIVER AVENUE	TWO RIVER AVE, LLC
17	129	2 MARSH ISLAND	FAIRHAVEN-ACUSHNET LAND PRESERVATION TRUST
17	130	KENDRICK AVENUE	RIVERSIDE CEMETARY
17	131	KENDRICK AVENUE	TOWN OF FAIRHAVEN

BENCHMARK TABLE:

Label	Northing	Easting	Point Elevation	Description
TBM 1	2699247.9054	816500.1023	8.48	SPIKE SET
TBM 2	2699260.7894	818426.8624	5.15	PK SET
TBM 3	2699113.3943	816420.8121	9.98	SPIKE SET
TBM 4	2699058.0054	816375.3653	6.00	SPIKE SET
TBM 5	2698968.9525	818341.0672	5.48	SPIKE SET
TBM 6	2698917.1470	816214.9650	5.88	STAKE SET
TBM 7	2698709.1103	816213.7811	5.37	STAKE SET
TBM 8	2698680.9866	816187.5507	8.99	NAIL SET IN 10"OAK
TBM 9	2698650.2317	818577.4282	8.13	PK SET
TBM 10	2698439.2242	816171.3103	8.15	STAKE SET
TBM 11	2698322.9724	815728.3405	6.95	STAKE SET
TBM 12	2698081.8679	816126.8198	7.97	BOLT IN SMH
TBM 13	2698109.6529	818267.6468	7.02	PK IN U-POLE

50 25 0 50 100

SCALE IN FEET

THE Louis Berger Group, INC.

ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS

MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

REV	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

EXISTING CONDITIONS PLAN
(1 OF 2)

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-2
DRAWN BY:	AG		
JOB NUMBER:	J11822		

CONTINUED ON SHEET C-2

MATCH LINE PREVIOUS SHEET

EXISTING, ISOLATED WETLAND

MAP 17 LOT 129
N/F
FAIRHAVEN–ACUSHNET
LAND PRESERVATION
TRUST

MAP 15 LOT 001
N/F
COALITION FOR
BUZZARDS BAY, INC.

RADIO TOWER

MAP 15 LOT 002
N/F
RIVERSIDE CEMETERY

RADIO TOWER

LIMIT OF LAND SUBJECT TO
COASTAL STORM FLOWAGE

MAP 15
LOT 003
N/F
MICHAEL
MAHANEY

TABER

MOUTH OF THE ACUSHNET
RIVER (REFERENCE:
FAIRHAVEN–NEW BEDFORD
MOR–1 MAP MARCH 1,
2005

COASTAL BANK

COASTAL BEACH

LAND UNDER OCEAN

SALT MARSH

EXISTING SALT MARSH
NOT TO BE DISTURBED

COASTAL BEACH

COASTAL BANK

MAP 15 LOT 023
N/F
TOWN OF
FAIRHAVEN

MAP 15 LOT 054
N/F
JOHN FOURNIER

EDGE OF SALT MARSH

LEGEND

BORDERING VEGETATED WETLAND

EXISTING SALT MARSH

EXISTING COASTAL BANK

EXISTING COASTAL BEACH

LAND UNDER OCEAN

EXISTING ISOLATED WETLAND

NOTE:
RESOURCE AREA DELINEATION PERFORMED BY THE LOUIS BERGER GROUP INC., AND APPROVED BY THE FAIRHAVEN CONSERVATION COMMISSION, 2004

LIST OF ABBUTTERS

PLAT	LOT	ADDRESS	OWNER
15	002	TABER STREET	RIVERSIDE CEMETARY
15	003	2 TABER STREET	MICHAEL MAHANEY
15	023	TABER STREET	TOWN OF FAIRHAVEN
15	054	2 HEDGE STREET	JOHN FOURNIER
15	001	1 MARSH ISLAND	COALITION FOR BUZZARDS BAY, INC.
17	129	2 MARSH ISLAND	FAIRHAVEN--ACUSHNET LAND PRESERVATION TRUST

50 25 0 50 100

SCALE IN FEET

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NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

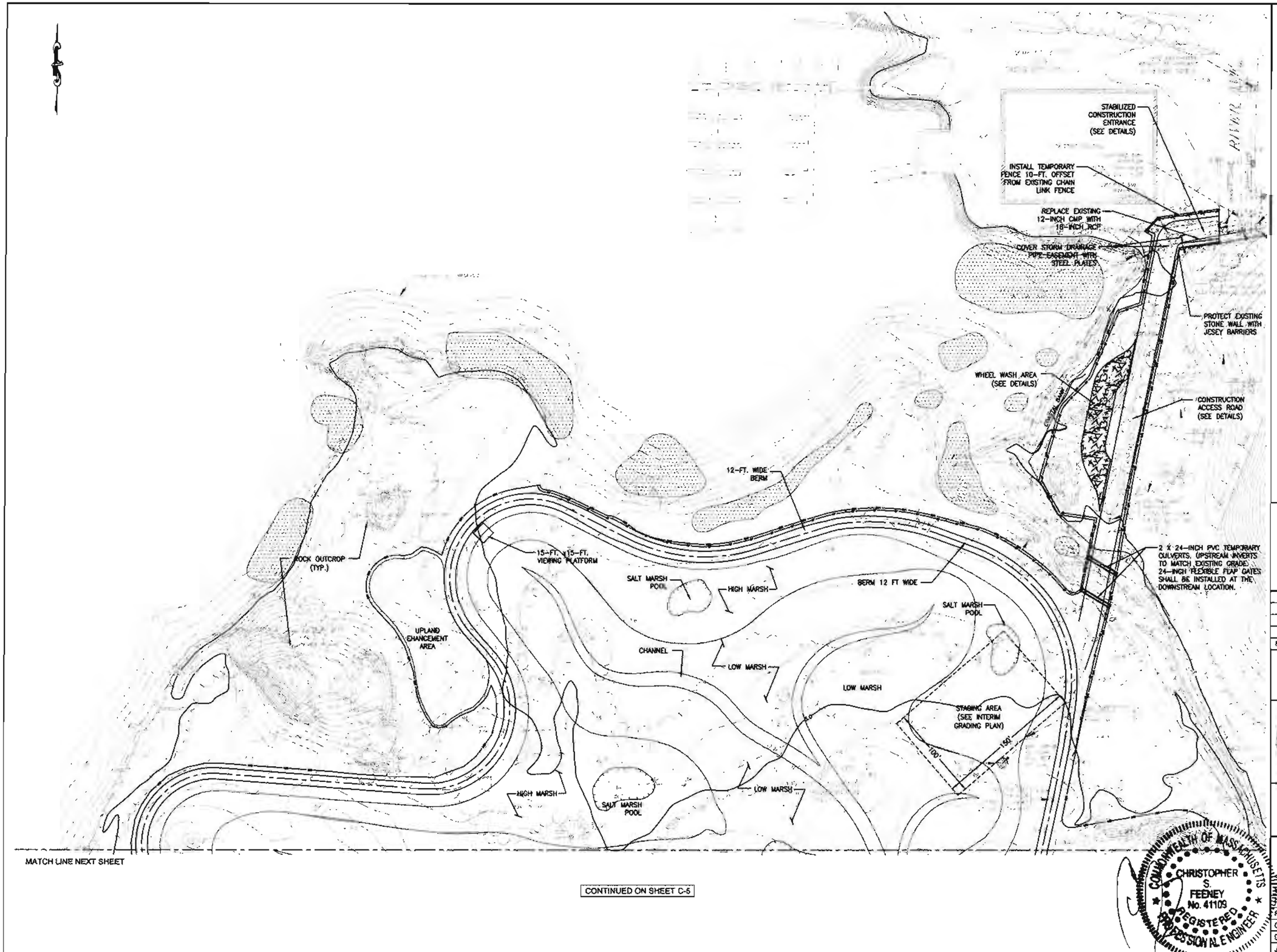
MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

EXISTING CONDITIONS PLAN (2 OF 2)

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-3
DRAWN BY:	AG		
JOB NUMBER:	JI1822		



CONTINUED ON SHEET C-5

LIMIT OF DISTURBANCE

SILT FENCE

NOTE:
1. FOR GENERAL CONSTRUCTION SEQUENCE SEE SHEET C-1.
2. CONTRACTOR SHALL NOT EXCAVATE WITHIN RADIO ANTENNA ANCHOR AREAS DENOTED BY LIMIT OF DISTURBANCE LINES.
3. DUST SUPPRESSION SHALL BE EMPLOYED THROUGHOUT THE DURATION OF THE PROJECT OR AS DIRECTED BY THE COTR.

50 25 0 50 100

SCALE IN FEET

THE Louis Berger Group, INC.
ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS
MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5960

REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

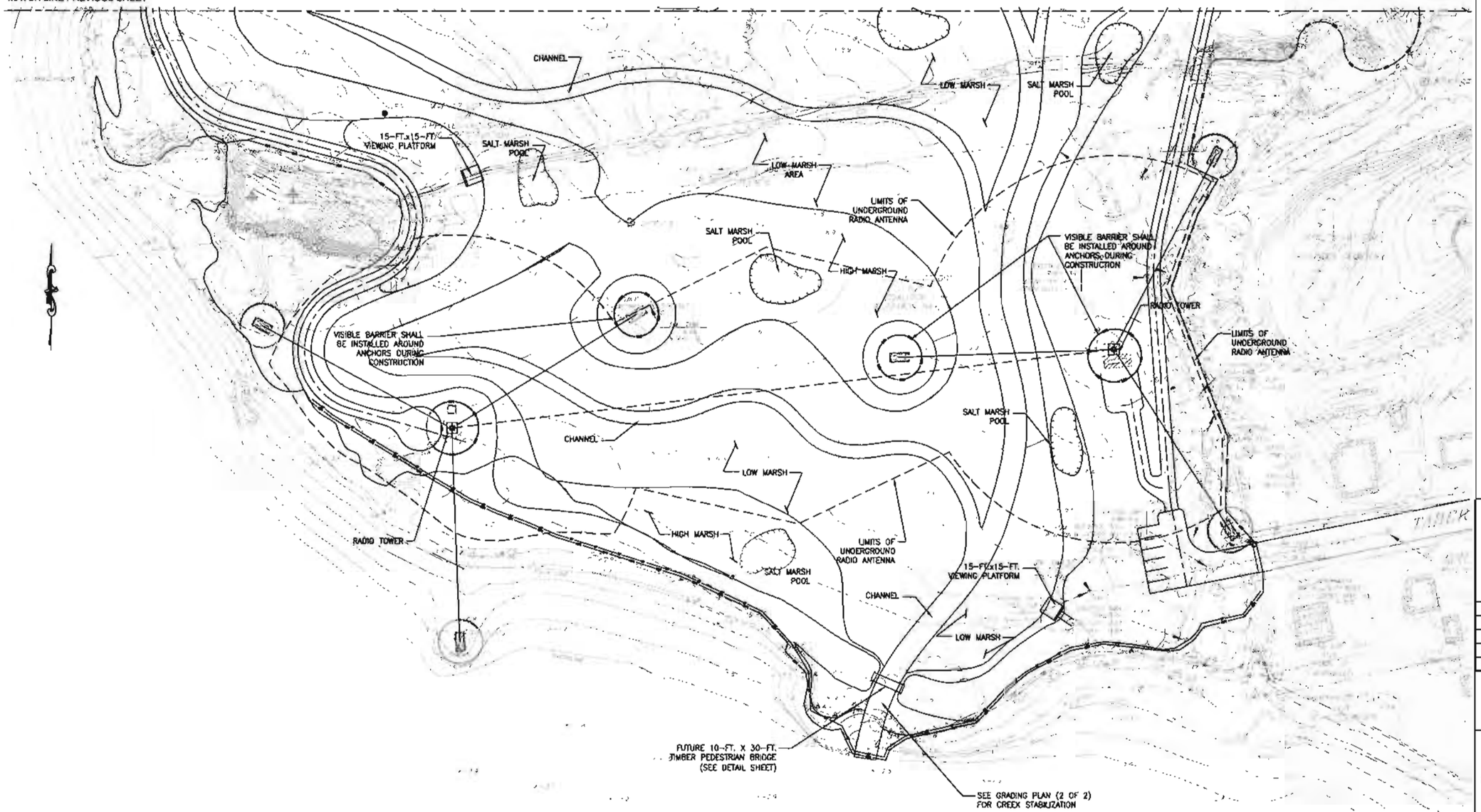
SITE PREPARATION & EROSION CONTROL PLAN (1 OF 2)

SHEET TITLE:

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-4
DRAWN BY:	AG		
JOB NUMBER:	J11822		

CONTINUED ON SHEET C-4

MATCH LINE PREVIOUS SHEET



LIMIT OF DISTURBANCE

SILT FENCE

NOTE:
1. FOR GENERAL CONSTRUCTION SEQUENCE SEE SHEET C-1.
2. CONTRACTOR SHALL NOT EXCAVATE WITHIN RADIO ANTENNA ANCHOR AREAS DENOTED BY LIMIT OF DISTURBANCE LINES.
3. DUST SUPPRESSION SHALL BE EMPLOYED THROUGHOUT THE DURATION OF THE PROJECT OR AS DIRECTED BY THE COTR.

50 25 0 50 100

SCALE IN FEET

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ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS
MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

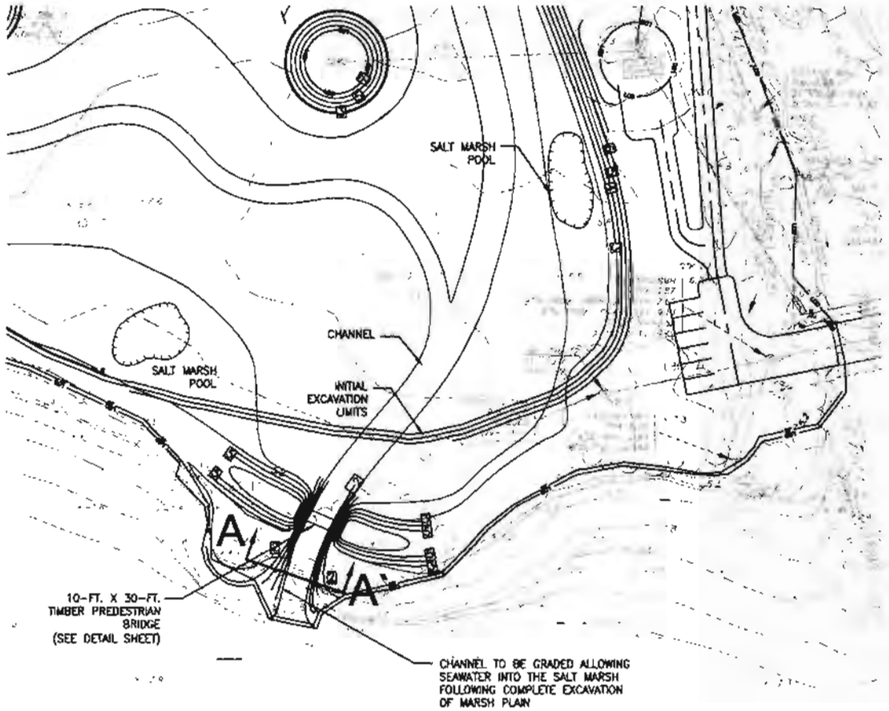
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

SITE PREPARATION & EROSION CONTROL PLAN (2 OF 2)

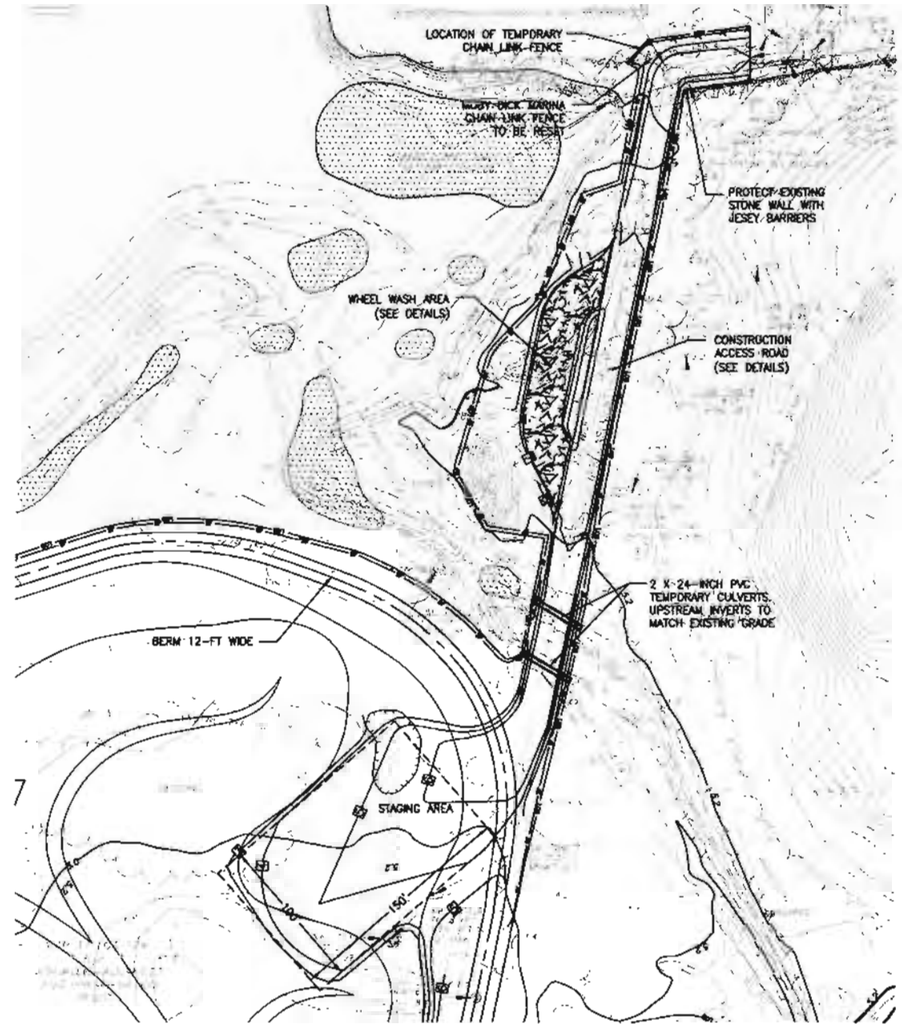
SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-5
DRAWN BY:	AG		
JOB NUMBER:	J11822		



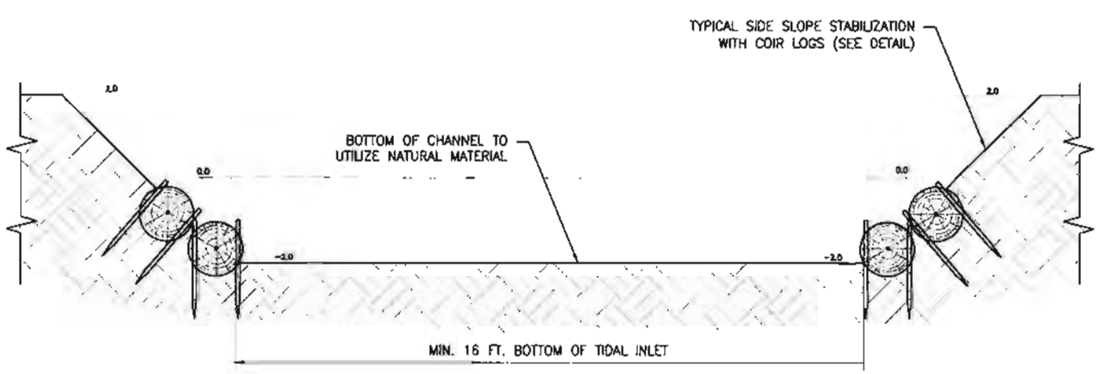
TEMPORARY TIDAL SHIELD GRADING

NOTE:

1. THE PURPOSE OF THE PROPOSED TIDAL SHIELD GRADING IS TO SHOW THE RECOMMENDED APPROACH TO CONTROL TIDAL FORCES AND PROTECT CONSTRUCTION EQUIPMENT.
2. THIS IS THE MINIMUM LEVEL OF GRADING THAT SHALL BE PERFORMED AFTER STAGING AREA AND ACCESS ROAD IS CONSTRUCTED.
3. EXCAVATION SHALL BE CONDUCTED PRIOR TO CONSTRUCTION OF BERM AND PEDESTRIAN BRIDGE.
4. INLET CHANNEL SHALL BE STABILIZED FROM THE LIMITS OF DISTURBANCE TO THE INTERIOR AS SHOWN ON PLANTING PLANS PER DETAIL SHEET.



HAUL ROAD AND STAGING AREA GRADING



TYPICAL TIDAL INLET CROSS SECTION A–A'
NOT TO SCALE

NOTE:

1. CONTRACTOR SHALL EMPLOY NECESSARY DEWATERING MEASURES TO COMPLETE GRADING OF TIDAL CHANNEL INLET.
2. CONTRACTOR SHALL CONSULT APPLICABLE TIDE CHARTS TO COMPLETE PROPOSED WORK.
2. TIDAL CHANNEL INLET EXCAVATION AND GRADING SHALL OCCUR FOLLOWING ALL WORK WITHIN THE PROPOSED SALT MARSH PLAIN.

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

100 50 0 100 200
SCALE IN FEET

THE Louis Berger Group, INC.
ENGINEERS • PLANNERS
SCIENTISTS • ECONOMISTS
MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

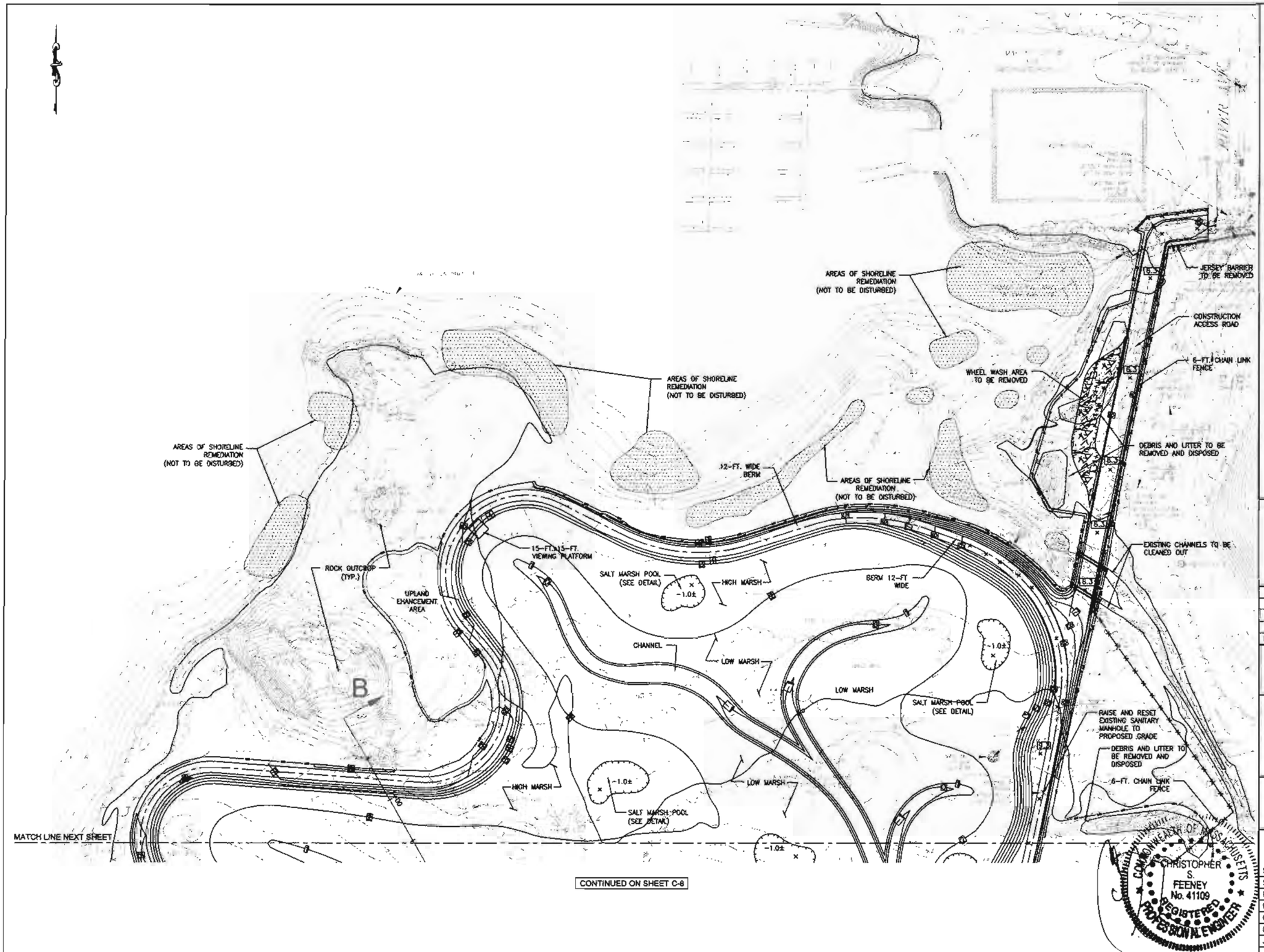
National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

INTERIM GRADING PLAN

SHEET TITLE:

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-6
DRAWN BY:	AG		
JOB NUMBER:	J11822		



LIMIT OF DISTURBANCE

SILT FENCE

6-FOOT CHAIN LINK FENCE

TIMBER GUARDRAIL

RESOURCE AREA IMPACT SUMMARY

WETLAND TYPE	AREA (SQUARE FEET) OR LENGTH (LINEAR FEET)	
	PERMANENT	TEMPORARY
BVW	73,828 S.F.	911 S.F.
SALT MARSH	28,388 S.F.	1,820 S.F.
COASTAL BANK	40 L.F.	30 L.F.
COASTAL BEACH	0	1,175 S.F.
LAND SUBJECT TO COASTAL STORM FLOWAGE*	14,342 S.F.	2,970 S.F.
	*398,722 S.F. (9.1 AC) NET-STORAGE GAIN	
RIVERFRONT AREA (DISTURBED)	174,850 S.F.	31,950 S.F.

NOTE:
1. ALL AREAS SHALL BE GRADED WITHIN THE PROPOSED SALT MARSH TO PROMOTE POSITIVE DRAINAGE.
2. AREAS TO BE STABILIZED WITH COIR LOGS ARE AS SHOWN ON THE PLANTING PLAN FOR CLARITY.

50 25 0 50 100

SCALE IN FEET

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REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

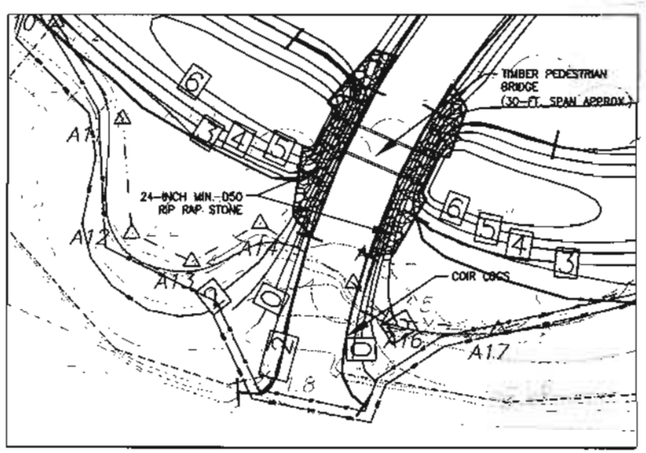
SHEET TITLE: GRADING PLAN (1 OF 2)

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-7
DRAWN BY:	AG		
JOB NUMBER:	J11822		

MATCH LINE PREVIOUS SHEET

CONTINUED ON SHEET C-7

CHANNEL
15-FT.x15-FT. VIEWING PLATFORM
SALT MARSH POOL (SEE DETAIL)
LOW MARSH
LOW MARSH AREA
HIGH MARSH
RADIO TOWER
TIMBER GUARDRAIL (SEE DETAIL)
COIR LOG STABILIZATION (SEE DETAIL SHEET)
SEE BRIDGE SLOPE REINFORCEMENT INSET
TIMBER PEDESTRIAN BRIDGE (30-FT. SPAN APPROX)
COIR LOG TIDAL CHANNEL BANK STABILIZATION (SEE DETAIL)
UNITS TO ADA COMPLIANT WALKING PATH
EXISTING SEWER LINE TO BE PERMANENTLY CUT AND CAPPED
BOLLARDS (SEE DETAIL)
24-FT. PIPE-GATE
BOLLARDS WITH CHAIN (SEE DETAIL)
6-FT. CHAIN LINK FENCE
GRAVEL ACCESS ROAD
DEBRIS AND LITTER TO BE REMOVED AND DISPOSED
RAISE AND RESET EXISTING SANITARY MANHOLE TO PROPOSED GRADE
A
A'
B
B'



NOTE:
1. TIDAL INLET TO BE STABILIZED WITH COIR LOGS.

BRIDGE SLOPE REINFORCEMENT

SCALE: 1" = 20FT.

LIMIT OF DISTURBANCE

SILT FENCE

6-FOOT CHAIN LINK FENCE

TIMBER GUARDRAIL

RESOURCE AREA IMPACT SUMMARY

WETLAND TYPE	AREA (SQUARE FEET) OR LENGTH (LINEAR FEET)	
	PERMANENT	TEMPORARY
BVW	73,826 S.F.	911 S.F.
SALT MARSH	28,386 S.F.	1,820 S.F.
COASTAL BANK	40 L.F.	30 L.F.
COASTAL BEACH	0	1,175 S.F.
LAND SUBJECT TO COASTAL STORM FLOWAGE*	14,342 S.F.	2,970 S.F.
	*398,722 S.F. (9.1 AC) NET-STORAGE GAIN	
RIVERFRONT AREA (DISTURBED)	174,850 S.F.	31,950 S.F.

NOTE:
1. ALL AREAS SHALL BE GRADED WITHIN THE PROPOSED SALT MARSH TO PROMOTE POSITIVE DRAINAGE.
2. AREAS TO BE STABILIZED WITH COIR LOGS ARE AS SHOWN ON THIS PLAN AND PLANTING PLAN FOR CLARITY.
3. TIDAL INLET FROM RIPRAP STABILIZED AREA TO L.O.D SHALL BE STABILIZED WITH COIR LOGS.

50 25 0 50 100

SCALE IN FEET

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NEEDHAM, MA (781) 444-3330
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REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

GRADING PLAN (2 OF 2)

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-8
DRAWN BY:	AG		
JOB NUMBER:	J11822		

PLANTING NOTES

EMERGENT PLANTINGS - PLUGS : LOW MARSH AND HIGH MARSH

1. NO AREA SHALL BE PLANTED UNTIL FINAL GRADE IS COMPLETED, AREA HAS BEEN CLEARED OF PHRAGMITES, WRACK, OTHER DEBRIS. COMPLETION OF CLEARING SHALL BE APPROVED BY ENGINEER PRIOR TO PLANTING. ALL AREAS PLANTED SHALL BE PROTECTED BY HERVIROY FENCING AT THE END OF EACH PLANTING DAY.
2. THE CONTRACTOR SHALL INCORPORATE TWO INCHES (2") OF A FINE GRAIN MINERAL SOIL AMENDMENT IN THE UPPER HORIZON OF THE SALT MARSH PLAIN, PER DIRECTION OF PROJECT ENGINEER.
3. LOW MARSH PLANTINGS (SPARTINA ALTERNIFLORA 2-INCH PLUGS) SHALL BE PLANTED ON 2-FOOT CENTERS, AT A DENSITY OF 12,632 PLANTS PER ACRE. LOW MARSH PLANTINGS SHALL TYPICALLY BE INSTALLED BETWEEN ELEVATIONS 1.0-2.0 (NAVD 88). HIGH MARSH PLANTINGS (SPARTINA PATENS AND DISTICHLIS SPICATA 2-INCH PLUGS) SHALL BE PLANTED ON 2-FOOT CENTERS, AT A TOTAL DENSITY OF 12,632 PLANTS PER ACRE. HIGH MARSH PLANTINGS SHALL TYPICALLY BE INSTALLED BETWEEN ELEVATIONS 2.0 TO 2.7 (NAVD 88). THE PLANTING WINDOW IS FROM APRIL 1 TO JUNE 15.
4. THE PLUGS SHALL BE PLANTED IN THE SOIL NO MORE THAN ONE INCH (1") DEEPER THAN GROWN IN THE NURSERY AND TO A DEPTH THAT WILL ENSURE THAT THE TOP OF THE ROOTSTOCK MASS LIES NO MORE THAN ONE INCH (1") BELOW THE SOIL SURFACE.
5. PRIOR TO PLACEMENT OF THE PLANT IN THE PLANTING HOLE, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE PLANTING HOLE (OSMOCOTE 18-6-12) AT THE RATE OF THIRTY (30) GRAMS PER PLANT. THE PLANTS SHALL THEN BE PLACED AT THE APPROPRIATE DEPTH WITH THE ROOT SYSTEM ORIENTED DOWNWARD. WHILE THE PLANT IS IN THIS POSITION, THE SOIL PROFILE OR SECTION SHALL BE FULLY AND FIRMLY CLOSED. IF A SOIL DEPRESSION IS FORMED ABOVE OR IMMEDIATELY ADJACENT TO THE PLANTING LOCATION, ENOUGH SOIL SHALL BE SLOUGHED FROM THE SURROUNDING AREA AND FIRMLY TAMPED INTO THE DEPRESSION TO LEAVE THE PLANTING AREA AT THE SAME ELEVATION AS THE SURROUNDING SOIL OR SLIGHTLY HIGHER.
6. REMAINING STRANDS OF PHRAGMITES SHALL BE TREAT WITH HERBICIDE FOLLOWING FINAL PHASE OF PLANTING AND AS NECESSARY AS TO PREVENT FUTURE GROWTH.

50 25 0 50 100

SCALE IN FEET

TRANSITION AREAS AND DISTURBED UPLANDS

WARM SEASON GRASSLAND/WILDFLOWER SEEDING:

1. THE WARM SEASON GRASSLAND/WILDFLOWER NATIVE SEED MIXTURE SHALL BE AS SHOWN IN THE TABLE AND SEEDED AT A RATE OF 15 BULK POUNDS PER ACRE. WARM SEASON SEEDING SHALL OCCUR AFTER MARCH 15 AND BEFORE JUNE 1.
2. THE SEEDED AREA SHALL BE LOAMED WITH A MINIMUM DEPTH OF FOUR INCHES (4") AND FIRMED TO FORM A GOOD SEED BED. UNLESS HYDROSEEDED, THE SEEDED AREA SHALL BE DRAGGED WITH A CHAIN OR TINE HARROW AND FIRMED TO ENSURE GOOD SOIL TO SEED CONTACT.
3. NITROGEN FERTILIZER SHALL NOT BE APPLIED AT THE TIME OF THE SEEDING.
4. LIMESTONE SHALL BE APPLIED AT A RATE OF 1-TON PER ACRE (50 LBS./1,000 S.F.). SEED MAY BE BROADCAST, DROP-SEEDED OR HYDROSEEDED. THE SEED MIX. SHALL BE MULCHED AT THE RATE OF 4,000 POUNDS OF STRAW MULCH PER ACRE. IF THE SEED IS PLACED BY HYDROSEEDER, HYDROMULCH MAY BE USED. THE MULCH SHALL BE BOUND IN PLACE WITH AN APPROVED BINDER.

TRANSITIONAL AREA WOODY SHRUB PLANTINGS

1. THE TRANSITION AREAS BETWEEN EL. 2.7 TO 3.0 (NAVD 88), SHALL BE PLANTED WITH SALT TOLERANT SPECIES AS SHOWN IN THE TABLE WITHIN LIKE SPECIES CLUSTERS AS SHOWN ON PLANTING PLAN AND SPACED AT 5-FOOT ON CENTER. THE PLANTING WINDOW IS APRIL 1 TO MAY 15.
2. ALL SHRUBS SHALL CONFORM TO THE MATERIAL SPECIFICATION REQUIREMENTS OF THE AMERICAN STANDARD FOR NURSERY STOCK (1986 OR LATER EDITION).
3. PLANT PITS SHALL BE DUG APPROXIMATELY FOUR INCHES (4") WIDER THAN THE STOCK SIZE. PRIOR TO PLACEMENT OF THE PLANT IN THE PLANTING HOLE, A 20-GRAM FERTILIZER AGRIFORM TABLET (20-10-5 ANALYSIS) SHALL BE PLACED IN THE BOTTOM OF THE PLANTING HOLE. BACKFILL SOIL MATERIALS SHALL BE THE SAME AS EXCAVATED FOR THE PLANTING PITS.

DISTURBED WOODY SHRUB PLANTINGS

1. THE DISTURBED UPLAND AREAS, ABOVE EL. 3.0 (NAVD 88), SHALL BE PLANTED WITH WOODY SHRUBS AS SHOWN IN THE TABLE WITHIN LIKE SPECIES CLUSTERS AS SHOWN ON THE PLANTING PLAN AND SPACED AT 5-FOOT ON CENTER. THE PLANTING WINDOW SI APRIL 1 TO MAY 15. PLANTING SHALL ONLY OCCUR WHEN THE SOLUBLE SALT LEVEL OF THE SOIL MEASURES LESS THAN 1.0 MMHOS/CM.
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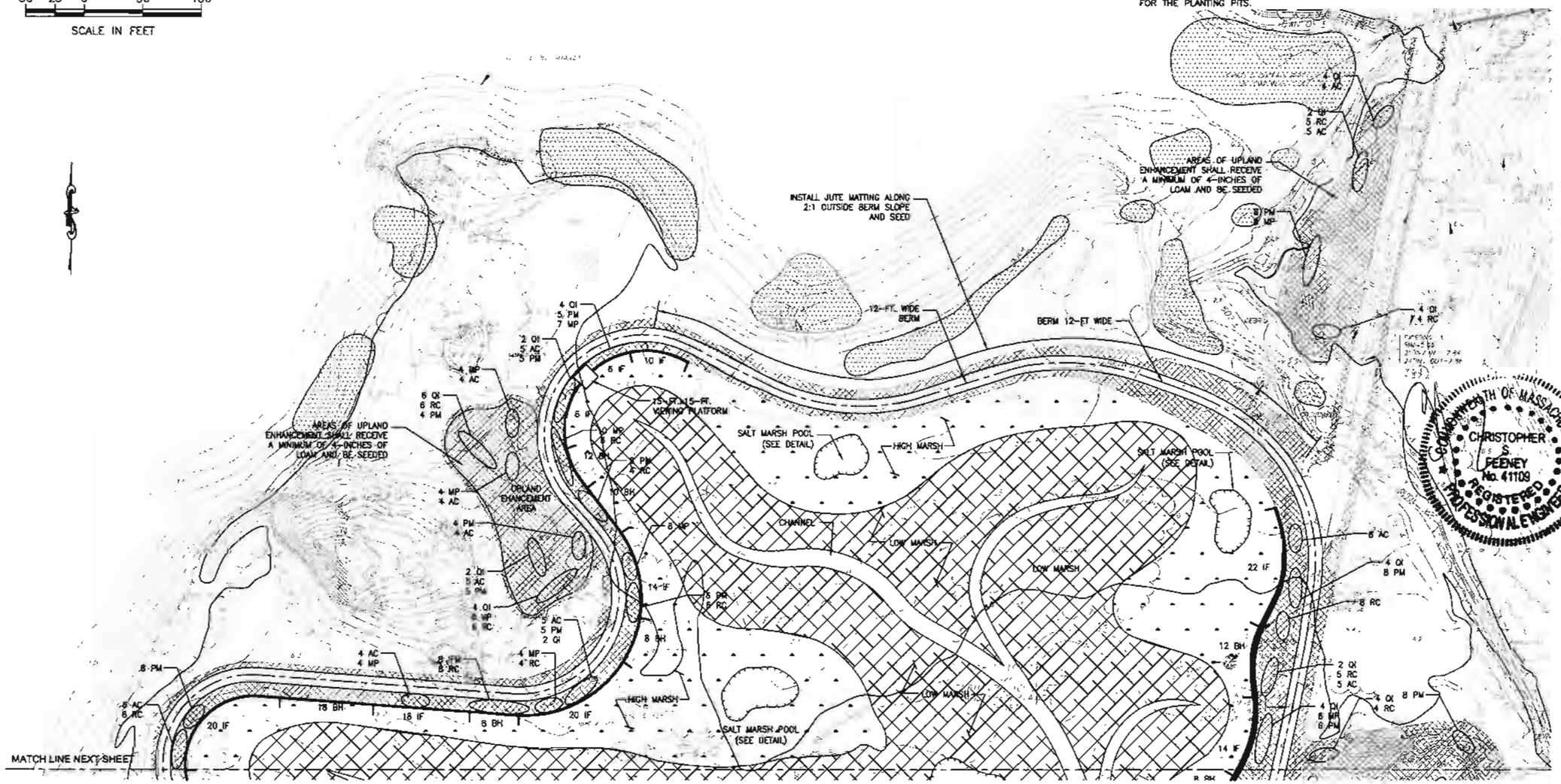

CONTINUED ON SHEET C-10

PLANTING LEGEND

- LOW MARSH PLANTING ELEVATION 1.0-2.0
- HIGH MARSH PLANTING ELEVATION: 2.0-2.7
- TRANSITION AREAS ELEVATION: 2.7-3.0
- DISTURBED UPLANDS ELEVATON: ABOVE 3.0

WOODY SHRUB PLANTINGS[1]				
SYMBOL	COMMON NAME	SCIENTIFIC NAME	CONT. SIZE (GAL)	QUANTITY
AC	Shadbush	*Amelanchier canadensis*	#2	127
MP	Northern Bayberry	*Myrica pensylvanica*	#2	155
PM	Beach Plum	*Prunus maritima*	#2	154
QI	Scrub Oak	*Quercus ilicifolia*	#2	78
RC	Winged Sumac	*Rhus copallinum*	#1	150

SALT TOLERANT SPECIES[1]				
SYMBOL	COMMON NAME	SCIENTIFIC NAME	CONT. SIZE (GAL)	QUANTITY
IF	High-tide Bush	*Iva frutescens*	#1	308
BH	Groundsel Tree	*Baccharis halimifolia*	#1	242

WARM SEASON GRASSLAND/WILDFLOWER SEED MIXTURE[2]		
COMMON NAME	SCIENTIFIC NAME	PROPORTION
Little Bluestem	*Schizachyrium scoparium*	45
Switchgrass	*Panicum virgatum*	20
Wild Indigo	*Baptisia tinctoria*	3
Butterfly Milkweed	*Asclepias tuberosa*	12
Heath Aster	*Symphyotrichum pilosum*	15
Round Head Lespedeza	*Lespedeza capitata*	5
		100

RATE: [1] PLANTED AND SPACED AT 5-FOOT ON CENTER
[2] SEEDED AT A RATE OF 15 BULK POUNDS PER ACRE

THE Louis Berger Group, INC.
ENGINEERS • PLANNERS
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MANCHESTER, NH (603) 644-5200
NEEDHAM, MA (781) 444-3330
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DESCRIPTION	DATE

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

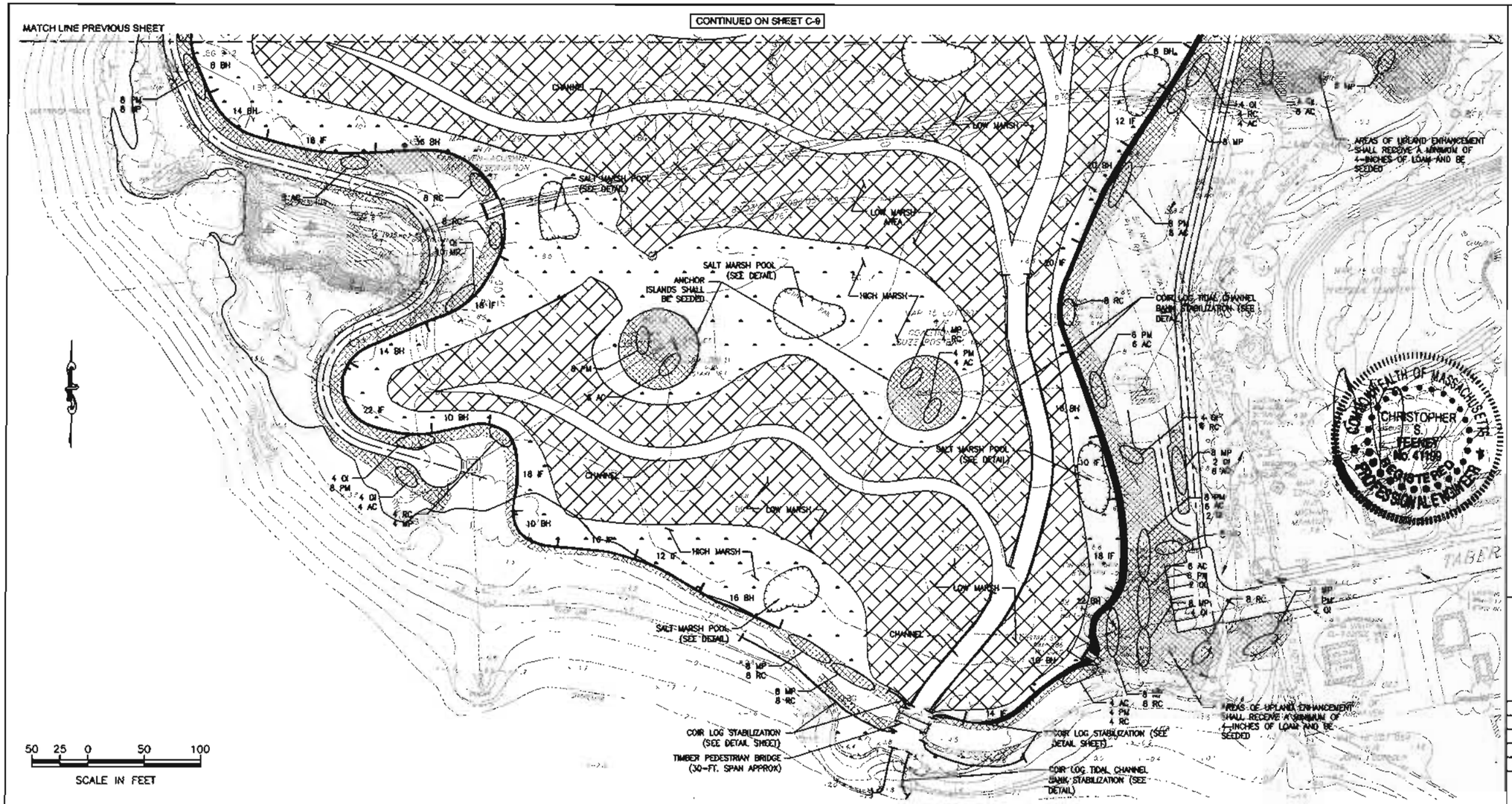
National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

PLANTING PLAN
(1 OF 2)

SHEET TITLE:

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-9
DRAWN BY:	AG		
JOB NUMBER:	J11822		



PLANTING LEGEND

- LOW MARSH PLANTING ELEVATION 1.0–2.0
- HIGH MARSH PLANTING ELEVATION: 2.0–2.7
- TRANSITION AREAS ELEVATION: 2.7–3.0
- DISTURBED UPLANDS ELEVATION: ABOVE 3.0

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SALT MARSH RESTORATION
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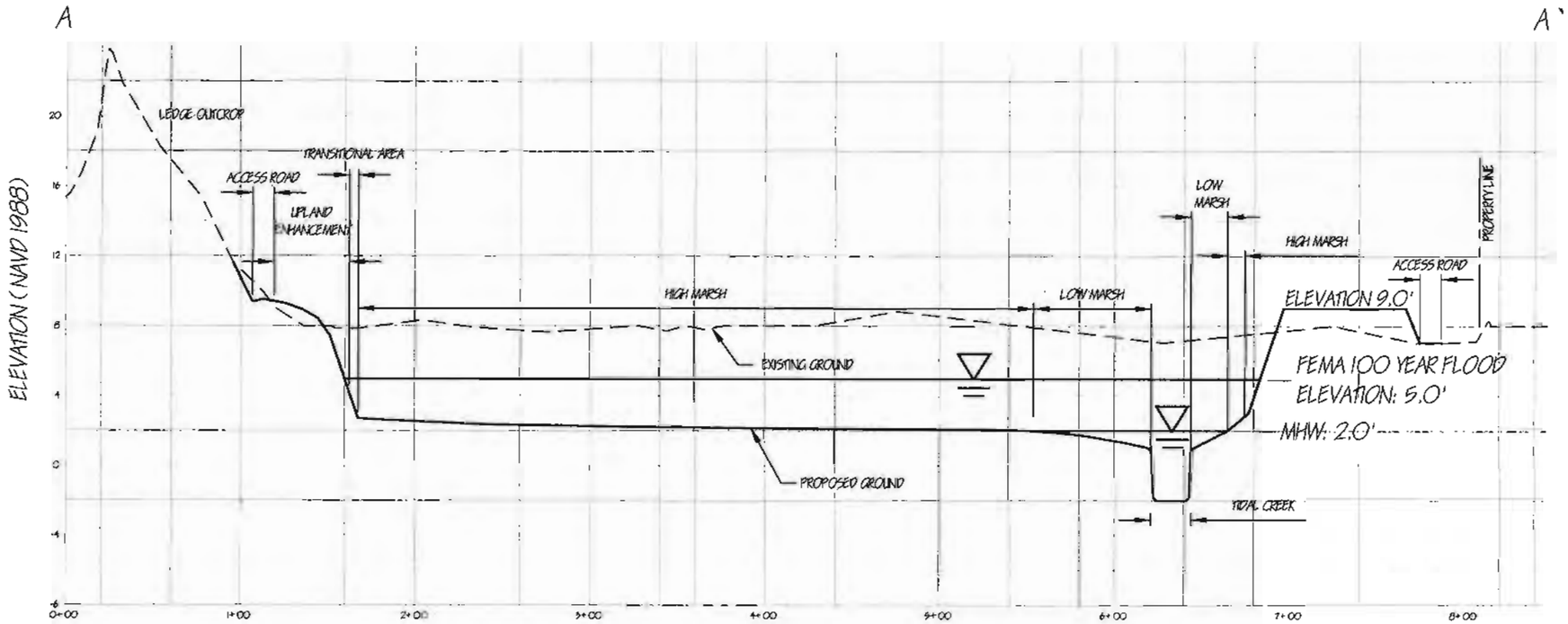
PLANTING PLAN
(2 OF 2)

SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-10
DRAWN BY:	AG		
JOB NUMBER:	J11822		



CROSS SECTION A-A`

NOTE:
ELEVATIONS ON THIS PLAN RELATE TO NAVD 1988.

0 HORZ.
0 VERT.
SCALE IN FEET

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REV.	DESCRIPTION	DATE

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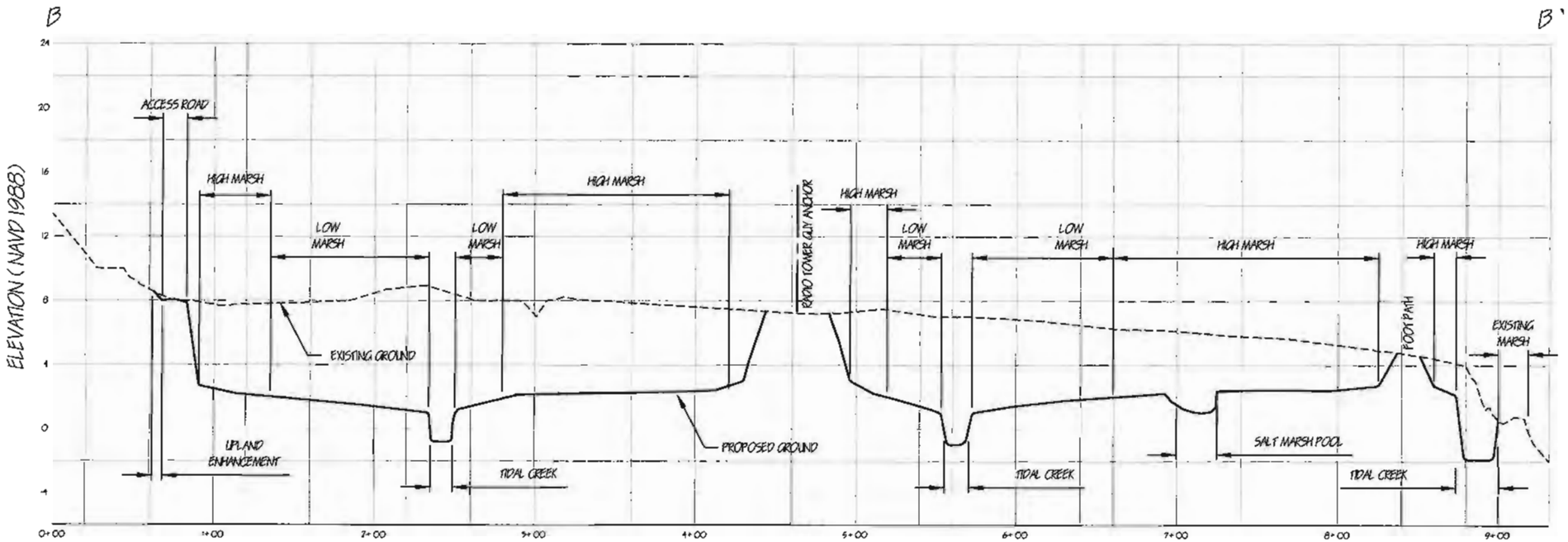
MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

CROSS SECTION A–A

SHEET TITLE:			
SCALE:	1"=5'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	JTM		
CHECKED BY:	ATP	SHEET No.	C-11
DRAWN BY:	JTM		
JOB NUMBER:	J11822		



CROSS SECTION B-B`

NOTE:
ELEVATIONS ON THIS PLAN RELATE TO NAVD 1988.

HORZ.
VERT.
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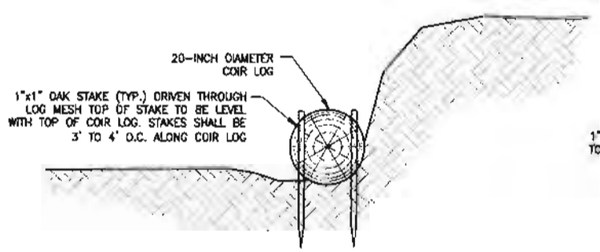
REGISTERED PROFESSIONAL ENGINEER

CROSS SECTION B-B

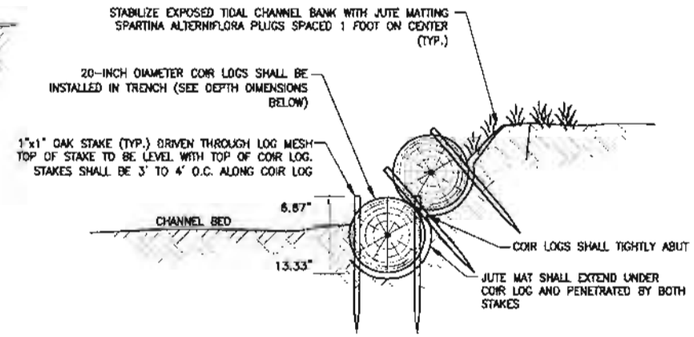
SHEET TITLE:			
SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-12
DRAWN BY:	AG		
JOB NUMBER:	J11822		



COIR LOG STABILIZATION

NTS

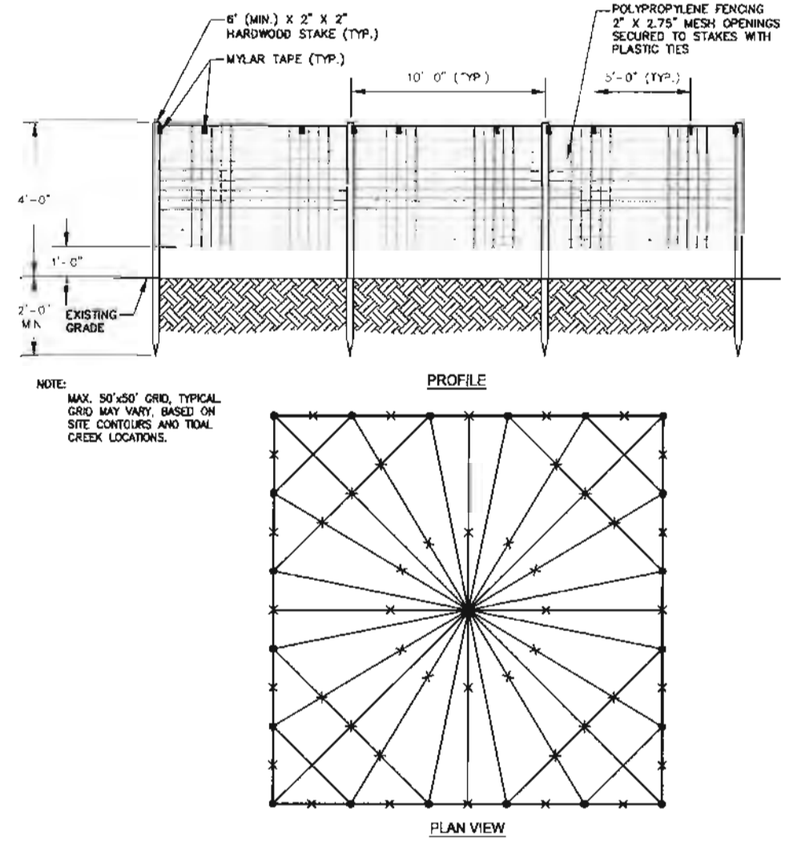
1. COIR LOGS SHALL BE 20-INCH IN DIAMETER AND UP TO 20' LONG. INNER MATERIAL SHALL BE COMPOSED OF 100% COCONUT FIBER. LOG SHALL BE WRAPPED IN BIODEGRADABLE TWINE.
2. A SINGLE COIR LOG IN HEIGHT SHALL BE USED TO STABILIZE SELECT NON-TIDAL CHANNEL AREAS.



TIDAL CHANNEL BANK STABILIZATION DETAIL

NTS

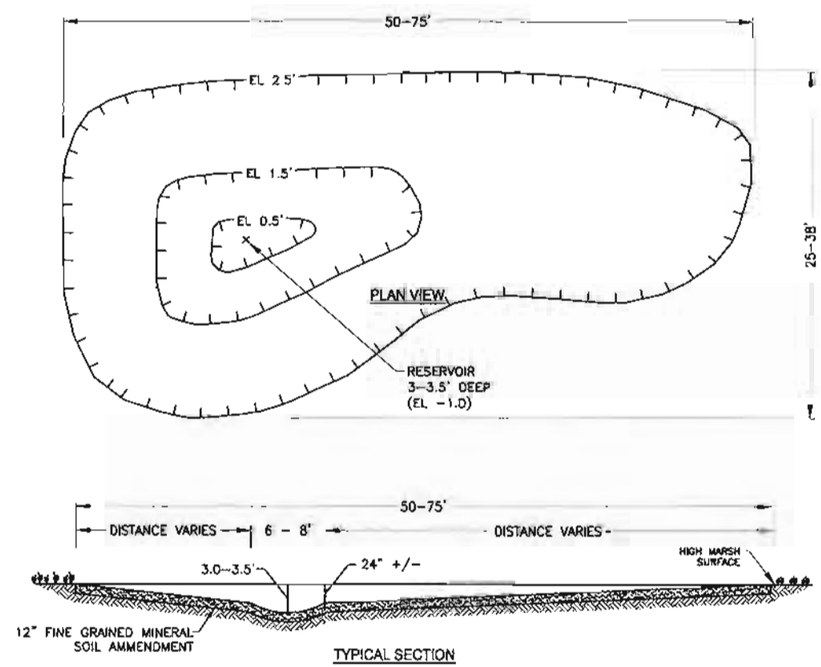
1. COIR LOGS SHALL BE 20-INCH IN DIAMETER AND UP TO 20' LONG. INNER MATERIAL SHALL BE COMPOSED OF 100% COCONUT FIBER. LOG SHALL BE WRAPPED IN BIODEGRADABLE TWINE.
2. MULTIPLE COIR LOGS SHALL BE USED TO STABILIZE SELECT TIDAL CHANNEL BANK AREAS.



NOTE:
MAX. 50'x50' GRID, TYPICAL. GRID MAY VARY, BASED ON SITE CONTOURS AND TIDAL CREEK LOCATIONS.

HERBIVORY FENCE, TYPICAL

NTS

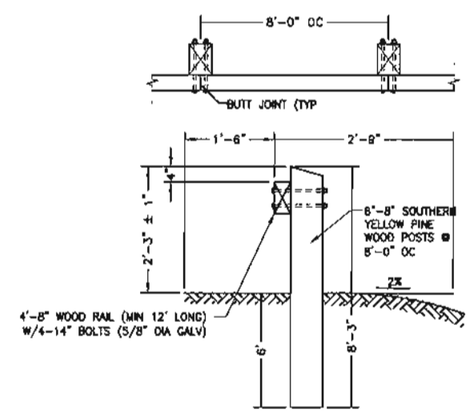


TYPICAL SALT MARSH POOL

NTS

NOTES:

1. SALT MARSH POOLS TYPICALLY SHALL RANGE BETWEEN 1,250 SF AND 2,800 SF WITH A DEEPER RESERVOIR (3 TO 3.5 FT BELOW THE MARSH SURFACE).
2. THE EXACT LOCATION OF POOLS WILL BE DESIGNATED ON THE GROUND BY THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR), MAKING SUCH CHANGES AS MAY BE REQUIRED TO ADJUST FOR LOCAL FIELD CONDITIONS.
3. POOLS EXCAVATED WITHIN GRANULAR DREDGED MATERIAL SHALL BE OVER-EXCAVATED BY 12 INCHES AND REPLACED WITH 12 INCHES OF FINE GRAINED MINERAL SOIL AMENDMENT TO REDUCE PERMEABILITY.
4. TO INCREASE THE FREQUENCY OF TIDAL EXCHANGE WITHIN POOLS, SHALLOW CREEKS OR RADIAL DITCHES SHALL BE DESIGNED TO TERMINATE TYPICALLY 5 FT FROM THE POOL EDGE TO CREATE A SILL. THE TERMINUS OF THE SHALLOW CREEK/RADIAL DITCH SHALL TYPICALLY BE 2 INCHES BELOW THE MARSH SURFACE.



TIMBER GUARDRAIL DETAIL

NTS

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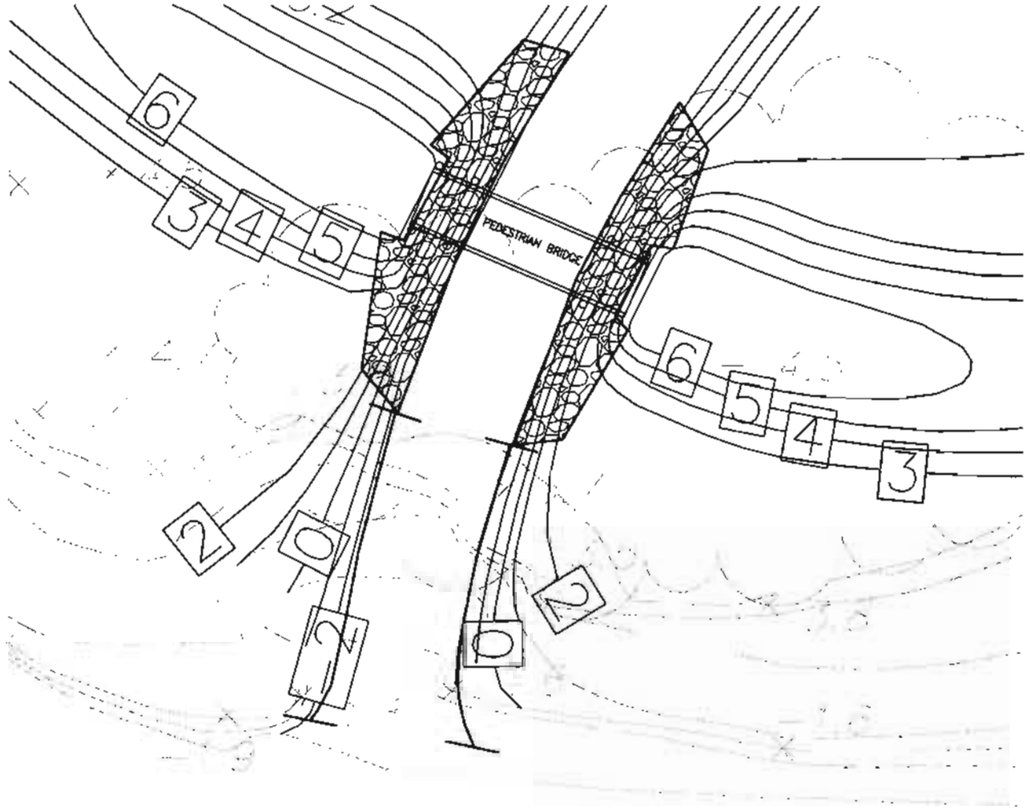
CONSTRUCTION DETAILS 1

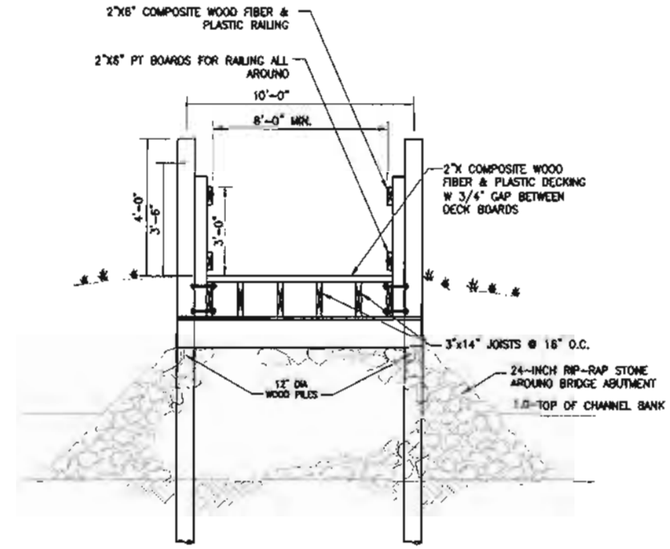
SHEET TITLE:

SCALE:	AS SHOWN	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-13
DRAWN BY:	AG		
JOB NUMBER:	J11822		



TIMBER PEDESTRIAN BRIDGE SITE PLAN

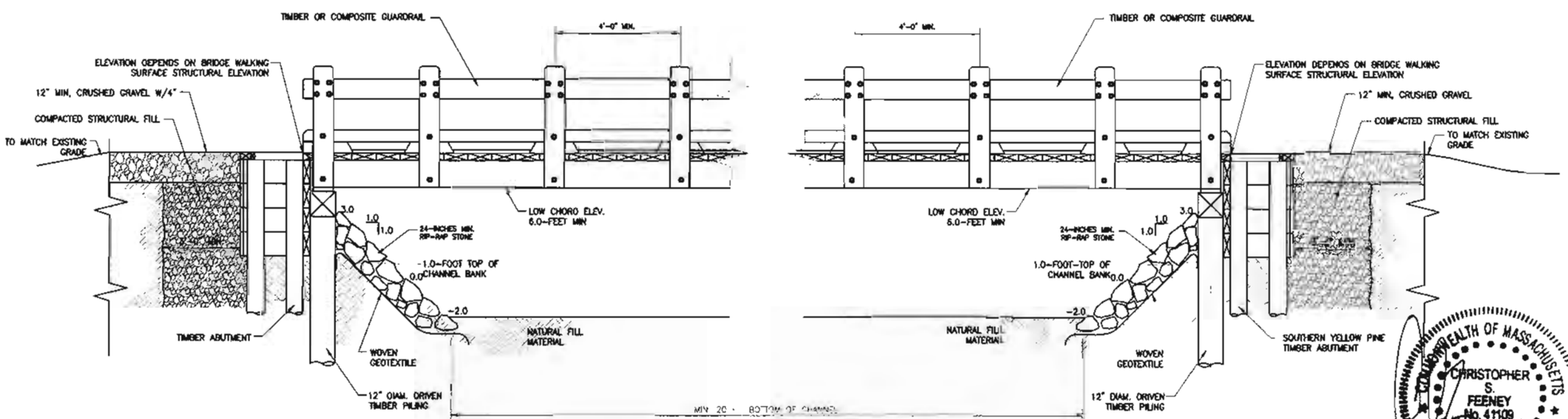
SCALE: 1"=10FT.



NOTES:

DESIGN CRITERIA:

1. THE WOODEN PEDESTRIAN BRIDGE DESIGN SHALL BE APPROVED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS.
2. PILE DEPTH DRIVING CRITERIA SHALL BE BASED ON THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS.
3. DESIGN LIVE LOADS IN ACCORDANCE WITH MASSACHUSSETTS STATE BUILDING CODE 7-TH EDITION.
   - 3.1. BOARDWALK: 100PSF
   - 3.2. HANDRAIL/GUARDRAIL: 50PLF
   - 3.3. HANDRAIL/GUARDRAIL POSTS: 200LBS IN ANY DIRECTION.
4. BRIDGE APPROACH SHALL MEET THE APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).



TIMBER PEDESTRIAN BRIDGE DETAIL

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REV.	DESCRIPTION	DATE

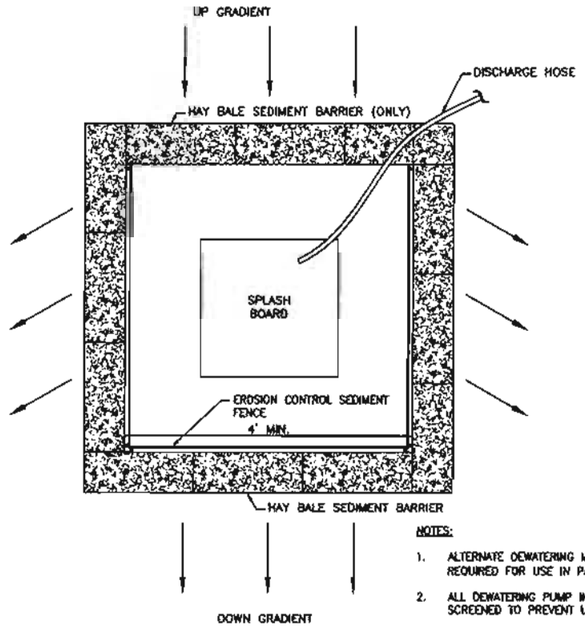
National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS 2

SHEET TITLE:			
SCALE:	AS SHOWN	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-14
DRAWN BY:	AG		
JOB NUMBER:	J11822		



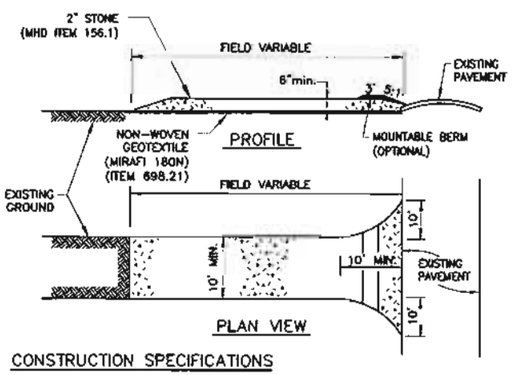
NOTES:

1. ALTERNATE DEWATERING METHODS MAY BE REQUIRED FOR USE IN PAVED/IMPERVIOUS AREAS.
2. ALL DEWATERING PUMP INTAKES SHALL BE SCREENED TO PREVENT UPTAKE OF SMALL FISH.

PLAN VIEW

TYPICAL DEWATERING DISCHARGE DETAIL

NTS

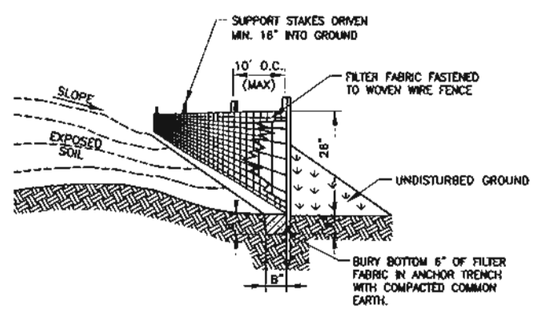


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE: USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH: RECOMMEND GREATER THAN OR EQUAL TO 50-FEET WHERE PRACTICABLE.
3. THICKNESS: NOT LESS THAN 6-INCHES.
4. WIDTH: 10-FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WILL BE PERMITTED.
7. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENTS SHALL BE MADE AS NECESSARY OR AS DIRECTED BY THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR).
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR.
9. THE USE OF STONE AND NON WOVEN GEOTEXTILE SHALL MEET THE SPECIFICATION FOR THEIR RESPECTIVE ITEM NUMBERS.

STABILIZED CONSTRUCTION ENTRANCE

NTS



PERSPECTIVE VIEW

MATERIALS SPECIFICATIONS

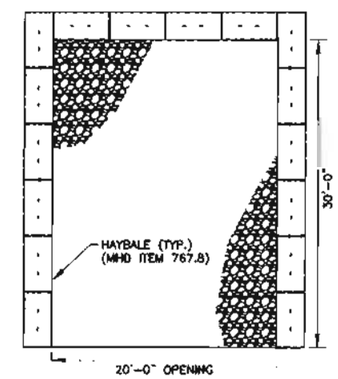
1. SUPPORT STAKES: DURABLE HARDWOOD, 1"x1"x48" DIMENSION.
2. FILTER FABRIC: HIGH STRENGTH NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN (50 LB/LIN. FT. (MIN)) WITH A FLOW RATE OF AT LEAST 0.3 GAL./FT./MINUTE. FABRIC TO CONTAIN ULTRAVIOLOT RAY INHIBITORS AND STABILIZERS.

CONSTRUCTION SPECIFICATIONS

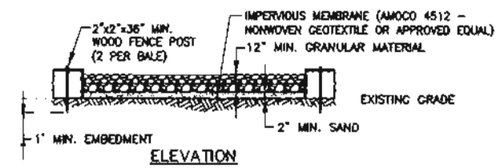
1. INSTALL SEDIMENTATION FENCE WHERE INDICATED OR AS DIRECTED BY THE ENGINEER.
2. EXCAVATE ANCHOR TRENCH ON THE UPSLOPE SIDE OF THE PROPOSED FENCE LINE ALONG THE ENTIRE LENGTH.
3. DRIVE SUPPORT STAKES ON DOWNSLOPE SIDE OF PROPOSED FENCE.
4. BACKFILL ANCHOR TRENCH WITH COMMON EARTH AND COMPACT TO APPROXIMATE DENSITY OF SURROUNDING NATIVE SOIL.
5. MAINTAIN SILT FENCE AND REMOVE SEDIMENT WHEN "BULGES" DEVELOP.

SEDIMENTATION FENCE

NTS



PLAN



ELEVATION

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE HAY BALES, IMPERVIOUS MEMBRANE AND GRANULAR MATERIAL AT COMPLETION OF THE CONTRACT. THE HAY BALES, IMPERVIOUS MEMBRANE AND GRANULAR MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COMPENSATION.
2. THE REFUELING SITE SHALL BE PLACED WITHIN THE STAGING AREA.
3. THE REFUELING SITE SHALL CONSIST OF HAY BALES, IMPERVIOUS MEMBRANE AND GRANULAR MATERIAL.
4. IMPERVIOUS MEMBRANE SHALL OVERLAP THE TOP OF THE HAY BALES AND BE SECURED BY WOODEN STAKES.
5. A 2-INCH MINIMUM LAYER OF SAND SHALL BE PLACED ON TOP OF THE IMPERVIOUS MEMBRANE. A 12-INCH MINIMUM LAYER OF GRANULAR MATERIAL SHALL BE PLACED ON TOP OF THE SAND. WHEN PLACING THE GRANULAR MATERIAL, CARE SHALL BE TAKEN SO AS NOT TO TEAR THE IMPERVIOUS MEMBRANE. THE GRANULAR MATERIAL SHALL BE MONITORED SO IT DOES NOT MEASURE LESS THAN 12-INCHES THICK AT ANY TIME.
6. STAKES TO SECURE HAY BALES AND IMPERVIOUS MEMBRANE SHALL BE 2-INCHES BY 2-INCHES OR EQUIVALENT DURABLE HARDWOOD, AND SHALL BE LONG ENOUGH TO EXTEND 1-FOOT MINIMUM INTO THE GROUND. STAKES WILL BE SUBSIDIARY.
7. BALES SHALL BE SET ON EXISTING GROUND OR AS DIRECTED BY THE ENGINEER. ANY REQUIRED EXCAVATION TO SET BALES WILL BE SUBSIDIARY.
8. ALTERNATE REFUELING SITE DETAILS MAY BE REQUIRED FOR USE IN PAVED AREAS.

REFUELING SITE DETAILS (IF NEEDED)

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REV.	DESCRIPTION	DATE

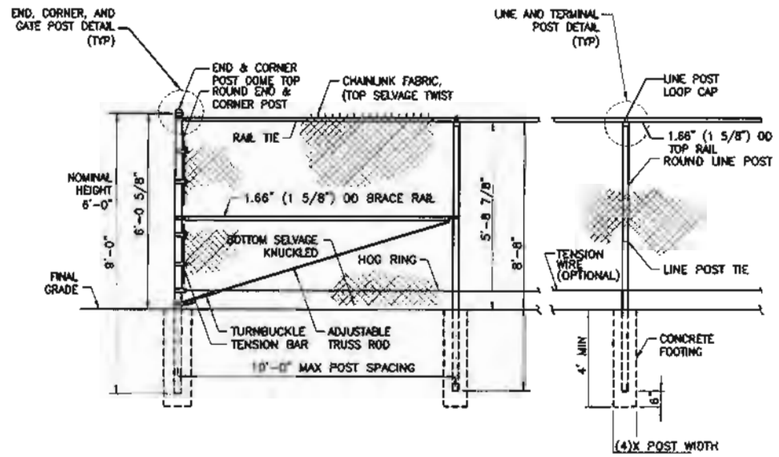
National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

CONSTRUCTION DETAILS 3

SHEET TITLE:

SCALE:	AS SHOWN	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-15
DRAWN BY:	AG		
JOB NUMBER:	[illegible]		



CHAIN-LINK FENCE DETAIL

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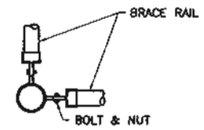
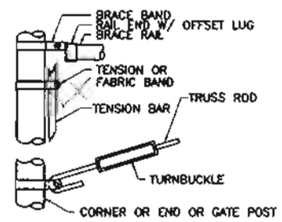
FENCE SCHEDULE			
END & CORNER POST TOP	TOP & BOTTOM FABRIC OPTIONS		END & CORNER POST TOP OPTIONS
DOME	TOP SELVAGE TWIST	BOTTOM SELVAGE KNUCKLED	FLAT

NOTES:

1. ALL MATERIAL TO CONFORM TO FEDERAL SPEC RR-F-191G (1-25-74).
2. ALL GALVANIZED FITTINGS TO CONFORM TO ASTM-A153.
3. FOOTING WIDTH TO BE (4)X POST WIDTH.
4. CONTRACTOR MAY PROVIDE ALTERNATE POST SUPPORT FOR TEMPORARY FENCING IF APPROVED BY THE ENGINEER.



PLAN

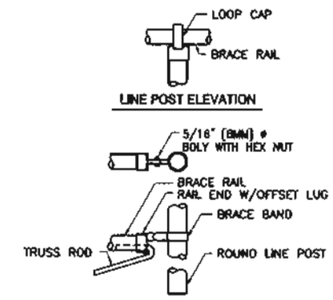


ELEVATION

NTS

END, CORNER, AND GATE POST DETAIL

NTS

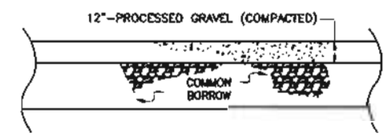


LINE POST ELEVATION

TERMINAL POST ELEVATION

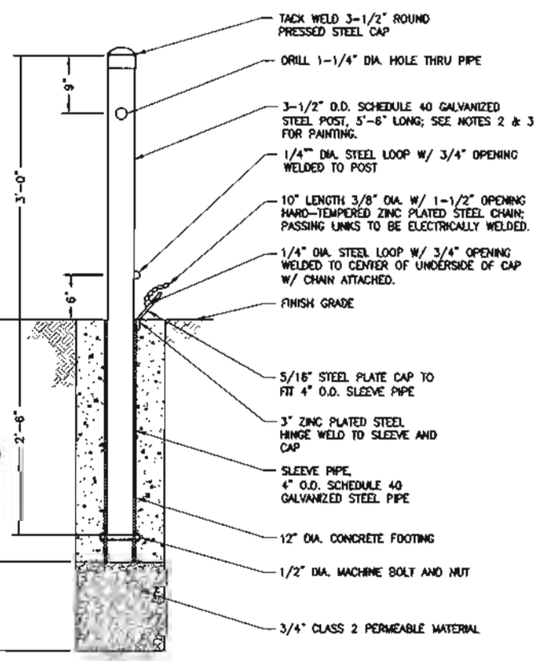
LINE AND TERMINAL POST DETAIL

NTS



TYPICAL PARKING AREA SECTION

NTS

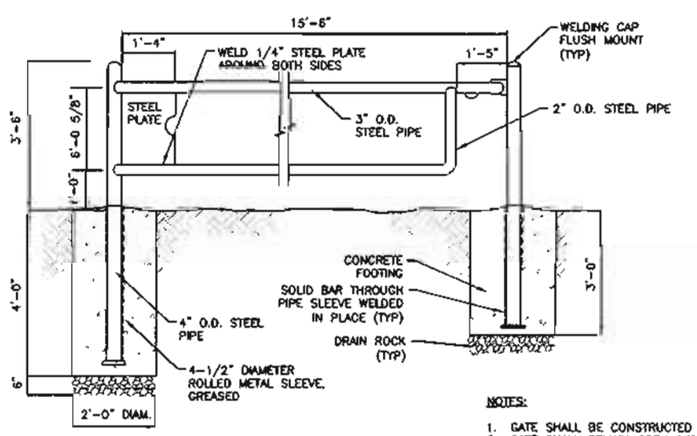


NOTES:

1. LOCATE ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING POST FOOTING.
2. PRIME ALL METAL WITH ONE COAT OF GALVANIZE-COMPATIBLE PRIMER AND TWO COATS OF WHITE INDUSTRIAL ENAMEL.
3. APPLY TWO 3" WIDE STRIPS OF REFLECTORIZED YELLOW TAPE. PROVIDE A 3" GAP BETWEEN EACH STRIP.

REMOVABLE BOLLARD DETAIL

NTS



PIPE GATE DETAIL

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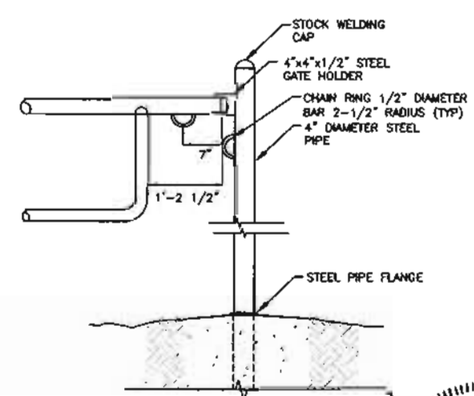
NOTES:

1. GATE SHALL BE CONSTRUCTED OF STAINLESS STEEL.
2. GATE SHALL REMAIN OPEN AND UNLOCKED
3. CONTRACTOR TO PROVIDE CHAIN AND PAD LOCK FOR EACH GATE.
4. CONTRACTOR SHALL HAVE ALL LOCKS/KEYS ALIKE A TOTAL OF 4 KEYS TO BE PROVIDED.



DETAIL AT GATE HOLDER

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

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PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

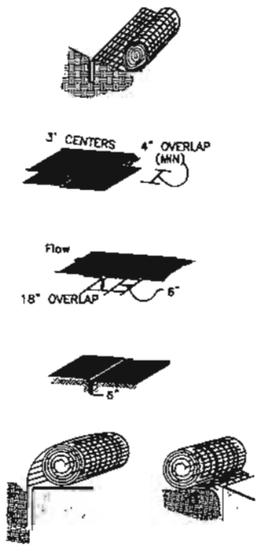
National Oceanic and Atmospheric Administration - Restoration Center
55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

CONSTRUCTION DETAILS 4

SHEET TITLE:

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-16
DRAWN BY:	AC		
JOB NUMBER:	J61822		



NOTE:

ANCHOR SLOT: BURY THE UP-CHANNEL END OF THE NET IN A 6" DEEP TRENCH. TAMP THE SOIL FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET.

OVERLAP: OVERLAP EDGES OF THE STRIPS AT LEAST 4". STAPLE EVERY 3-FEET DOWN THE CENTER OF THE OVERLAP.

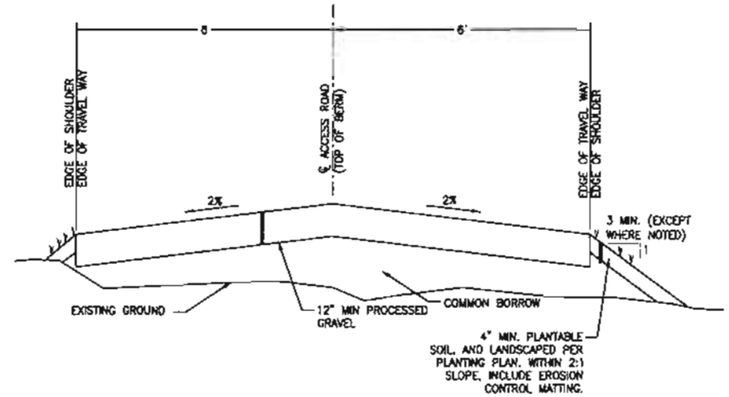
JOINING STRIPS: INSERT THE NEW ROLL OF NET IN A TRENCH, AS WITH THE ANCHOR SLOT. OVERLAP THE UP-CHANNEL END OF THE PREVIOUS ROLL 18" AND TURN THE END UNDER 6". STAPLE THE END OF THE PREVIOUS ROLL JUST BELOW THE ANCHOR SLOT AND AT 12" INTERVALS.

CHECK SLOTS: ON ERODIBLE SOILS OR STEEP SLOPES, CHECK SLOTS SHOULD BE MADE EVERY 15-FEET. INSERT A FOLD OF THE NET INTO A 6" TRENCH AND TAMP FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET. LAY THE NET SMOOTHLY ON THE SURFACE OF THE SOIL – DO NOT STRETCH THE NET AND DO NOT ALLOW WRINKLES.

ANCHORING ENDS AT STRUCTURES: PLACE THE END OF THE NET IN A 6" SLOT ON THE UP-CHANNEL SIDE OF THE STRUCTURE. FILL THE TRENCH AND TAMP FIRMLY. ROLL THE NET UP THE CHANNEL. PLACE STAPLES AT 12" INTERVALS ALONG THE ANCHOR END OF THE NET.

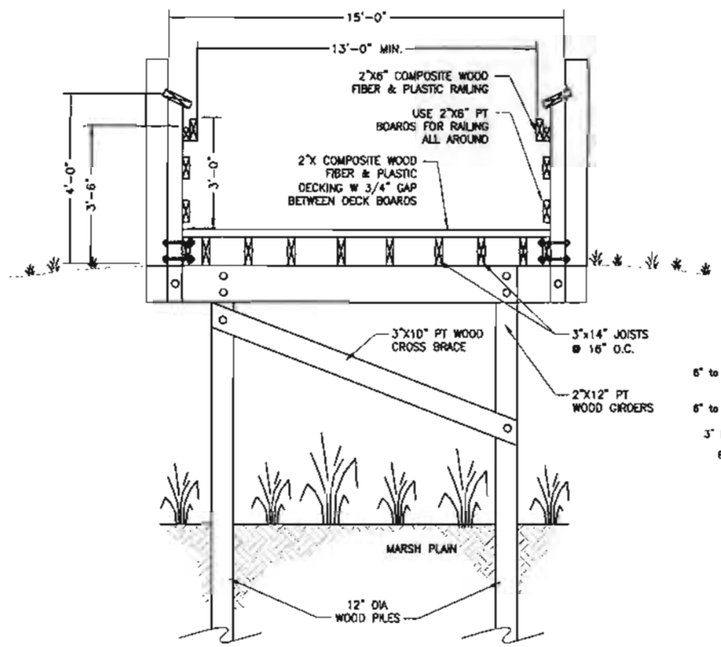
JUTE MATTING INSTALLATION

NTS



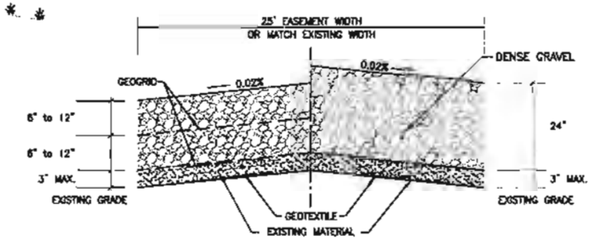
PERIMETER ACCESS ROAD

NOT TO SCALE



TIMBER VIEWING PLATFORM

NOT TO SCALE

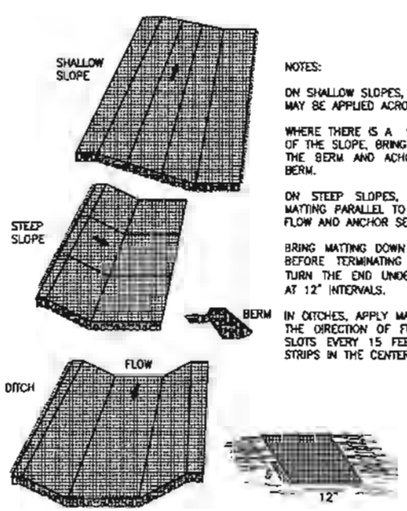


NOTES:

1. ALL COURSES TO BE COMPACTED IN PLACE TO REQUIRED THICKNESS, MIN. 95% SPMD.
2. DENSE GRAVEL MATERIAL TO CONFORM TO APPLICABLE STANDARDS.
3. CONTRACTOR SHALL HAVE OPTION IN USING EITHER CROSS SECTION

TEMPORARY ACCESS ROAD AND WHEEL WASH

NOT TO SCALE



NOTES:

ON SHALLOW SLOPES, STRIPS OF MATTING MAY BE APPLIED ACROSS THE SLOPE.

WHERE THERE IS A BERM AT THE TOP OF THE SLOPE, BRING THE MATTING OVER THE BERM AND ACHOR IT BEHIND THE BERM.

ON STEEP SLOPES, APPLY STRIPS OF MATTING PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.

BRING MATTING DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION. TURN THE END UNDER 6" AND STAPLE AT 12" INTERVALS.

IN DITCHES, APPLY MATTING PARALLEL TO THE DIRECTION OF FLOW. USE CHECK SLOTS EVERY 15 FEET. DO NOT JOIN STRIPS IN THE CENTER OF THE DITCH.

ORIENTATION OF JUTE MATTING

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REV.	DESCRIPTION	DATE

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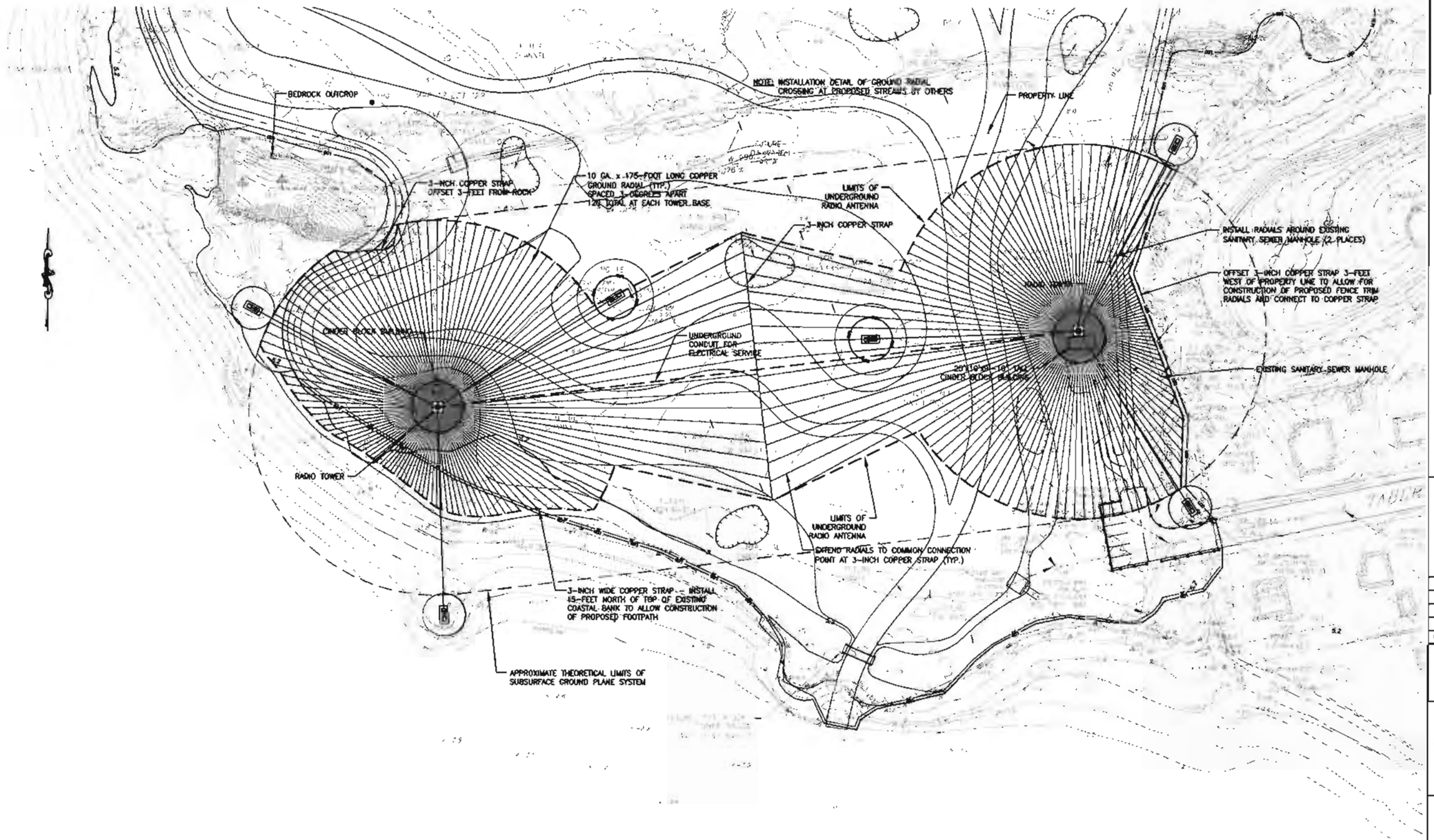
GLOUCESTER, MA 01930

MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS 5

SHEET TITLE:			
SCALE:	AS SHOWN	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-17
DRAWN BY:	AG		
JOB NUMBER:	J11822		



NOTE:

1. FURTHER COORDINATION AND DESIGN IS REQUIRED FOR THE CONSTRUCTION OF THE UNDERGROUND RADIO ANTENNA. THE GENERAL LAYOUT IS SHOWN TO ILLUSTRATE THE EXTENT OF THE SYSTEM.
2. PROPOSED CONSTRUCTION SEQUENCE IS TO INSTALL THE PROPOSED RADIO ANTENNA SYSTEM 2-FEET BELOW PROPOSED FINAL GRADES. THE SYSTEM WILL BE ROUTED BELOW CHANNEL AT A DEPTH NOT TO CAUSE INTERFERENCE WITH TIDAL FLOW.
3. PROPOSED ELECTRICAL CONDUIT MAY BE RE-ROUTED TO INSTALL NEEDED ELECTRICAL HAND HOLES SO AS NOT TO EXCEDE MAXIMUM PULL LENGTH.

50 25 0 50 100

SCALE IN FEET

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REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

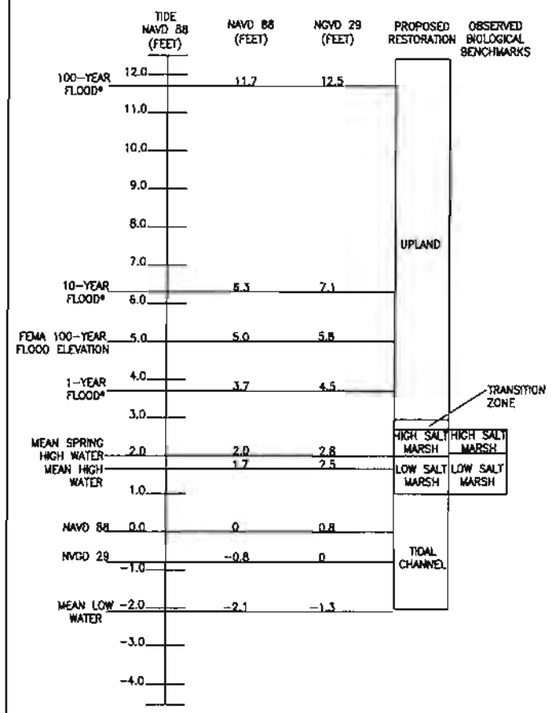
MARSH ISLAND
SALT MARSH RESTORATION
FAIRHAVEN, MASSACHUSETTS

RADIO ANTENNA
UNDERGROUND LIMITS

SHEET TITLE:

SCALE:	1"=50'	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-18
DRAWN BY:	AG		
JOB NUMBER:	J11822		

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER



*INFLUENCED BY THE OPERATION OF THE HURRICANE BARRIER

DATUM TABLE:

RESTORATION SUMMARY

SYMBOL	WETLAND TYPE	DESIGN ELEVATION (FT NAVD)	AREA (ACRES)
	HIGH MARSH	2.0 TO 2.7	4.25
	LOW MARSH	2.0 TO 1.0	6.09
	TIDAL CREEK	1.0 TO -2.0	1.40
	TOTAL	- - -	11.74

RESOURCE AREA IMPACT SUMMARY

WETLAND TYPE	AREA (SQUARE FEET) OR LENGTH (LINEAR FEET)	
	PERMANENT	TEMPORARY
BVW	73,826 S.F.	911 S.F.
SALT MARSH	23,386 S.F.	1,820 S.F.
COASTAL BANK	40 L.F.	30 L.F.
COASTAL BEACH	0	1,175 S.F.
LAND SUBJECT TO COASTAL STORM FLOWAGE*	14,342 S.F.	2,970 S.F.
	*398,722 S.F. (9.1 AC) NET-STORAGE GAIN	
RIVERFRONT AREA (DISTURBED)	174,850 S.F.	31,950 S.F.

75 37.5 0 75 150

SCALE IN FEET

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PROVIDENCE, RI (401) 521-5980

REV.	DESCRIPTION	DATE

National Oceanic and Atmospheric Administration - Restoration Center

55 GREAT REPUBLIC DRIVE
GLOUCESTER, MA 01930

MARSH ISLAND SALT MARSH RESTORATION

FAIRHAVEN, MASSACHUSETTS

SHEET TITLE: SITE OVERVIEW PLAN (1 OF 1)

SCALE:	AS SHOWN	DATE:	JUNE 2010
PROJECT MANAGER:	CAW		
PROJECT ENGINEER:	CL		
CHECKED BY:	CF	SHEET No.	C-19
DRAWN BY:	AG		
JOB NUMBER:	J11822		

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER S. FEENEY
No. 41109
REGISTERED PROFESSIONAL ENGINEER

Appendix B: Agency Correspondence

Appendix B: Agency Correspondence

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

From:

Fairhaven Conservation Commission
Conservation Commission

To: Applicant

NOAA Fisheries Restoration Center
Name

One Blackburn Drive
Mailing Address

Gloucester | Ma | 01930
City/Town | State | Zip Code

Property Owner (if different from applicant):

Fairhaven, Acushnet Land Presevation Trust
Name

P.O. Box 491
Mailing Address

Fairhaven | Ma | 02719
City/Town | State | Zip Code

1. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

Title	Date
Site Plan	October ,2007

2. Date Request Filed:

October 25, 2007

B. Determination

Pursuant to the authority of M.G.L. c. 131, § 40, the Conservation Commission considered your Request for Determination of Applicability, with its supporting documentation, and made the following Determination.

Project Description (if applicable):

Perform soil samples and verify wetland resource areas and within a flood zone.

Project Location:

Marsh Island 1 Taber Street
Street Address

Fairhaven
City/Town

17
Assessors Map/Plat Number

129
Parcel/Lot Number

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

The following Determination(s) is/are applicable to the proposed site and/or project relative to the Wetlands Protection Act and regulations:

Positive Determination
Note: No work within the jurisdiction of the Wetlands Protection Act may proceed until a final Order of Conditions (issued following submittal of a Notice of Intent or Abbreviated Notice of Intent) or Order of Resource Area Delineation (issued following submittal of Simplified Review ANRAD) has been received from the issuing authority (i.e., Conservation Commission or the Department of Environmental Protection).

☐ 1. The area described on the referenced plan(s) is an area subject to protection under the Act. Removing, filling, dredging, or altering of the area requires the filing of a Notice of Intent.

☒ 2a. The boundary delineations of the following resource areas described on the referenced plan(s) are confirmed as accurate. Therefore, the resource area boundaries confirmed in this Determination are binding as to all decisions rendered pursuant to the Wetlands Protection Act and its regulations regarding such boundaries for as long as this Determination is valid.

☐ 2b. The boundaries of resource areas listed below are not confirmed by this Determination, regardless of whether such boundaries are contained on the plans attached to this Determination or to the Request for Determination.

☐ 3. The work described on referenced plan(s) and document(s) is within an area subject to protection under the Act and will remove, fill, dredge, or alter that area. Therefore, said work requires the filing of a Notice of Intent.

☐ 4. The work described on referenced plan(s) and document(s) is within the Buffer Zone and will alter an Area subject to protection under the Act. Therefore, said work requires the filing of a Notice of Intent or ANRAD Simplified Review (if work is limited to the Buffer Zone).

☐ 5. The area and/or work described on referenced plan(s) and document(s) is subject to review and approval by:

Fairhaven
Name of Municipality

Pursuant to the following municipal wetland ordinance or bylaw:

Name | Ordinance or Bylaw Citation

B. Determination (cont.)

☐ 6. The following area and/or work, if any, is subject to a municipal ordinance or bylaw but not subject to the Massachusetts Wetlands Protection Act:

☐ 7. If a Notice of Intent is filed for the work in the Riverfront Area described on referenced plan(s) and document(s), which includes all or part of the work described in the Request, the applicant must consider the following alternatives. (Refer to the wetland regulations at 10.58(4)c. for more information about the scope of alternatives requirements):

☐ Alternatives limited to the lot on which the project is located.

☐ Alternatives limited to the lot on which the project is located, the subdivided lots, and any adjacent lots formerly or presently owned by the same owner.

☐ Alternatives limited to the original parcel on which the project is located, the subdivided parcels, any adjacent parcels, and any other land which can reasonably be obtained within the municipality.

☐ Alternatives extend to any sites which can reasonably be obtained within the appropriate region of the state.

Negative Determination

Note: No further action under the Wetlands Protection Act is required by the applicant. However, if the Department is requested to issue a Superseding Determination of Applicability, work may not proceed on this project unless the Department fails to act on such request within 35 days of the date the request is post-marked for certified mail or hand delivered to the Department. Work may then proceed at the owner's risk only upon notice to the Department and to the Conservation Commission. Requirements for requests for Superseding Determinations are listed at the end of this document.

☐ 1. The area described in the Request is not an area subject to protection under the Act or the Buffer Zone.

☐ 2. The work described in the Request is within an area subject to protection under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.

☐ 3. The work described in the Request is within the Buffer Zone, as defined in the regulations, but will not alter an Area subject to protection under the Act. Therefore, said work does not require the filing of a Notice of Intent, subject to the following conditions (if any).

☐ 4. The work described in the Request is not within an Area subject to protection under the Act (including the Buffer Zone). Therefore, said work does not require the filing of a Notice of Intent, unless and until said work alters an Area subject to protection under the Act.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

☐ 5. The area described in the Request is subject to protection under the Act. Since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:

Exempt Activity (site applicable statuatory/regulatory provisions)

☐ 6. The area and/or work described in the Request is not subject to review and approval by:

Fairhaven
Name of Municipality

Pursuant to a municipal wetlands ordinance or bylaw.

Name | Ordinance or Bylaw Citation

C. Authorization

This Determination is issued to the applicant and delivered as follows:

☒ by hand delivery on December 03, 2007
Date

☐ by certified mail, return receipt requested on
Date

This Determination is valid for **three years** from the date of issuance (except Determinations for Vegetation Management Plans which are valid for the duration of the Plan). This Determination does not relieve the applicant from complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

This Determination must be signed by a majority of the Conservation Commission. A copy must be sent to the appropriate DEP Regional Office (see Attachment) and the property owner (if different from the applicant).

Signatures:

Susan A. Morris

December 03, 2007
Date

D. Appeals

The applicant, owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office (see Attachment) to issue a Superseding Determination of Applicability. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form (see Request for Departmental Action Fee Transmittal Form) as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant if he/she is not the appellant. The request shall state clearly and concisely the objections to the Determination which is being appealed. To the extent that the Determination is based on a municipal ordinance or bylaw and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

#34896

RECEIVED

AUG 28 2008

MASS. HIST. COMM

APPENDIX A

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

MHC RC 34896

Edward L. Bell — Date
Senior Archaeologist — 2 September 2008
Massachusetts Historical Commission

Project Name: Marsh Island Salt Marsh Restoration Project

Location / Address: Marsh Island (Off Taber Street)

City / Town: Fairhaven

Project Proponent: NOAA/New Bedford Trustees Council

Name: Chris Gajeski for The Louis Berger Group, Inc.

Address: 75 Second Ave., Suite 700

City/Town/Zip/Telephone: Needham, MA 02494 (603) 218-5438

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
NOAA	Federal Restoration Funding
MA DEP	Order of Conditions - MA Wetlands Protection Act
MA DEP	Chapter 91 Waterways License
MA DEP	Section 401 Water Quality Certificate
USACE	Section 404 Category 2 Permit
NOAA	Supplement to Environmental Assessment
MEPA	Expanded Env.Notification Form w/ EIR Waiver Request

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition. No.

Project Description (narrative):

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation. No. See Addendum.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

The project is likely to involve the rebuilding of underground AM radio infrastructure.

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

What is the total acreage of the project area?

Woodland	0 acres	Productive Resources:	
Wetland	3 acres	Agriculture	0 acres
Floodplain	15 acres	Forestry	0 acres
Open space	14 acres	Mining/Extraction	0 acres
Developed	8 acres	Total Project Acreage	22 acres

What is the acreage of the proposed new construction? 15 (Restoration) acres

What is the present land use of the project area? Open Space / Developed

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: Chris Gajeski Date: 8·26·08

Name: Chris Gajeski

Address: 75 Second Ave., Suite 700

City/Town/Zip: Needham, MA 02494

Telephone: (978) 853-3819 cell / (603) 218-5438 direct

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
http://www.fws.gov/northeast/newenglandfieldoffice

September 26, 2008

Reference:	Project	Location
	Salt marsh restoration project	Fairhaven, MA
	Tidal restoration	Marshfield, MA
	Tidal restoration	Gloucester, MA

Chris Gajeski
The Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

Dear Mr. Gajeski:

This responds to your recent correspondence requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the proposed activity(ies) referenced above.

Based on information currently available to us, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes our review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

In order to curtail the need to contact this office in the future for updated lists of federally-listed or proposed threatened or endangered species and critical habitats, please visit the Endangered Species Consultation page on the New England Field Office's website:

www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm

In addition, there is a link to procedures that may allow you to conclude if habitat for a listed species is present in the project area. If no habitat exists, then no federally-listed species are present in the project area and there is no need to contact us for further consultation. If the above conclusion cannot be reached, further consultation with this office is advised. Information describing the nature

and location of the proposed activity that should be provided to us for further informal consultation can be found at the above-referenced site.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Anthony P. Tur
Endangered Species Specialist
New England Field Office

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

October 9, 2008

Chris Gajeski
The Louis Berger Group, Inc.
75 Second Avenue, Suite 700
Needham, MA 02494

Re: Data Release
Marsh Island - Fairhaven, MA
NHESP Tracking Number: 08-25500

Dear Mr. Gajeski,

Thank you for submitting a Natural Heritage Data Release Form to the Massachusetts Natural Heritage and Endangered Species Program of the MA Division of Fisheries & Wildlife. At this time we are not aware of any state-listed rare plants or animals or exemplary natural communities in the vicinity of this site. This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. Please note that this determination addresses only the matter of **rare** wildlife habitat and does not pertain to other wildlife habitat issues that may be pertinent to the proposed project.

For any additional questions regarding this data release, please contact 508-389-6369.

THE COMMONWEALTH OF MASSACHUSETTS
STATE RECLAMATION AND MOSQUITO CONTROL BOARD

BRISTOL COUNTY MOSQUITO CONTROL PROJECT

140 NORTH WALKER STREET, TAUNTON, MA 02780
TEL:(508) 823-5253 FAX: (508) 828-1868

COMMISSIONERS
ARTHUR F. TOBIN, CHAIRMAN
GREGORY D. DORRANCE
CHRISTINE A. FAGAN
JOSEPH BARILE
ROBERT DAVIS

SUPERINTENDENT
WAYNE N. ANDREWS M.S.

December 31, 2009

Mr. Geoffrey Haworth, II, Chair
Fairhaven Board of Public Works
5 Arsene Street
Fairhaven, MA 02719

Dear Mr. Haworth:

On October 14, I met with Steve Block of the NOAA Restoration Center and the New Bedford Harbor Trustee Council (NBHTC) to review the draft plans for the proposed Marsh Island Salt Marsh Restoration Project. Mr. Block requested that I write you a letter with my opinions regarding mosquitoes in relation to the proposed project.

If constructed according to the project plans, the proposed restoration project will not create mosquito breeding habitat. However, we recommend that particular attention be paid to the substrate at the bottom of the proposed marsh pools. If these will not be located in native peat, they should be underlain by some relatively impervious material, like clay, that will hold water in the proposed pools. This is important for the pool to maintain sufficient water depth for mosquito-eating fish to access the pool to eat the mosquito larvae.

Over the first few years as the marsh stabilizes, there may be some settling or drainage issues that need to be fixed to prevent mosquito breeding. BCMCP and NBHTC will work together to monitor the area for mosquito breeding pre- and post-construction, and make any required fixes (ditching, draining, etc.) for the first three years post-construction. Following this initial monitoring period, BCMCP will treat the Marsh Island site like we would any other salt marsh in the area, by monitoring and treating as necessary.

Lastly, Mr. Block informed me that there was concern at the BPW meeting that this restoration site could generate mosquitoes that carry and spread West Nile Virus and EEE. The proposed marsh plan will not produce mosquitoes that act as vectors of these diseases. The EEE carrying mosquitoes are produced in large freshwater swamps such as Atlantic White Cedar and Red Maple north of Fairhaven. The WNV carrying mosquitoes use temporary and permanent containers for their larval habitat.

The BCMCP and NBHTC have successfully partnered on a project on Sconticut Neck in Fairhaven that both restored salt marsh and decreased mosquito breeding habitat, and we look forward to continuing this partnership on the Marsh Island project.

Please contact me with any questions you may have about the above.

Sincerely,

Wayne N. Andrews, M.S.

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Timothy P. Murray
LIEUTENANT GOVERNOR

Ian A. Bowles
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

May 28, 2010

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Marsh Island Salt Marsh Restoration Project
PROJECT MUNICIPALITY	: Fairhaven
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 14575
PROJECT PROPONENT	: National Oceanic and Atmospheric Administration Restoration Center
DATE NOTICED IN MONITOR	: April 21, 2010

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** the preparation of an Environmental Impact Report (EIR). As noted below, and in a Draft Record of Decision also issued today, I am proposing to grant a waiver from the requirement to prepare a mandatory EIR for the project.

Project Description

The proposed project consists of restoration of approximately 11.7 acres of salt marsh and tidal creeks that were filled between the late 1930's and early 1950's with dredged material from New Bedford Harbor. The 20.6-acre project site is located within New Bedford Harbor directly abutting the Acushnet River. The proposed removal of 100,000 cubic yards of historic fill and subsequent site restoration will result in improved hydrology, water quality, and wildlife habitat, and will provide public access to the shoreline and restored marsh areas.

The project is being proposed by the National Oceanic and Atmospheric Administration (NOAA) Restoration Center, on behalf of the New Bedford Harbor Trustee Council (NBHTC), and the Project Team includes the Massachusetts Division of Ecological Restoration, the

Coalition for Buzzards Bay, and the Fairhaven Acushnet Land Preservation Trust. The Marsh Island Restoration Project was first identified in the New Bedford Harbor Environment Wetlands Restoration Plan (WRP, 2002) as a unique and significant opportunity to restore historically degraded and filled coastal wetlands to habitat that supports marine species that were injured by past contamination of the New Bedford Harbor environment. The Division of Ecological Restoration designated the project as a priority project in 2006.

Permits and Jurisdiction

The proposed project is undergoing environmental review because it requires state Agency Action and exceeds MEPA review thresholds. The project is subject to the requirement for a mandatory EIR pursuant to Section 11.03(3)(a) of the MEPA regulations because it will result in alteration of one or more acres of Bordering Vegetated Wetlands (BVW). The project is also undergoing environmental review pursuant to Section 11.03(3)(b)(1)(a) of the MEPA regulations because it will result in alteration of a Coastal Beach, and Section 11.03(3)(b)(1)(f) of the regulations because it will result in alteration of one-half or more acres of other wetlands (Riverfront Area and Land Subject to Coastal Storm Flowage).

The project requires a Chapter 91 License and a 401 Water Quality Certification from the Massachusetts Department of Environmental Protection (MassDEP). The project also requires an Order of Conditions from the Fairhaven Conservation Commission (and, on appeal only, a Superseding Order from MassDEP), a Coastal Zone Management Federal Consistency Review from the Office of Coastal Zone Management (CZM), and a Section 404 Permit from the U.S. Army Corps of Engineers. The project requires a Public Benefits Determination pursuant to 301 CMR 13.00. The Division of Ecological Restoration (DER) has been participating on the project team and will continue to provide assistance and technical support throughout the remaining phases of final design, permitting and project implementation.

The project is being undertaken in part by a state agency and requires a Chapter 91 License. Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that may, directly or indirectly, cause Damage to the Environment as defined in the MEPA regulations.

Waiver Request

The Proponent has requested a waiver from the requirement to prepare an EIR pursuant to Section 11.11 of the MEPA regulations. I have issued a Draft Record of Decision (DROD) today proposing to grant a waiver from the mandatory EIR requirement. The DROD will be noticed in the June 9, 2010 issue of the *Environmental Monitor*, and will be subject to a 14-day public comment period, after which I shall reconsider or confirm the waiver in a Final Record of Decision. State and federal agencies are in support of the project as evidenced by the comment letters received on the Expanded ENF.

Review of the Expanded ENF

The Expanded ENF includes a detailed description of the site, its history, existing conditions, and a proposed restoration design plan. The majority of wetland resource impacts associated with the project are due to the construction of a berm that will prevent polychlorinated biphenyl (PCB) contamination entering the restored area from nearby contaminated areas. The berm will also provide continued access to the existing radio towers on the site. The project has been designed to avoid impacts to the existing radio towers and sewer line, as well as mature trees in upland areas of the site. Replacement of the existing ground plane system for the radio towers will be coordinated with the restoration project earthwork activities.

Wetlands Impacts

The proposed salt marsh restoration will include excavation and fill of approximately 2.3 acres of low-value *Phragmites*-dominated BVW and salt marsh. The Expanded ENF indicates that two acres of *Phragmites*-dominated BVW will be altered by the restoration project. Based on supplemental information submitted by NOAA (dated May 24, 2010), and as noted in the comment letter from the U.S. Environmental Protection Agency (EPA), certain areas previously identified as BVW should be classified as Salt Marsh. The revised estimate for BVW and Salt Marsh impact is 1.67 acres of BVW (permanent and temporary) and 0.67 acres of Salt Marsh (permanent and temporary).

The majority of impacted wetland areas will be excavated and converted (or restored) to salt marsh. The remaining portion of the impacted area will be filled as part of the northern berm construction. Approximately 3,125 square feet (sf) of BVW will be temporarily impacted by construction of a temporary access road for trucks to haul material off-site. The proposed removal of historic fill will impact approximately 174,850 sf of previously disturbed Riverfront Area. An additional 31,950 sf of temporary Riverfront Area disturbance will occur due to proposed grading activities. The construction of the new tidal inlet will result in 1,175 sf of temporary impact to Coastal Beach. Excavation of the tidal channel will result in approximately 40 linear feet of permanent disturbance to an upland slope regulated as Coastal Bank, and 30 linear feet of Coastal Bank will be temporarily impacted by the construction access road.

The Expanded ENF discusses the impacted resource areas in the context of the interests of the Wetlands Protection Act (WPA, 310 CMR 10.00). Although the project will result in more than one acre of BVW impact and 0.67 acres of salt marsh impact, the areas impacted are not high quality resource areas at present and overall, the proposed project is being designed to substantially improve the capacity of the site to support the interests of the WPA. MassDEP, in its comment letter, indicates that the proposed project design minimizes the loss of wetland resource areas and that impacts are mitigated by the proposed 11.7 acres of salt marsh restoration that will be provided. MassDEP's letter also states that the project complies with the WPA as it restores a salt marsh and enhances the natural capacity of a wetland to protect the eight interests of the WPA.

Project Design

Several conceptual designs were developed for the project during a multi-year design process that involved federal and state agencies and other stakeholders. Studies of nearby salt marshes were conducted to inform the design of the proposed marsh and channel system. The preferred restoration design proposes to establish a low marsh community between elevations 1.0 and 2.0 (NAVD 88) and a high marsh community between elevations 2.0 and 2.7 feet (NAVD 88). Approximately 4.2 acres of high marsh habitat and 6.1 acres of low marsh habitat will be restored. An additional 1.4 acres of tidal creek will be created. The emphasis is on re-establishment of low marsh and the lower range of high marsh to limit potential establishment of *Phragmites* stands. A series of salt marsh pools are proposed in high marsh areas. The proposed salt marsh design will establish a direct hydrological connection to the New Bedford Harbor within an existing break in the narrow fringing marsh situated within a headlands feature along the southern shoreline, which is expected to allow for a tidal connection with limited impacts to the existing vegetated marsh. The edges of the marsh will be stabilized with anchored coir logs.

The Expanded ENF describes the analysis undertaken to ensure an optimum design that will allow re-establishment of a healthy salt marsh ecosystem. I note the comments from CZM regarding low marsh elevations and I ask that the project team consult with CZM to discuss its comments regarding sea level rise predictions and potential implications for the restoration project. CZM has recommended that that Proponent review the proposed elevations of the low salt marsh and keep the largest percentage possible of the low marsh at elevations that will maximize its life span in the face of sea level rise.

As described in the Expanded ENF, the salt marsh restoration project will be designed to encourage passive recreation and education opportunities by including provisions for pedestrian access to and within the site. Approximately six parking spaces will be provided and a foot path will be incorporated in the design that includes boardwalks to areas of interest (with the potential for interpretive signage) and overlook platforms. The design includes salt marsh pools to increase habitat potential and wildlife viewing opportunities.

The Expanded ENF describes the proposed restoration plantings, which include *Spartina alterniflora* in low marsh areas and *Spartina patens* and *Distichlis spicata* in high marsh areas. A warm-season grassland/wildflower mixture will be seeded in transition areas as well as salt-tolerant shrub species (*Iva frutescans* and *Baccharis halmifolia*). Soil amendments and grassland/wildflower plantings will be used in sparsely vegetated and disturbed areas to enhance the vegetative buffer around the restoration area and improve wildlife habitat. Woody shrubs will be planted in upland areas. The vegetative composition has been selected to be consistent with the type of plants typically found in salt marsh and sandplain grasslands in Massachusetts.

Chapter 91 Licensing

The Proponent should submit a Chapter 91 License application to MassDEP that includes all relevant information to assess the project proposal, including plans pursuant to 310 CMR 9.11(3) as outlined in the MassDEP comment letter. The project plans should show Chapter 91

jurisdictional limits for Mean High and Low Water marks and Historic High and Low Water marks (for filled areas) as defined as 310 CMR 9.02.

Fisheries Resources

The project site abuts the Acushnet River, which the Division of Marine Fisheries (*MarineFisheries*) has identified as winter flounder (*pseudopleuronectes americanus*) and anadromous fish spawning habitat. The southern portion of the site lies within mapped shellfish habitat for bay scallop (*Argopecten irradians*), soft shell clam (*Mya arenaria*), American oyster (*Crassostrea virginica*), quahog (*Mercenaria mercenaria*), and razor clam (*Ensis directus*), and this habitat is afforded protection under the Wetlands Protection Act (310 CMR 10.34). The southern portion of Marsh Island has also been identified by the *MarineFisheries* as a horseshoe crab (*Limulus polyphemus*) spawning beach. The Proponent should ensure that adequate sedimentation, turbidity, and erosion controls are in place during construction to avoid and minimize impacts to these adjacent resource areas. Adequate containment and clean-up material should be available on-site in case of any fuel spills from construction equipment.

Post-Construction Monitoring

The project includes a five-year post-construction monitoring program. Vegetation and physical data will be reviewed over time to identify potential trends as indicators of marsh recovery, or an indication that adaptive management measures may be needed to improve or expedite ecological recovery. Monitoring results will also serve to document the level to which habitat restoration goals have been met, and to identify measures to improve the efficiency, reduce cost, or improve the effectiveness of similar projects in the future. Post-construction data will be compared to baseline data collected prior to construction.

The Expanded ENF also discusses contingency planning, which will be addressed on a case-by-case basis if problems arise after consultation with the Fairhaven Conservation Commission and state and federal agencies. The Contingency Plan and adaptive management measures, as well as issues relating to erosion and scouring should be addressed in more detail in consultation with MassDEP during permitting. The Proponent will work with the Bristol County Mosquito Control Program (BCMCP) to monitor Marsh Island for mosquito breeding prior to and post-construction for the first three years following completion of the restoration, and drainage will be improved if necessary. BCMCP will continue to monitor and treat as necessary after the initial 3-year period, as it does other salt marshes in the area.

Public Benefit Determination

Because the project requires the mandatory preparation of an EIR, I must issue a public benefit determination within 30 days of the issuance of a waiver, as required by 301 CMR 13.03(d). MassDEP has determined that the project is considered to be a water-dependent use, according to the definition at 310 CMR 9.02. Therefore, the project is presumed to meet the criteria listed at 301 CMR 13.04 and provide adequate public benefit.

Greenhouse Gas (GHG) Emissions

I concur with MassDEP and the Department of Energy Resources (DOER) that this project will produce minimal GHG emissions and I have determined that it qualifies for the de minimis exemption from the MEPA Greenhouse Gas Emissions Policy and Protocol. I encourage the Proponent to take voluntary steps to reduce emissions produced during the construction period, such as reducing idling of construction equipment or utilization of alternative fuels to power construction vehicles.

Construction

The Expanded ENF estimates that the project will require approximately 6,200 truck trips over the entire construction period (approximately two years) to haul material from the site. The trip numbers assume that large-end dump trailers (16-18 cubic yards) will be used. Access to the site will be from River Avenue and the proposed temporary construction road will follow a Town-owned Right-of-Way known as Kendrick Avenue and an existing sewer easement that crosses through the Riverside Cemetery property. This access route was selected in lieu of an alternative route that would have caused substantial traffic impacts to residences along Tabor Street.

The project will generate approximately 100,000 cubic yards of fill material to be disposed of off-site. Based on the information in the Expanded ENF, it appears that the material may be suitable for use in landfill operations for cell closures, sand buffers, or daily cover. The Proponent has identified four landfills in the project area that could potentially receive material. The preferred location is the closest one, which is the Crapo Hill Landfill, approximately 8 miles from the project site. Other options for uncontaminated excavated material include off-site use as common fill for construction projects.

I refer the Proponent to MassDEP comments for additional guidance on construction-related issues including stormwater management and notifications and procedures if any oil and/or hazardous material is encountered during construction.

Conclusion

The Expanded ENF has provided sufficient information and analysis for the purposes of MEPA review. I am confident that outstanding issues can be adequately addressed during permitting and that an EIR is not required. The project may proceed to state permitting subject to a Final Record of Decision (ROD) granting a waiver from the requirement to prepare an EIR. A Draft ROD will be noticed for public comment in the June 9, 2010 issue of the *Environmental Monitor*.

May 28, 2010
DATE

Maria McDevitt, Assistant Secretary
for Ian A. Bowles, Secretary

Comments Received:

5/19/2010	Massachusetts Office of Coastal Zone Management
5/20/2010	Massachusetts Division of Marine Fisheries
5/20/2010	U.S. Environmental Protection Agency, Wetland Protection Unit
5/20/2010	Massachusetts Division of Ecological Restoration
5/21/2010	Massachusetts Department of Environmental Protection, Southeast Region
5/24/2010	National Oceanic and Atmospheric Administration

IAB/AE/ae

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Timothy P. Murray
LIEUTENANT GOVERNOR

Ian A. Bowles
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

June 30, 2010

FINAL RECORD OF DECISION

PROJECT NAME	: Marsh Island Salt Marsh Restoration Project
PROJECT MUNICIPALITY	: Fairhaven
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 14575
PROJECT PROPONENT	: National Oceanic and Atmospheric Administration Restoration Center
DATE NOTICED IN MONITOR	: June 9, 2010

Pursuant to the Massachusetts Environmental Policy Act (MEPA) (G.L.c.30, ss. 61-62I) and Section 11.11 of the MEPA regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (ENF) and hereby **grant a waiver** from the requirement to prepare a mandatory Environmental Impact Report (EIR).

Project Description

As described in the Expanded ENF, the project entails restoration of approximately 11.7 acres of salt marsh and tidal creeks that were filled between the late 1930's and early 1950's with dredged material from New Bedford Harbor. The 20.6-acre project site is located within New Bedford Harbor directly abutting the Acushnet River. The proposed removal of 100,000 cubic yards of historic fill and subsequent site restoration will result in improved hydrology, water quality, and wildlife habitat, and will provide public access to the shoreline and restored marsh areas.

The project is being proposed by the National Oceanic and Atmospheric Administration (NOAA) Restoration Center, on behalf of the New Bedford Harbor Trustee Council (NBHTC),

and the Project Team includes the Massachusetts Division of Ecological Restoration, the Coalition for Buzzards Bay, and the Fairhaven Acushnet Land Preservation Trust. The Marsh Island Restoration Project was first identified in the New Bedford Harbor Environment Wetlands Restoration Plan (WRP, 2002) as a unique and significant opportunity to restore historically degraded and filled coastal wetlands to habitat that supports marine species that were injured by past contamination of the New Bedford Harbor environment. The Division of Ecological Restoration designated the project as a priority project in 2006.

MEPA Jurisdiction

The proposed project is undergoing environmental review because it requires state Agency Action and exceeds MEPA review thresholds. The project is subject to the requirement for a mandatory EIR pursuant to Section 11.03(3)(a) of the MEPA regulations because it will result in alteration of one or more acres of Bordering Vegetated Wetlands (BVW). The project is also undergoing environmental review pursuant to Section 11.03(3)(b)(1)(a) of the MEPA regulations because it will result in alteration of a Coastal Beach, and Section 11.03(3)(b)(1)(f) of the regulations because it will result in alteration of one-half or more acres of other wetlands (Riverfront Area and Land Subject to Coastal Storm Flowage).

The project requires a Chapter 91 License and a 401 Water Quality Certification from the Massachusetts Department of Environmental Protection (MassDEP). The project also requires an Order of Conditions from the Fairhaven Conservation Commission (and, on appeal only, a Superseding Order from MassDEP), a Coastal Zone Management Federal Consistency Review from the Office of Coastal Zone Management (CZM), and a Section 404 Permit from the U.S. Army Corps of Engineers. The project requires a Public Benefits Determination pursuant to 301 CMR 13.00. The Division of Ecological Restoration (DER) has been participating on the project team and will continue to provide assistance and technical support throughout the remaining phases of final design, permitting and project implementation.

The project is being undertaken in part by a state agency and requires a Chapter 91 License. Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that may, directly or indirectly, cause Damage to the Environment as defined in the MEPA regulations.

Summary of Potential Environmental Impacts

Wetlands Impacts

The proposed salt marsh restoration will include excavation and fill of approximately 2.3 acres of low-value *Phragmites*-dominated BVW and salt marsh. The Expanded ENF indicates that two acres of *Phragmites*-dominated BVW will be altered by the restoration project. Based on supplemental information submitted by NOAA (dated May 24, 2010), and as noted in the comment letter from the U.S. Environmental Protection Agency (EPA), certain areas previously

identified as BVW should be classified as Salt Marsh. The revised estimate for BVW and Salt Marsh impact is 1.67 acres of BVW (permanent and temporary) and 0.67 acres of Salt Marsh (permanent and temporary).

The majority of impacted wetland areas will be excavated and converted (or restored) to salt marsh. The remaining portion of the impacted area will be filled as part of the northern berm construction. Approximately 3,125 square feet (sf) of BVW will be temporarily impacted by construction of a temporary access road for trucks to haul material off-site. The proposed removal of historic fill will impact approximately 174,850 sf of previously disturbed Riverfront Area. An additional 31,950 sf of temporary Riverfront Area disturbance will occur due to proposed grading activities. The construction of the new tidal inlet will result in 1,175 sf of temporary impact to Coastal Beach. Excavation of the tidal channel will result in approximately 40 linear feet of permanent disturbance to an upland slope regulated as Coastal Bank, and 30 linear feet of Coastal Bank will be temporarily impacted by the construction access road.

Fisheries Resources

Project activities, including excavation and dewatering, could potentially impact fisheries resources. The project site abuts the Acushnet River, which the Division of Marine Fisheries (*MarineFisheries*) has identified as winter flounder (*pseudopleuronectes americanus*) and anadromous fish spawning habitat. The southern portion of the site lies within mapped shellfish habitat for bay scallop (*Argopecten irradians*), soft shell clam (*Mya arenaria*), American oyster (*Crassostrea virginica*), quahog (*Mercenaria mercenaria*), and razor clam (*Ensis directus*), and this habitat is afforded protection under the Wetlands Protection Act (310 CMR 10.34). The southern portion of Marsh Island has also been identified by the *MarineFisheries* as a horseshoe crab (*Limulus polyphemus*) spawning beach.

Traffic

The Expanded ENF estimates that the project will require approximately 6,200 truck trips over the entire construction period (approximately two years) to haul material from the site. Access to the site will be from River Avenue and the proposed temporary construction road will follow a Town-owned Right-of-Way known as Kendrick Avenue and an existing sewer easement that crosses through the Riverside Cemetery property. The project will generate approximately 100,000 cubic yards of fill material, which will be disposed of off-site either for use at a nearby landfill or as common fill for construction projects.

<u>Summary of Proposed Mitigation Measures</u>

- The purpose of the proposed project is to restore a salt marsh that was previously filled. The restoration plan is being designed to allow re-establishment of a healthy salt marsh ecosystem and includes restoration of approximately 4.2 acres of high

marsh habitat and 6.1 acres of low marsh habitat, and creation of 1.4 acres of tidal creek. A series of salt marsh pools are proposed in high marsh areas and a direct hydrological connection with New Bedford Harbor will be established along the southern shoreline.

- The project design will encourage passive recreation and education opportunities by including provisions for pedestrian access to and within the site. Approximately six parking spaces will be provided and a foot path will be incorporated in the design that includes boardwalks to areas of interest (with the potential for interpretive signage) and overlook platforms. The proposed salt marsh pools will increase habitat potential and wildlife viewing opportunities. A restoration planting plan has been developed using a vegetative composition that is consistent with the type of plants typically found in salt marsh and sandplain grasslands in Massachusetts.

- Track-mounted equipment will be used when necessary within existing wetland areas to limit soil compaction and disturbance. Extensive erosion control measures are proposed to prevent impacts to the Harbor and adjacent remaining wetlands. Construction barriers and silt fencing will be used to avoid sediment discharge to adjacent resource areas.

- The project includes a five-year post-construction monitoring program. Vegetation and physical data will be reviewed over time to identify potential trends as indicators of marsh recovery, or an indication that adaptive management measures may be needed to improve or expedite ecological recovery. Monitoring results will be used to evaluate success in achieving restoration goals and to inform design of other similar projects.

- An alternative access from River Avenue was selected in lieu of using Tabor Street, which would have caused substantial traffic impacts to residences.

- The Proponent will work with the Bristol County Mosquito Control Program (BCMCP) to monitor Marsh Island for mosquito breeding prior to and post-construction for the first three years following completion of the restoration, and will improve drainage if necessary.

Waiver Request

The proponent has requested a waiver from the requirement to prepare an EIR. An Expanded ENF was submitted in conjunction with this request that identifies the environmental impacts of the project and describes measures to be undertaken by the proponents to avoid, minimize and mitigate project impacts.

Standards for All Waivers

The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

a) result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; **and**
(b) not serve to avoid or minimize Damage to the Environment.

A substantial amount of work has gone into the design of this project and consultation with various stakeholders, and the Proponent submitted a comprehensive Expanded ENF that provided sufficient information for the MEPA review process. I do not believe that requiring an EIR would serve to further avoid or minimize environmental damage and I am satisfied that additional information and analysis required can be addressed during state permitting. Imposing the requirement for an EIR in this case would only serve to delay a beneficial environmental restoration project and therefore would result in undue hardship to the Proponent.

Determinations for an EIR Waiver

The MEPA regulations at 301 CMR 11.11(3) state that, in the case of a waiver of a mandatory EIR review threshold, I shall at a minimum base the finding required in accordance with 301 CMR 11.11(1)(b) stated above on a determination that:

(a) the project is likely to cause no Damage to the Environment; **and**
(b) ample and unconstrained infrastructure facilities and services exist to support the project, when subject matter jurisdiction is broad in scope, or those aspects of the project within subject matter jurisdiction, when jurisdiction is limited to the subject matter of state agency permits.

Findings

Based upon the information submitted by the proponent and after consultation with the state permitting agencies, I find that the Waiver Request has merit and that the proponent has demonstrated that the proposed project meets the standards for all waivers at 301 CMR 11.11(1). I find that strict compliance with the requirement to submit a mandatory EIR would result in an undue hardship for the Proponent **and** would not serve to avoid or minimize Damage to the Environment. In accordance with 301 CMR 11.11(3), the latter finding is based on my determination that:

a) the project is likely to cause no Damage to the Environment;

- Although the project will result in more than one acre of BVW impact and 0.67 acres of salt marsh impact, the areas impacted are not high quality resource areas at present and overall, the proposed project is being designed to substantially improve the capacity of the site to support the interests of the Wetlands Protection Act (WPA) and will result in restoration of 11.7 acres of salt marsh.

- The project design minimizes loss of wetland resources areas. The wetland resource impacts associated with the project are primarily due to the construction of a berm that will prevent polychlorinated biphenyl (PCB) contamination entering the restored area from nearby contaminated areas. The berm will also provide continued access to the existing radio towers on the site. The project has been designed to avoid impacts to the existing radio towers and sewer line, as well as mature trees in upland areas of the site. Replacement of the existing ground plane system for the radio towers will be coordinated with the restoration project earthwork activities.

- The proposed salt marsh restoration will remove 100,000 cubic yards of historic fill; improve hydrology, water quality, and wildlife habitat; and provide public access to the shoreline and restored marsh areas.

- The project has received supportive comment letters from state and federal agencies.

and

(b) ample and unconstrained infrastructure facilities and services exist to support the project, or those aspects of the project within subject matter jurisdiction.

- Access to the site is feasible via existing roadways as well as a Town-owned Right-of-Way and sewer easement. The Proponent has explored alternative access routes and selected a route that will minimize disturbance to nearby residences.

- The Proponent has identified several off-site disposal options and tested materials to be excavated. Based on the information provided in the Expanded ENF and at the MEPA site visit, it appears that the fill material may be appropriate for use at nearby landfills or at construction sites.

As a condition of this proposed Waiver:

- The Proponent should ensure that adequate sedimentation, turbidity, and erosion controls are in place during construction to avoid and minimize impacts to adjacent fisheries resource areas. Adequate containment and clean-up material should be available on-site in case of any fuel spills from construction equipment.

- The Proponent should further develop the Contingency Plan and adaptive management measures, and address issues relating to erosion and scouring in consultation with MassDEP during permitting.

- The Proponent should submit a Chapter 91 License application to MassDEP that includes all relevant information to assess the project proposal, including plans pursuant to 310 CMR 9.11(3) as outlined in the MassDEP comment letter. The project plans should show Chapter 91 jurisdictional limits for Mean High and Low Water marks and Historic High and Low Water marks (for filled areas) as defined as 310 CMR 9.02.

- The Proponent should consult with CZM and the project team to discuss CZM's comments regarding sea level rise predictions and potential implications for the restoration project.

Conclusion

I have determined that this waiver request has merit, and issued a Draft Record of Decision (DROD), which was published in the Environmental Monitor on June 9, 2010 in accordance with 301 CMR 11.15(2), which began the public comment period. The public comment period ended on June 29, 2010. No comments were received on the DROD. I hereby **grant** the waiver requested for this project, from the requirement to prepare a mandatory Environmental Impact Report (EIR), subject to the above findings and conditions.

June 30, 2010
Date

Ian A. Bowles, Secretary

Comments Received on the DROD: none

Comments Received on the Expanded ENF

5/19/2010	Massachusetts Office of Coastal Zone Management
5/20/2010	Massachusetts Division of Marine Fisheries
5/20/2010	U.S. Environmental Protection Agency, Wetland Protection Unit
5/20/2010	Massachusetts Division of Ecological Restoration
5/21/2010	Massachusetts Department of Environmental Protection, Southeast Region
5/24/2010	National Oceanic and Atmospheric Administration

IAB/AE/ae

This Document must be recorded at the Bristol County Registry of Deeds (SD) and receipt returned To the Fairhaven Conservation Commission

Please be advised that if your Order of Conditions Is to be recorded in the Registered Land Department at the Registry of Deeds. A copy of your site plan reduced to either letter size(81/2" x 11") or legal size(81/2" x 14") MUST accompany the Order when recording.

To determine if affected property is Registered Land #6 (b) will be filled in referencing a certificate number.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE 23- 1094
MassDEP File #

eDEP Transaction #

Fairhaven
City/Town

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

1. From: Fairahven
Conservation Commission

2. This issuance is for (check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Steve — a. First Name
Block — b. Last Name
National Oceanic and Atmospheric Administration Restoration Center — c. Organization
55 Great Republic Drive — d. Mailing Address
Gloucester — e. City/Town
Ma — f. State
01930 — g. Zip Code

4. Property Owner (if different from applicant):

a. First Name
b. Last Name
Fairhaven-Acushnet Land Preservation Trust Inc., & Coalition for Buzzards Bay Inc — c. Organization
d. Mailing Address
e. City/Town
f. State
g. Zip Code

5. Project Location:

Taber Street — a. Street Address
Fairhaven — b. City/Town
15, 17 — c. Assessors Map/Plat Number
001, 129 — d. Parcel/Lot Number

Latitude and Longitude, if known: 41d39m4.54s — d. Latitude; 70d54m58.36s — e. Longitude

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Bristol (SD)
a. County | b. Certificate Number (if registered land)
c. Book | d. Page

7. Dates: July 08, 2010 (a. Date Notice of Intent Filed) | August 02, 2010 (b. Date Public Hearing Closed) | August 02, 2010 (c. Date of Issuance)

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Site Plan
a. Plan Title
The Louis Berger Group Inc. (b. Prepared By) | Christopher S. Feeney P.E. (c. Signed and Stamped by)
July 2010 (d. Final Revision Date) | 1" = 200' (e. Scale)
f. Additional Plan or Document Title | g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

a. ☐ Public Water Supply
b. ☒ Land Containing Shellfish
c. ☒ Prevention of Pollution
d. ☐ Private Water Supply
e. ☒ Fisheries
f. ☒ Protection of Wildlife
g. ☒ Groundwater Supply
h. ☒ Storm Damage Prevention
i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

B. Findings (cont.)

Denied because:

b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and Bank or Bordering Vegetated Wetland boundary (if available) — a. linear feet

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. ☐ Land Under Waterbodies and Waterways	a. square feet	b. square feet	c. square feet	d. square feet
	e. c/y dredged	f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet

B. Findings (cont.)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
9. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

B. Findings (cont.)

22. ☐ Restoration/Enhancement:

a. square feet of BVW | b. square feet of salt marsh

23. ☐ Stream Crossing(s):

a. number of new stream crossings | b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.

10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

    "Massachusetts Department of Environmental Protection" [or, "MassDEP"]

    "File Number SE 23 - 1094 "

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.

12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

13. The work shall conform to the plans and special conditions referenced in this order.

14. Any change to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. **The work associated with this Order (the "Project") is** (1) ☐ **is not** (2) ☐ **subject to the Massachusetts Stormwater Standards. If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:**

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;
iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;
v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement) for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.*) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.*) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

g) The responsible party shall:

1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

(SEE ATTACHED)

Special Conditions for Taber Street (Marsh Island).

- The Applicant shall provide the Commission with the name(s) and telephone numbers of the site contractor and the project manager(s) responsible on site for compliance with this Order. The project manager shall oversee any emergency placement of erosion and sedimentation controls and be responsible for the regular inspection or replacement of control devices and for the proper disposal of waste products. The commission shall be notified in the event that the project manager or site contractor is changed.

- The complete Notice of Intent, a complete set of site plans approved of in the Order of Conditions and the Order of Conditions itself shall be included in all construction contracts and sub-contracts dealing with the work proposed and shall supersede all other contract requirements.

- Job site posting of the DEP issued SE number and special orders of the conditions shall be weatherproofed and clearly visible on all activity sites. Included shall also be the Commission's office phone number (509)979-4019 for further information. The necessary replacement and maintenance of these postings shall be the sole responsibility of the applicant.
- The hay bale and or silt fencing shall serve as a work limit line for this project. Under no circumstances is any work allowed to take place on the resource area side of the erosion control barrier.

- The Conservation Commission, its employees, and its agents shall have a right of entry to inspect or compliance with the provisions of this Order of Conditions.

- The Commission reserves the right to impose additional conditions on any or all portions of this project that could impact an area of statutory interest under the Act.

- The construction site shall be left in a stable condition at the close of each day.

- The Fairhaven Conservation Commission reserves the right to request an as-built plan as part of the requirements for a Certificate of Compliance.

- All mechanized vehicles under contract, subcontract or lease, participating in any manner, in any phase of activity within resource areas, shall carry on board absorbent materials to immediately respond to inadvertent discharge of petrochemicals.

- Prior to the commencement of the project, a fuel transfer protocol shall be submitted to the Commission. This protocol shall provide guidelines to regulate safe transfer of any fuels within or above resource areas and outline response protocol to mitigate inadvertent discharges.

- Food trash and related waste shall at all times be confined to appropriate containers, which shall enjoy a routine removal schedule. Air and water-borne disposal of non-indigenous materials from this project into resource areas is hereby prohibited.
- Dewatering, if needed, shall take place in a designated area utilizing appropriate erosion control measures.

- The proposed limit of work shall be clearly marked with stakes or flags and shall be inspected and approved by the Commission or its agent. Such markers will be maintained until all construction on the site is complete. Workers shall be informed that no construction activity is to occur beyond this line at any time.

- A site conference shall be held at least forty eight hours prior to the commencement of permitted activity for the purpose of reviewing and discussing the special orders of conditions. The specific timing and location of this conference shall be jointly determined by both commission and applicant

liaison representatives. In attendance at this meeting shall be: the applicant's representative of record; commission liaison representatives and any other commission representatives wising to attend; the prime contractor; other contractors or subcontractors as determined by the applicant and/or prime contractor to potentially benefit from a more complete understanding of the special conditions for this project.

- After the planting has been completed within the wetland replication areas the following documentation shall be submitted to the Department and the Fairhaven Conservation Commission:

    - Final contour elevations, longitudinal cross-sectional profile(s) and square footage of the wetland alteration and wetland replication area shall be shown on an As-built plan. A Massachusetts Registered Professional Engineer and/or Land Surveyor shall certify the Wetland Replication as-built plan and submit a statement (signed and stamped by said Engineer and/or Land Surveyor) certifying compliance with conditions of this Order of Conditions.

    - At the end of each growing season for a two-year period, a progress report on the relative success or failure of the wetland replication effort shall be submitted to the Department and the Fairhaven Conservation Commission. The inspection report shall include percent of vegetative cover, a list of the type of plants growing in the wetland replication area(s), coverage of the wetland species as a percentage of all plants, relative vigor of the plants, etc... The report shall also include the recommendations for improvement of poorly established wetland areas.

- Any non-native invasive plant species (e.g. Phragmites, purple loosestrife, buckthorns, etc...) shall be removed from the replication area under the supervision of the wetland scientist.

- Should at least 75% of the surface area of the wetland replication area fail to become established with greater than 50% wetland species within two years of the replication attempt [in accordance with 310 CMR 10.55(4)(b)1-7], the Commission reserves the right to require additional measures necessary to achieve compliance.

- Upon completion of the project, a Certificate of Compliance shall be requested in and under the provisions of 310 CMR 10.05(9)(d). An "AS-BUILT" plan (stamped) and a statement from a Professional Engineer and/ or Professional Land Surveyor (registered with the Commonwealth of Massachusetts) certifying compliance with the conditions of this Order shall accompany the request for a Certificate of Compliance.

- The application of bark mulch, wood chips or mulch (which may introduce invasive species or upland species seed stock) is not permitted in replication area(s) or area of statutory interest.

- Should at least 75% of the surface area of the wetland replication area fail to become established with greater than 50% wetland species within two years of the replication attempt [in accordance with 310 CMR 10.55(4)(b)1-7], the Commission reserves the right to require additional measures necessary to achieve compliance.

Adequate erosion and sedimentation control measures, as specified in the Notice of Intent and in this Order, shall be installed and maintained throughout the entire construction phase, until the site has been stabilized and their removal has been authorized (in writing or by issuance of the Certificate of Compliance) by the Commission or its agent. The erosion control specifications in the Notice of Intent and the erosion control provisions in the Order will be the minimum standards for this project; the Commission may require additional measures. The Commission reserves the right to require additional or modified erosion and siltation controls during construction if it deems that site conditions warrant such measures.

- There shall be no discharge or spillage of petroleum product, hazardous material, or any other pollutant into any area of statutory interest.

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No

2. The Fairhaven Conservation Commission hereby finds (check one that applies):

   a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

   1. Municipal Ordinance or Bylaw | 2. Citation

   Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

   b. ☐ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

   1. Municipal Ordinance or Bylaw | 2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

   The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

August 02, 2010
1. Date of Issuance

Please indicate the number of members who will sign this form.
This Order must be signed by a majority of the Conservation Commission.

7
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

☒ by hand delivery on

August 02, 2010
Date

☐ by certified mail, return receipt requested, on

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Fairahven
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Fairahven
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Taber Street — Project Location
SE 23 - 1094 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

Bristol (SD) — County
Book
Page

for: Fairhaven Acushnet Land preservation Trust Inc & Coalition for Buzzards Bay Inc.

and has been noted in the chain of title of the affected property in:

Book
Page

In accordance with the Order of Conditions issued on:

August 02, 2010
Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

10-12-10

NOAA RESTORATION

I certify that 20 days have elapsed since date of filing with the Town Clerk and no notice of appeal and no revisions have been made since the date of filing.
Date: October 14, 2010
Eileen M Lowney
Town Clerk

TOWN OF FAIRHAVEN
BOARD OF APPEALS
Town Hall, Fairhaven, Mass. 02719

RECEIVED
TOWN CLERK
2010 SEP 20 P 3: 34
FAIRHAVEN.
MASS.

September 7, 2010

The Fairhaven Board of Appeals met on September 7, 2010 at 6:00 PM at the Fairhaven Town Hall. Members present were: Mr. Peter DeTerra, Mr. Joseph Borelli, Mr. Rene Fleurent, Jr., Mr. Daryl Manchester, Mr. Joseph Morra, Mr. Al Silva, Mr. Kenneth Kendall, Ms. Peg Cook and Mr. Fran Cox. The following petition was considered:

Petitioner: Fairhaven Acushnet Land Preservation Trust by National Oceanic & Atmospheric Administration (NOAA) Restoration Center 2 Marsh Island Plat 17, Lot 129 Book 5894, Page 220 and
Coalition for Buzzards Bay, Inc. by National Oceanic & Atmospheric Administration (NOAA) Restoration Center 1 Marsh Island Plat 15, Lot 1 Book 9585, Page 73

198-31 Earth Removal A Special Permit is required for the removal of 50 cubic yards or more from a lot.

The petition was read and there were 4 abutters notified. Mr. Steve Block represented the petitioners and stated the proposal is to remove 92,500 cubic yards of soil. The soil has been chemically analyzed and it is clean. The goal of the project is to flush out the wetlands and salt marsh and thus revive the natural state of Marsh Island.

In Favor: the petitioners

Opposed/Questions: None

Questions by the Board:
Mr. DeTerra asked which roads would be used to truck the material out. Mr. Block stated River Avenue to Route 195.

Motion to grant the Special Permit was made by Mr. Cox; seconded by Mr. Morra.

Board members voting to grant the Special Permit: Mr. Borelli, Ms. Cook, Mr. Manchester, Mr. Morra and Mr. Fleurent.

The Board voted 5-0 to grant the Special Permit to remove more than 50 cubic yards of material from a lot as required by Section 198-31 Earth Removal of the By-Laws for the following reasons:
1.0 The proposal will allow for a better environmental condition of the site. Not granting the Special Permit will create a hardship.
2.0 Granting the Special Permit will not derogate from the intent and purpose of the By-Laws.
3.0 Granting the Special Permit will not adversely affect the zoning district in which it is located.

Peter DeTerra

Peter DeTerra,
Chairman

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1200 Fax (617) 626-1240 Web Site: www.mass.gov/czm/buar/index.htm

February 11, 2011

Chrs Gajeski
The Louis Berger Group, Inc.
75 Second Avenue, Suite 700
Needham, MA 02494

RE: Marsh Island Salt Marsh Restoration Project, New Bedford Harbor Superfund Site, Fairhaven

Dear Chris Gajeski,

The staff of the Massachusetts Board of Underwater Archaeological Resources has reviewed the above referenced project's MHC PNF prepared by The Louis Berger Group, Inc .on behalf of NOAA/New Bedford Trustees Council. We offer the following comments.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. No record of any underwater archaeological resources was found within the project area. However, the Board notes the level and diversity of maritime commercial, military, and recreational activities throughout the New Bedford waterfront may have resulted in the creation of a number of undocumented and anonymous underwater archaeological sites such as small craft, derelict vessels, or dumpsites. Recent field investigations in support of dredging activities for both the New Bedford Harbor Superfund Site and the nearby New Bedford South Terminal Improvement Project uncovered at least two previously unknown historic period shipwreck sites and one intact paleosol which suggests the strong potential for the occurrence of ancient Native American archaeological sites. Therefore, the Board cannot conclude that there are no submerged cultural resources in the proposed project area.

For areas exhibiting such archaeological potential, the Board would typically recommend an archaeological assessment of the intertidal and submerged portions of the project area. However, scientists from Louis Berger Group demonstrated the project area has undergone extensive disturbance and fill activities. For these reasons, the Board finds the project unlikely to adversely affect submerged cultural resources and is not recommending any additional archaeological research.

However, the proponent should consider, for the reason noted above, the possibility that heretofore-unknown submerged cultural resources be encountered during the course of the project. The Board expects that the project's sponsor will take steps to limit adverse affects and immediately notify the Board, as well as other appropriate agencies. The Board suggests the proponent develop an unanticipated finds procedure in accordance with the Board's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources* (updated 9/28/06).

Printed on Recycled Paper

The Board appreciates the opportunity to provide these comments as part of the review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address above, by email at victor.mastone@state.ma.us, or by telephone at (617) 626-1141.

Sincerely,

Victor T. Mastone
Director

/vtm
Cc: Brona Simon, MHC
Bob Boeri, MCZM (via email attachment)
Kate Atwood, ACOE (via email attachment)
Bettina Washington, Wampanoag Tribe of Gay Head (Aquinnah) (via email attachment)

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

March 9, 2011

Regulatory Division
CENAE-R-PEA
File Number: NAE-2008-3552

Steve Block
NOAA Restoration Center
National Oceanic Atmospheric Administration
55 Great Republic Drive
Gloucester, Massachusetts 01930

Dear Mr. Block:

We have reviewed your application for discharge of fill material and excavation discharges to restore about 11.7 acres of salt marsh and tidal creeks. Approximately 73,826 square feet of fresh water wetlands and 23, 386 square feet of salt marsh would be permanently impacted from fill and excavation discharges for construction of the restoration area. About 911 square feet of freshwater wetlands and 18,200 square feet of salt marsh would be temporarily impacted. About 100,000 cubic yards of excavated material from the site would be disposed off site in uplands.

This project is located in wetlands of the New Bedford Harbor off Taber Street in Fairhaven, Massachusetts 02719. The work is shown on the attached plans entitled "PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF : BRISTOL", on 11 sheets, and dated "JAN 1, 2011".

Based on the information you have provided, we have determined that the proposed activity which includes a discharge of dredged or fill material into waters or wetlands,] will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 2 activity under the attached Federal permit known as the Massachusetts General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP.

The Corps of Engineers has consulted with the National Marine Fisheries Service (NMFS) regarding the effects of your project on Essential Fish Habitat (EFH) as designated under the Magnuson-Stevens Fishery Conservation and Management Act. The NMFS has not provided EFH conservation recommendations.

You are responsible for complying with all of the GP's requirements. Please review the attached GP carefully, in particular the GP conditions beginning on Page 5, to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter are at the

requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is underway.

This determination becomes valid only after the Massachusetts Department of Environmental Protection (MassDEP) issues or waives Water Quality Certification (WQC) as required under Section 401 of the Clean Water Act. In the event the DEP denies the 401 WQC, this determination becomes null and void. The address of the MassDEP Regional office for your area is provided in the attached GP.

Your project is located within, or may affect resources within the coastal zone. The Massachusetts Office of Coastal Zone Management (CZM) has determined that no further CZM consistency review is required.

This GP expires on January 21, 2015. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contact to commence before this GP expires will have until January 21, 2016 to complete the activity under the terms and general conditions of the current GP. For work within Corps jurisdiction that is not completed by January 21, 2016, you will need to reference any reissued GP to see if your project is still authorized under Category 1 (no application required), or Category 2 (application required). If it is no longer authorized you must submit an application and receive written authorization before you can continue work within our jurisdiction. Please contact us immediately if you change the plans or construction methods for work within our jurisdiction. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the attached Work Start Notification Form to this office at least two weeks before the anticipated starting date. You must also complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work and any required mitigation.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other federal, state, or local authorizations required by law, as listed on Page 2 of the GP. Performing work not specifically authorized by this determination or failing to comply with any special condition provided above or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://per2.nwp.usace.army.mil/survey.html

Please contact John Sargent, of my staff at 978-318-8026 if you have any questions.

Sincerely,

Karen Kirk Adams
Chief, Permits & Enforcement Branch
Regulatory Division

Attachments

Copies Furnished:

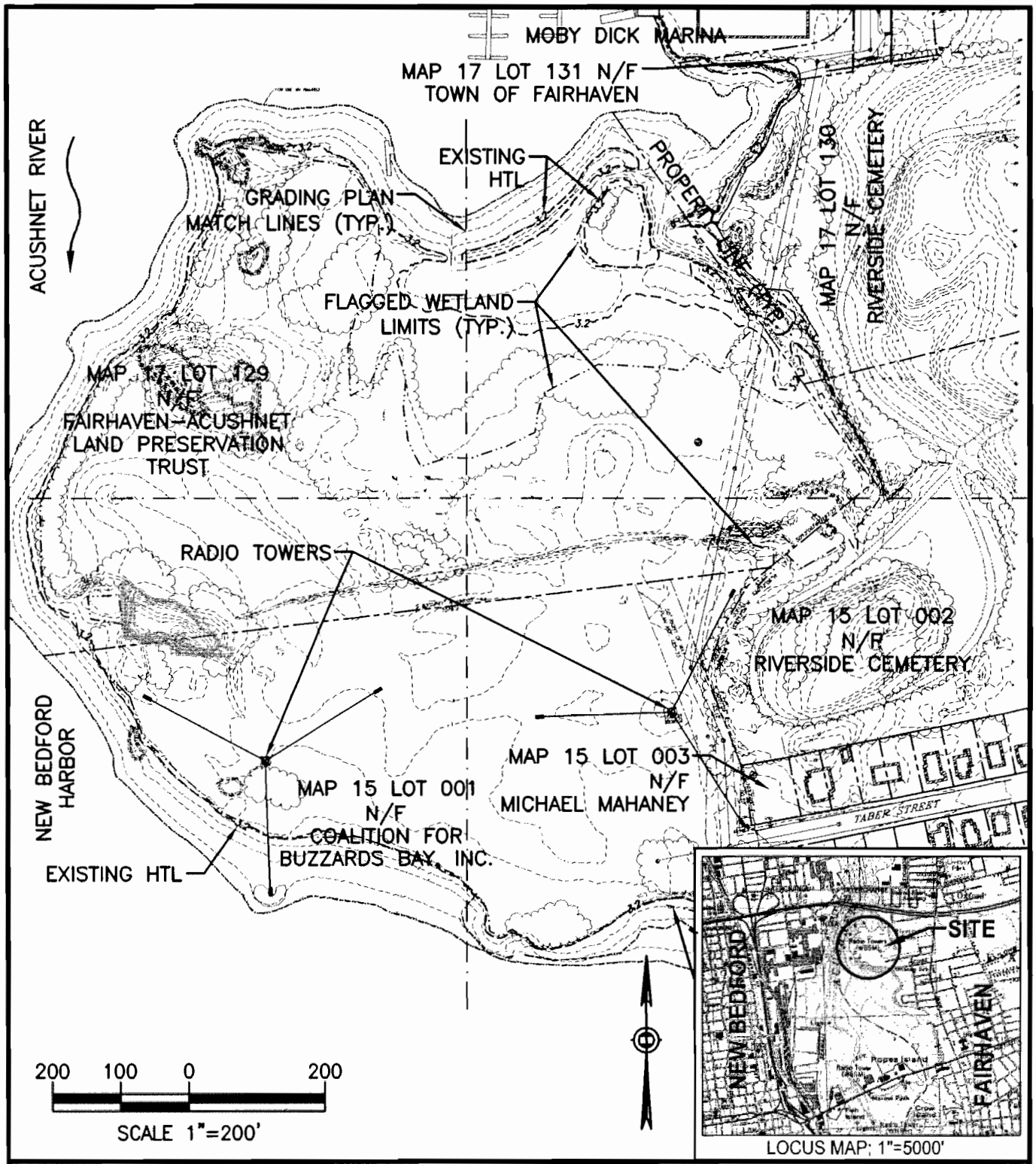
Ed Reiner, U.S. EPA, Region 1, Boston, Massachusetts, reiner.ed@epa.gov

Christopher Boelke, National Marine Fisheries Service, Gloucester, Massachusetts, christopher.boelke@noaa.gov

Elizabeth F. Kouloheras, DEP SERO, Wetlands and Waterways, Lakeville, Massachusetts, c/o lisa.ramos@state.ma.us

Robert Boeri, Coastal Zone Management, Boston, Massachusetts, Robert.Boeri@state.ma.us

Chris Gajeski, The Louis Berger Group, Inc., 75 Second Avenue, Suite 700, Needham, Massachusetts 02494



PURPOSE: SALT MARSH RESTORATION

DATUM: NAVD 88
HTL = 3.2'
MHW = 1.7'
MLW = -2.1'

COVER SHEET

THE Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

APPLICATION BY:
NOAA RESTORATION CENTER

PROPOSED MARSH ISLAND
SALT MARSH RESTORATION

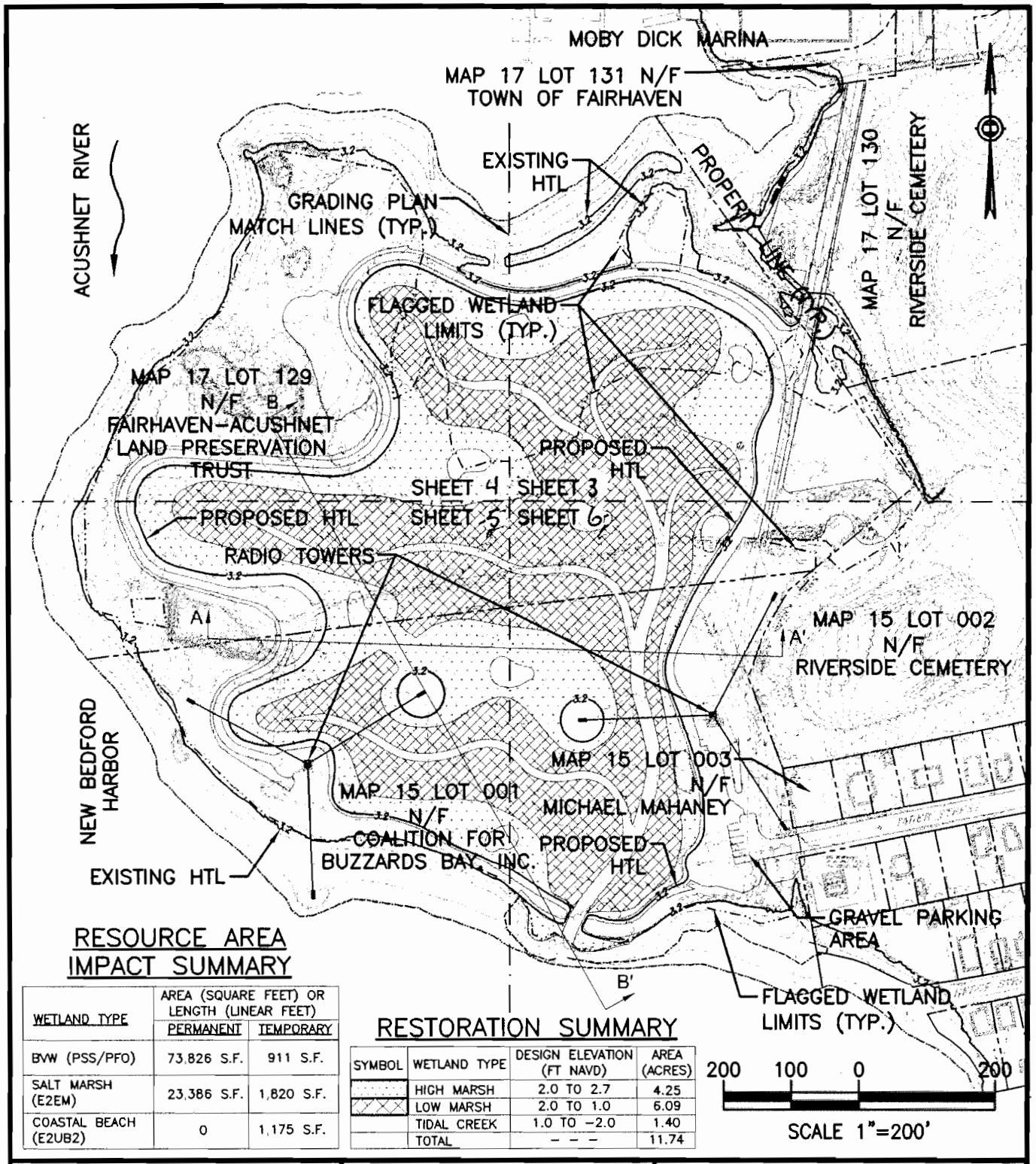
IN: ACUSHNET RIVER (NEW BEDFORD HARBOR)

AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA

COUNTY OF: BRISTOL

DATE: SEPTEMBER 2010

REV. THROUGH JAN.1, 2011 SHEET: 1 OF 11



RESOURCE AREA IMPACT SUMMARY

WETLAND TYPE	AREA (SQUARE FEET) OR LENGTH (LINEAR FEET)	
	PERMANENT	TEMPORARY
BVW (PSS/PFO)	73,826 S.F.	911 S.F.
SALT MARSH (E2EM)	23,386 S.F.	1,820 S.F.
COASTAL BEACH (E2UB2)	0	1,175 S.F.

RESTORATION SUMMARY

SYMBOL	WETLAND TYPE	DESIGN ELEVATION (FT NAVD)	AREA (ACRES)
	HIGH MARSH	2.0 TO 2.7	4.25
	LOW MARSH	2.0 TO 1.0	6.09
	TIDAL CREEK	1.0 TO -2.0	1.40
	TOTAL	- - -	11.74

PURPOSE: SALT MARSH RESTORATION

DATUM: NAVD 88
HTL = 3.2'
MHW = 1.7'
MLW = -2.1'

THE Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

SITE OVERVIEW PLAN

APPLICATION BY:
NOAA RESTORATION CENTER

PROPOSED MARSH ISLAND
SALT MARSH RESTORATION

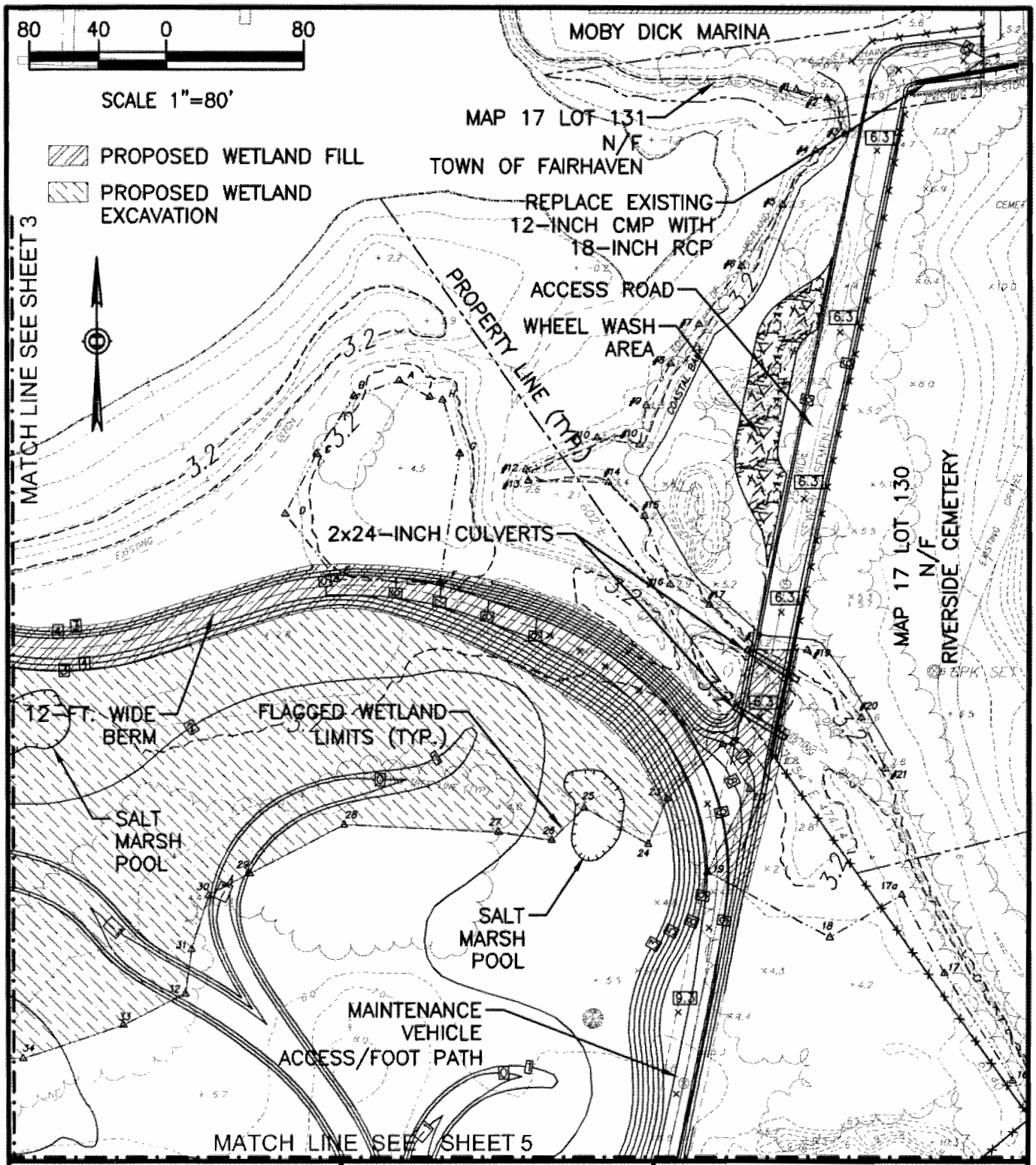
IN: ACUSHNET RIVER (NEW BEDFORD HARBOR)

AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA

COUNTY OF: BRISTOL

DATE: SEPTEMBER 2010

REV. THROUGH JAN.1, 2011 SHEET: 2 OF 11



PURPOSE: SALT MARSH RESTORATION

DATUM: NAVD 88
HTL = 3.2'
MHW = 1.7'
MLW = -2.1'

GRADING PLAN

PROPOSED MARSH ISLAND
SALT MARSH RESTORATION

IN: ACUSHNET RIVER (NEW BEDFORD HARBOR)

AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA

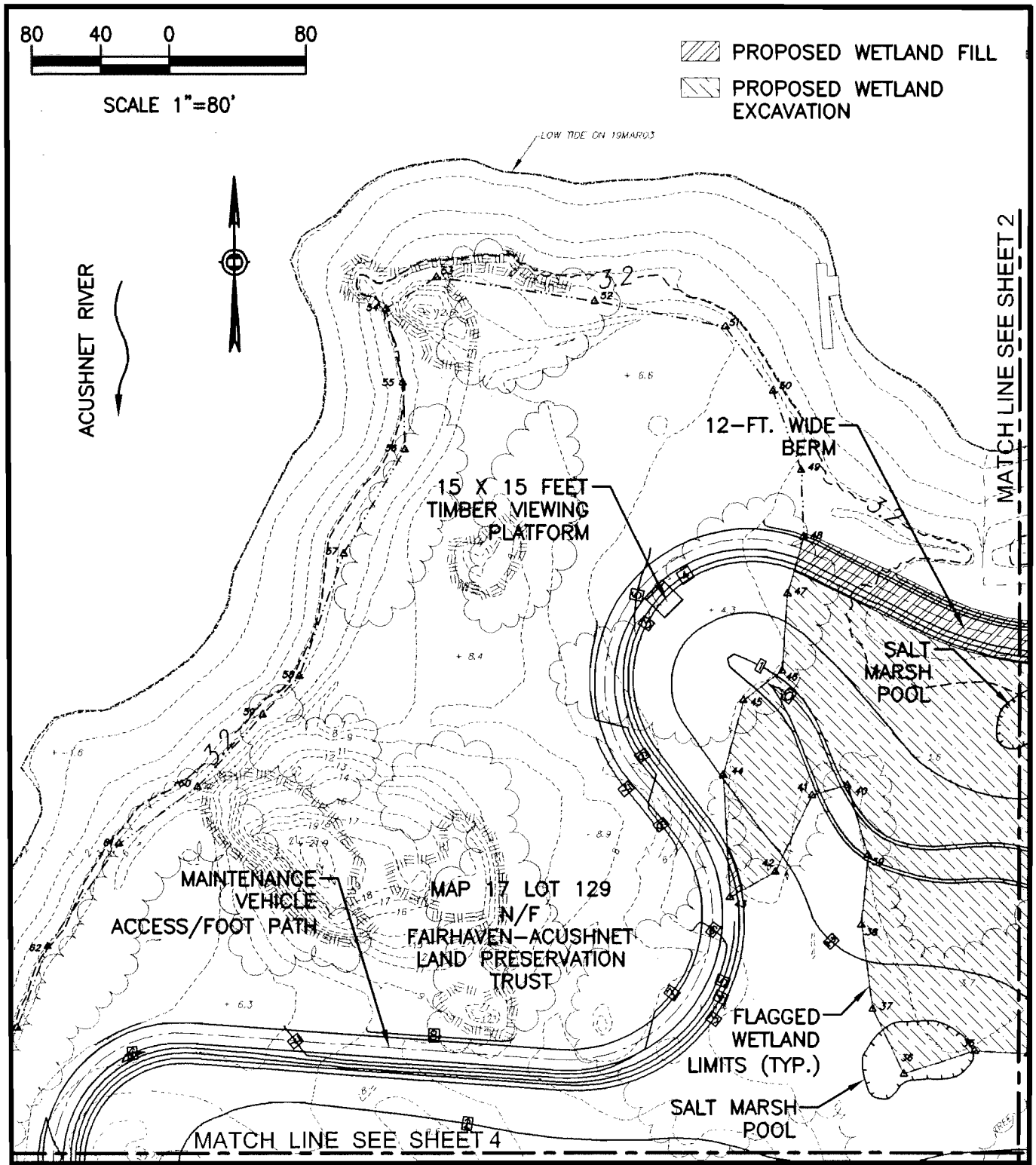
COUNTY OF: BRISTOL

DATE: SEPTEMBER 2010

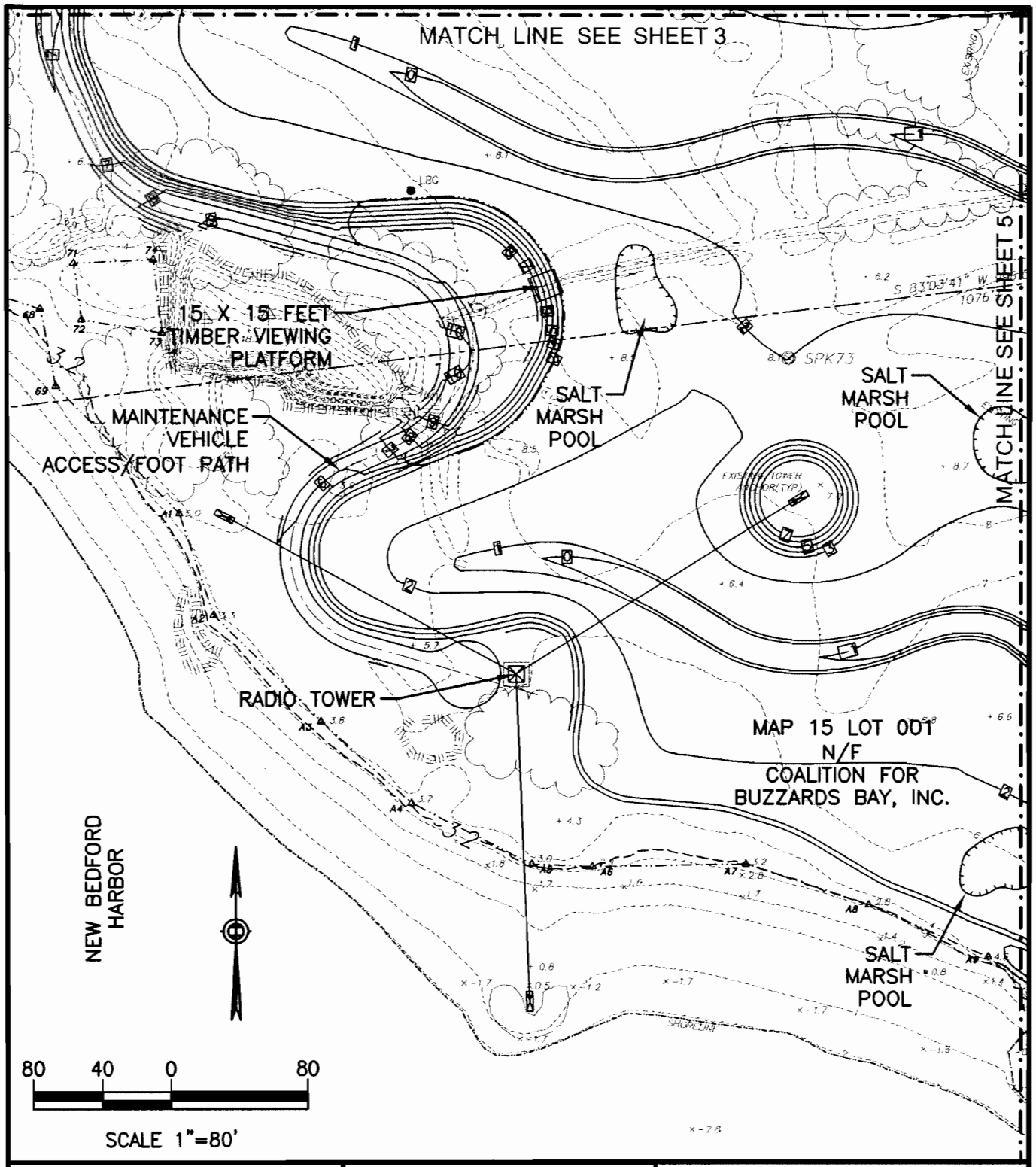
REV. THROUGH JAN.1, 2011 SHEET: 3 OF 11

THE Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

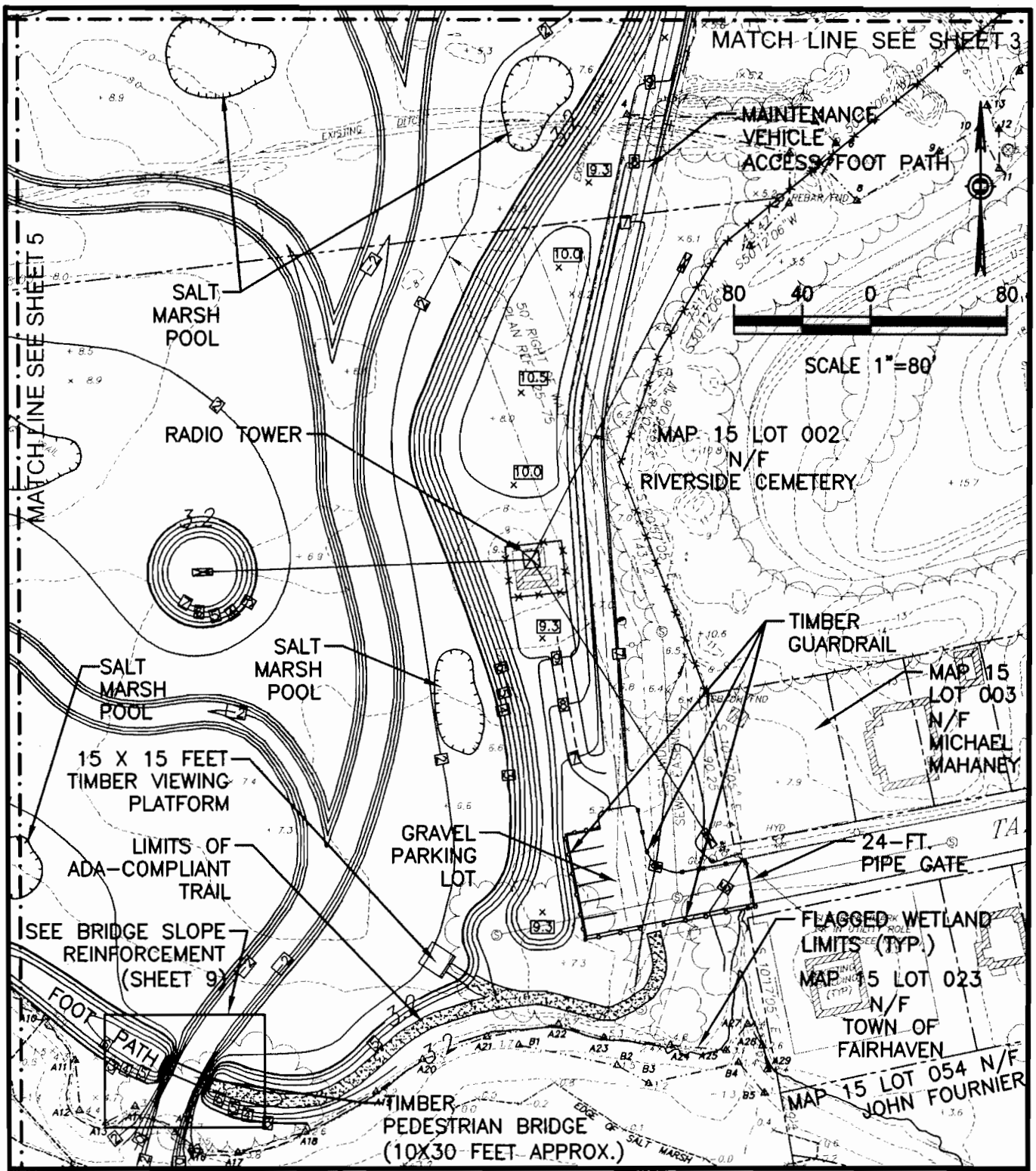
APPLICATION BY:
NOAA RESTORATION CENTER



PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	GRADING PLAN	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	DATE: SEPTEMBER 2010 REV. THROUGH JAN.1, 2011 SHEET: 4 OF 11



PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	GRADING PLAN	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL DATE: SEPTEMBER 2010 REV. THROUGH JAN.1, 2011 SHEET: 5 OF 11
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	



PURPOSE: SALT MARSH RESTORATION

DATUM: NAVD 88
HTL = 3.2'
MHW = 1.7'
MLW = -2.1'

GRADING PLAN

PROPOSED MARSH ISLAND
SALT MARSH RESTORATION

IN: ACUSHNET RIVER (NEW BEDFORD HARBOR)

AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA

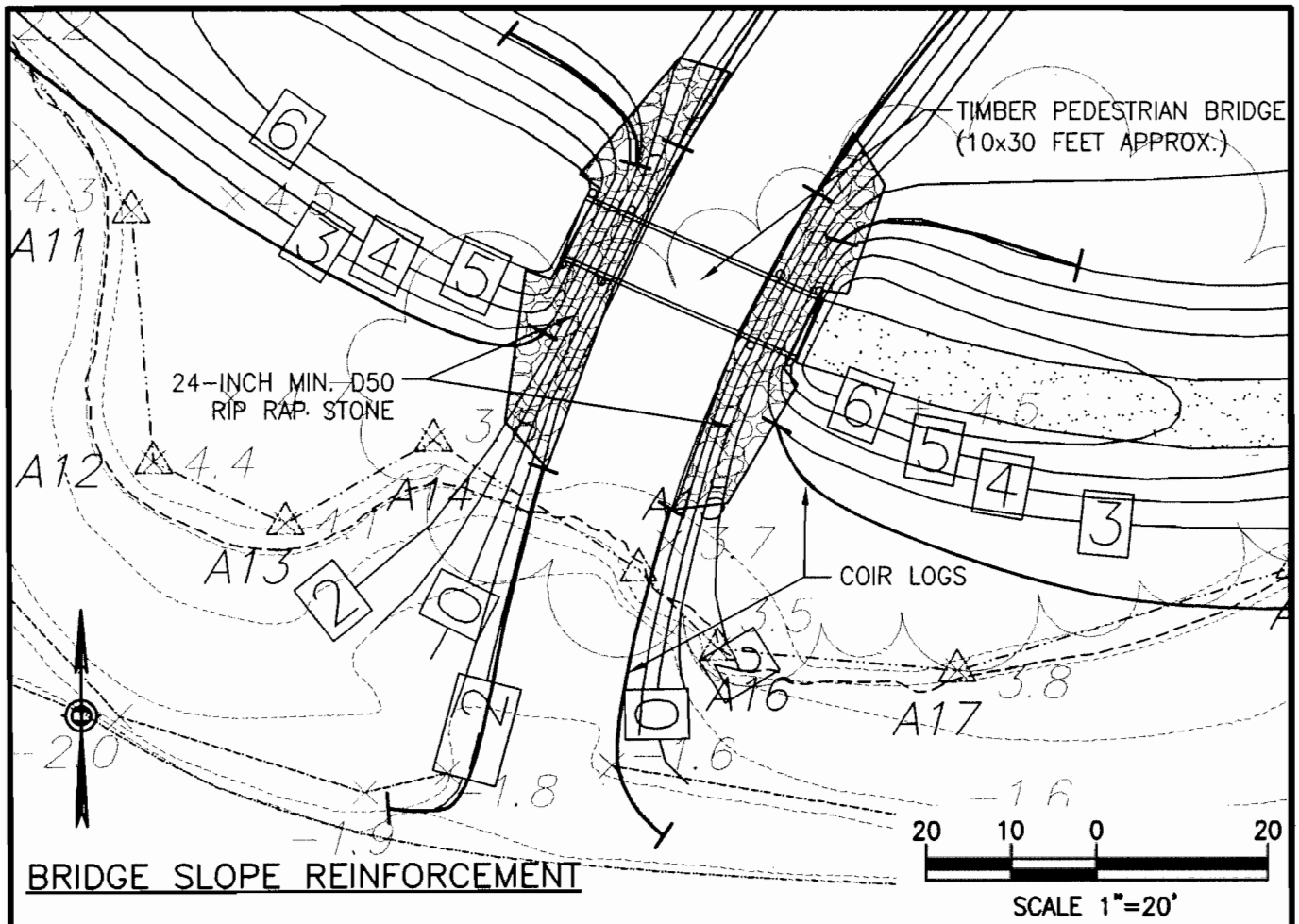
COUNTY OF: BRISTOL

DATE: SEPTEMBER 2010

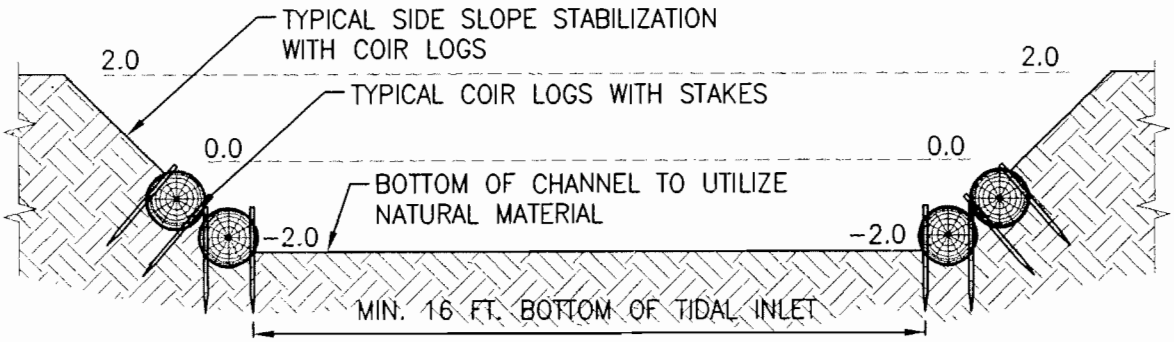
REV. THROUGH JAN.1, 2011 SHEET: 6 OF 11

THE Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

APPLICATION BY:
NOAA RESTORATION CENTER



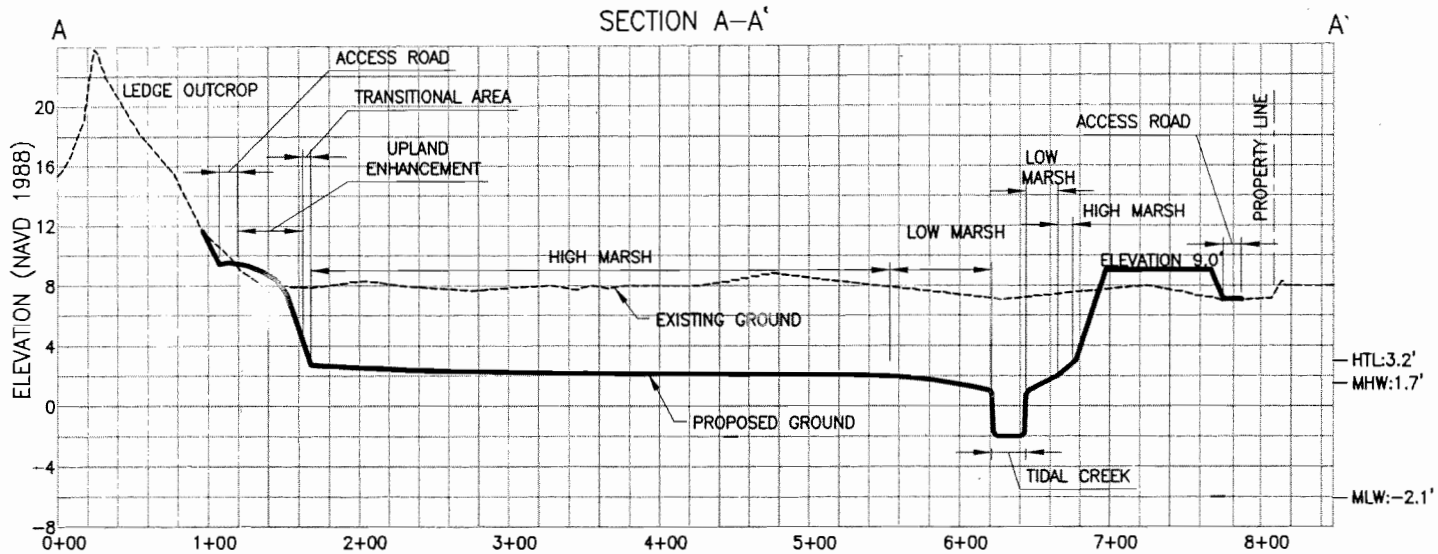
BRIDGE SLOPE REINFORCEMENT

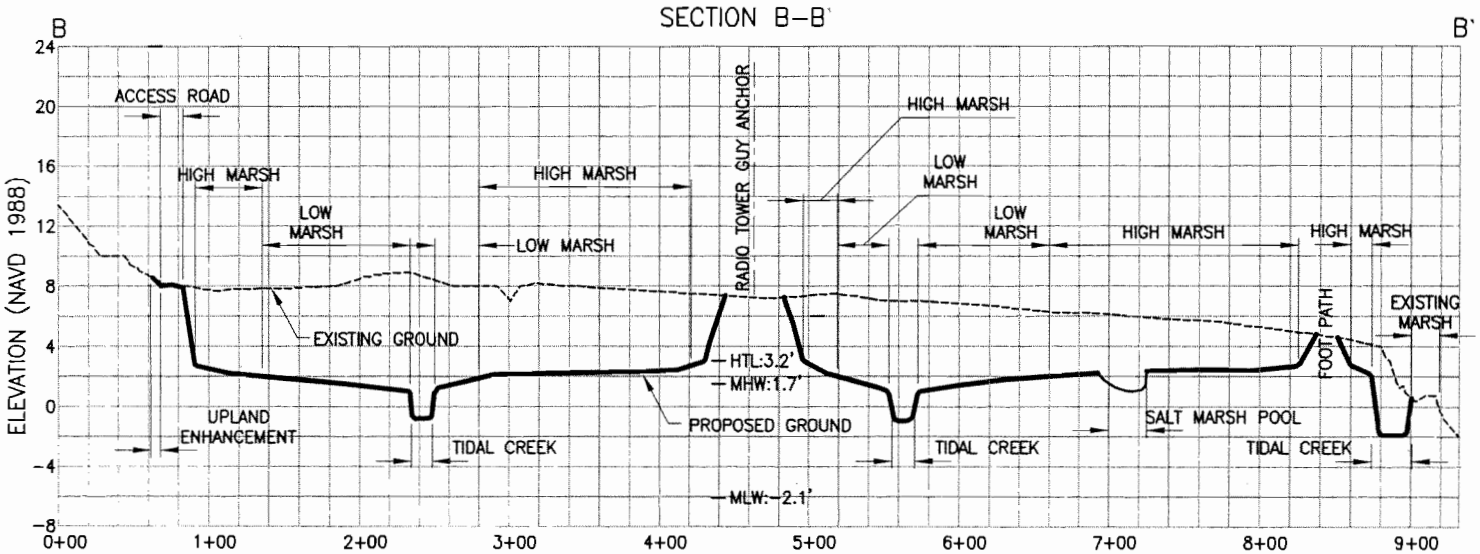


TYPICAL TIDAL INLET CROSS SECTION

N.T.S.

PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	BRIDGE REINFORCEMENT	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL DATE: SEPTEMBER 2010
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	REV. THROUGH JAN.1, 2011 SHEET: 7 OF 11





NOTE:
1. SEE CROSS SECTION LOCATIONS ON SHEET 2 PLAN VIEW.

2. DIMENSIONS AS MARKED ON CROSS SECTIONS GRID.

CROSS SECTION A–A' AND B–B'
N.T.S.

PURPOSE: SALT MARSH RESTORATION

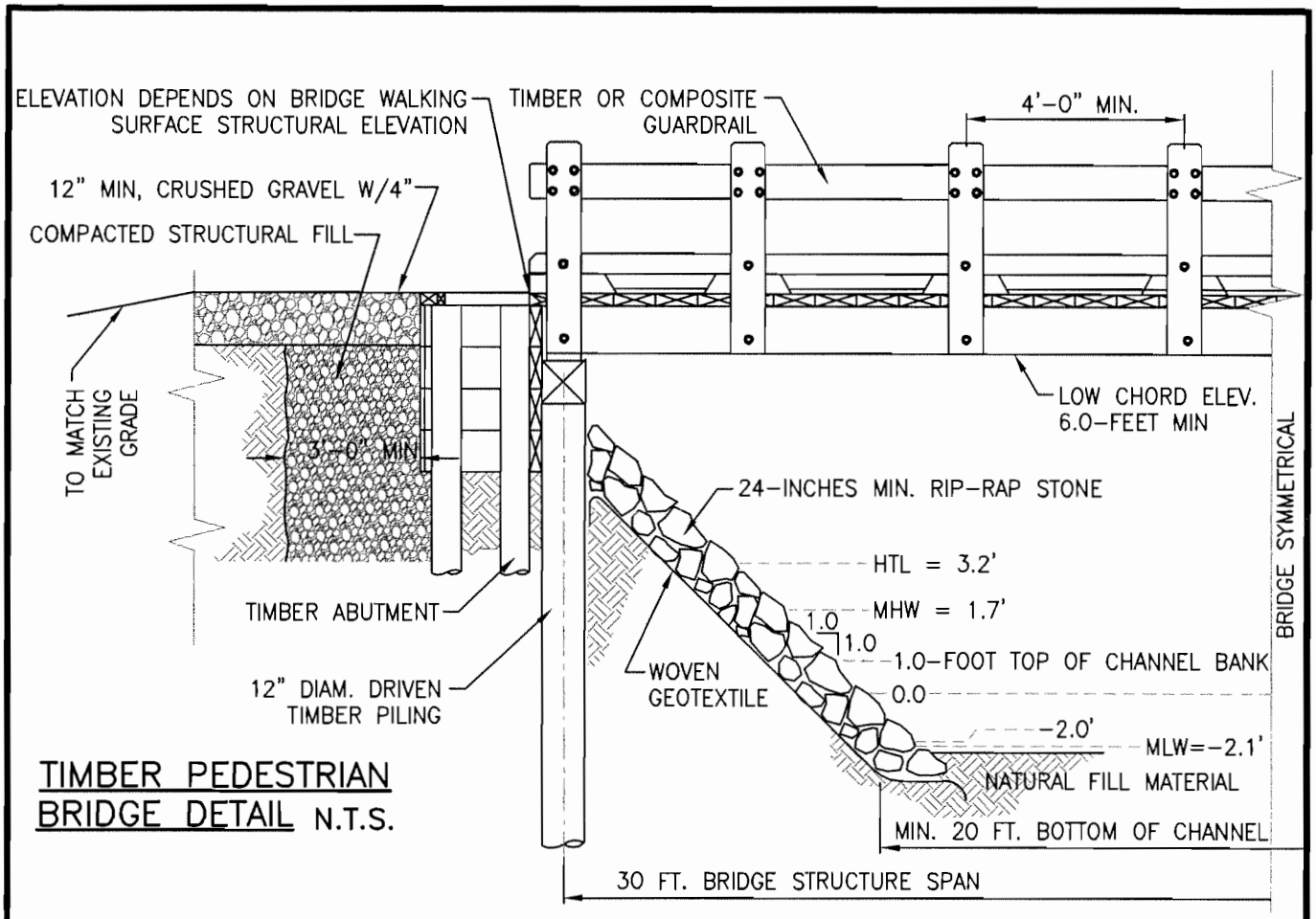
DATUM: NAVD 88
HTL = 3.2'
MHW = 1.7'
MLW = -2.1'

THE Louis Berger Group, Inc.
75 Second Ave., Suite 700
Needham, MA 02494

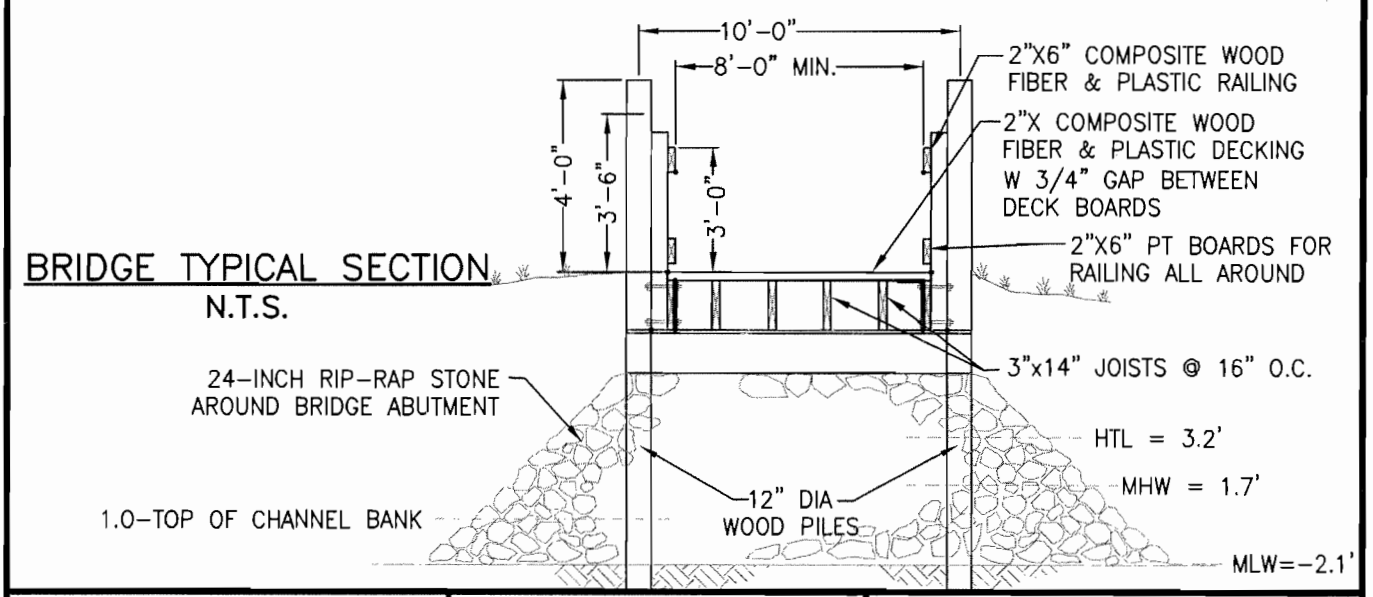
CROSS SECTIONS

APPLICATION BY:
NOAA RESTORATION CENTER

PROPOSED MARSH ISLAND
SALT MARSH RESTORATION
IN: ACUSHNET RIVER (NEW BEDFORD HARBOR)
AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA
COUNTY OF: BRISTOL
DATE: SEPTEMBER 2010
REV. THROUGH JAN.1, 2011

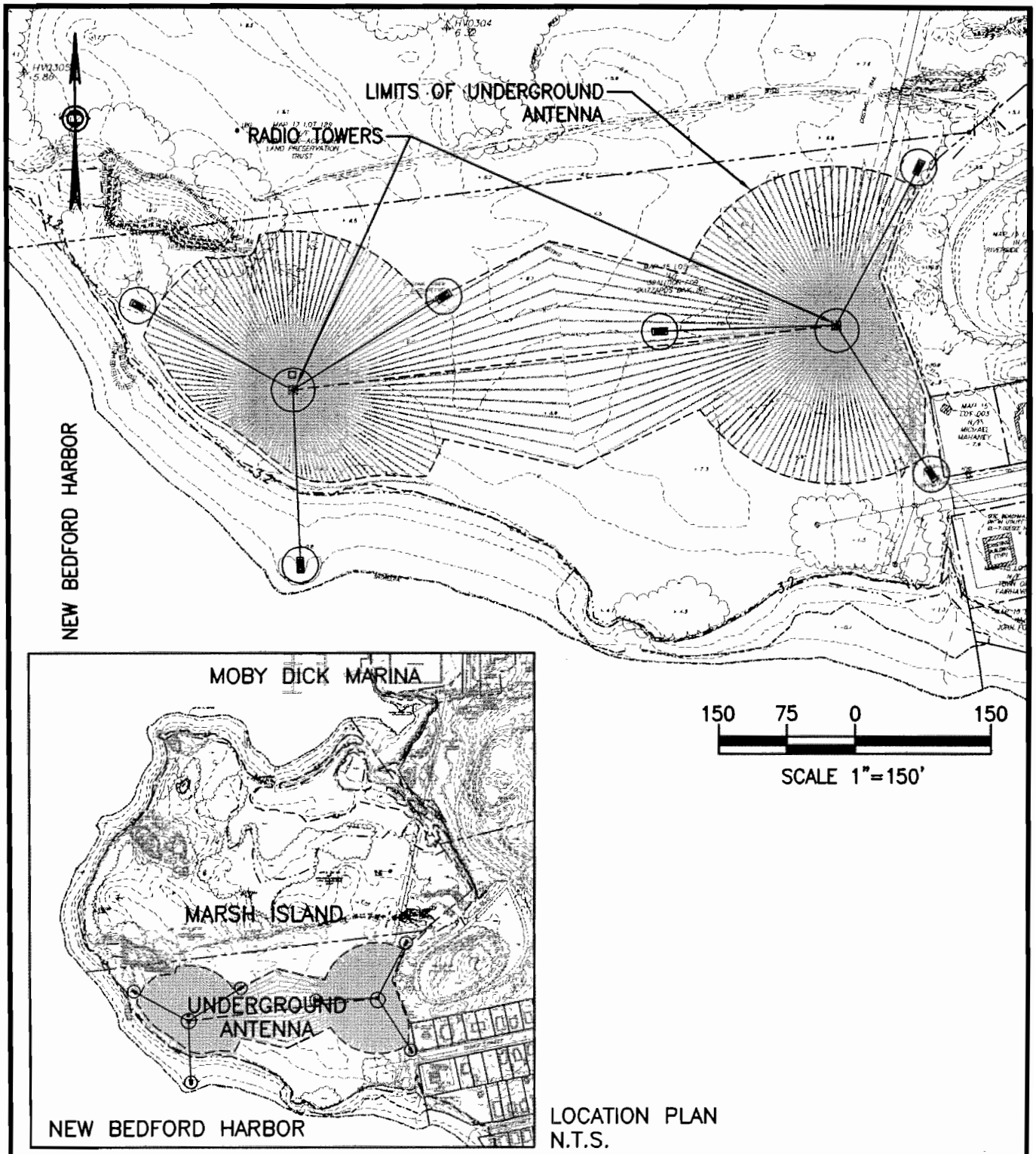


TIMBER PEDESTRIAN BRIDGE DETAIL N.T.S.



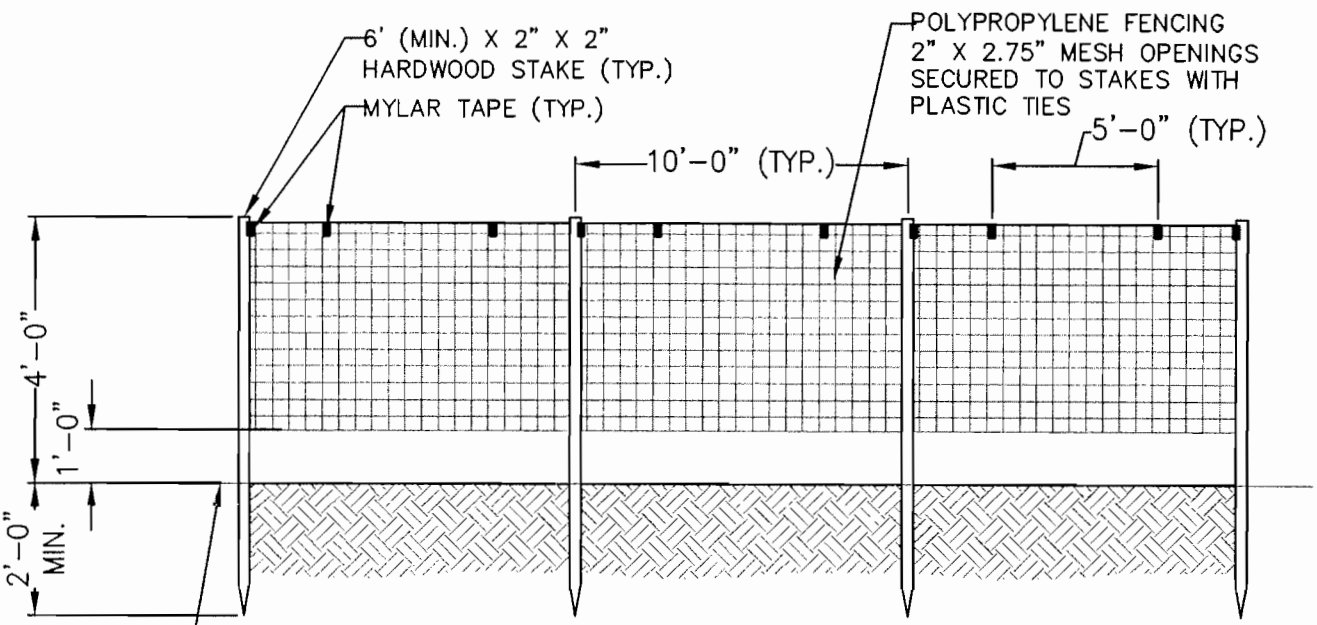
BRIDGE TYPICAL SECTION N.T.S.

PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	TIMBER BRIDGE SECTIONS	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL DATE: SEPTEMBER 2010 REV. THROUGH JAN.1, 2011 SHEET: 9 OF 11
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	



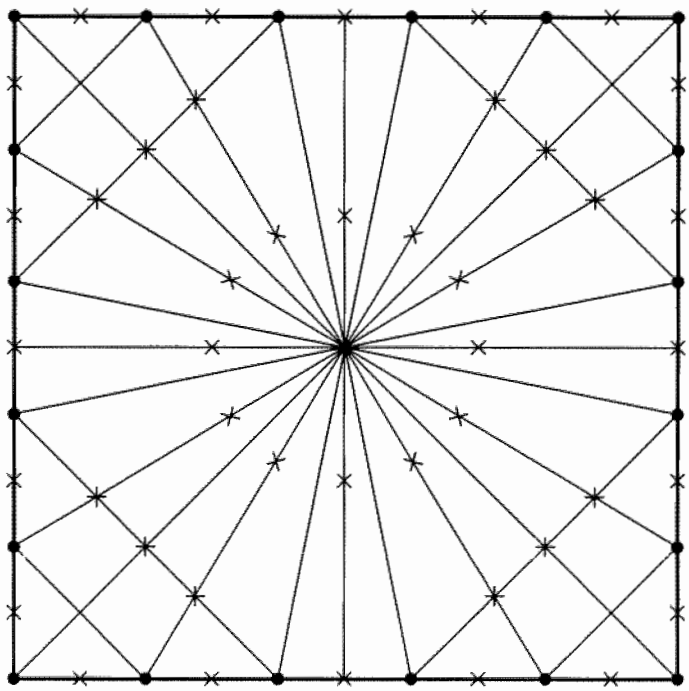
LOCATION PLAN
N.T.S.

PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	RADIO ANTENNA UNDERGROUND LIMITS	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL DATE: SEPTEMBER 2010 REV. THROUGH JAN.1, 2011 SHEET: 10 OF 11
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	



PROFILE VIEW
N.T.S.

NOTE:
MAX. 50'x50' GRID, TYPICAL. GRID MAY VARY, BASED ON SITE CONTOURS AND TIDAL CREEK LOCATIONS.



PLAN VIEW
N.T.S.

PURPOSE: SALT MARSH RESTORATION DATUM: NAVD 88 HTL = 3.2' MHW = 1.7' MLW = -2.1'	HERBIVORY FENCE	PROPOSED MARSH ISLAND SALT MARSH RESTORATION IN: ACUSHNET RIVER (NEW BEDFORD HARBOR) AT: MARSH ISLAND, TOWN OF FAIRHAVEN, MA COUNTY OF: BRISTOL DATE: SEPTEMBER 2010 REV. THROUGH JAN.1, 2011 SHEET: 11 OF 11
THE Louis Berger Group, Inc. 75 Second Ave., Suite 700 Needham, MA 02494	APPLICATION BY: NOAA RESTORATION CENTER	

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

May 25, 2011

Steve Block
National Oceanic and Atmospheric Administration Restoration Center
55 Great Republic Drive
Gloucester, MA 01930

Re: **401 WATER QUALITY CERTIFICATION**
Application for BRP WW 10, Major Project Certification
Salt Marsh Restoration Project

At: Marsh Island – New Bedford Harbor/Acushnet River, Tabor Street - Fairhaven

401 WQC BRP WW 10 Transmittal №: X234870
Wetlands File №: SE 23-1094

Dear Mr. Block:

The Department has reviewed your application for Water Quality Certification (WQC), as referenced above. In accordance with the provisions of Section 401 of the Federal Clean Water Act as amended (33 U.S.C. §1251 et seq.), MGL c.21, §§ 26-53, and 314 CMR 9.00, it has been determined there is reasonable assurance the project or activity will be conducted in a manner which will not violate applicable water quality standards (314 CMR 4.00) and other applicable requirements of state law.

The National Oceanic and Atmospheric Administration Restoration Center (NOAA), on behalf of the New Bedford Harbor Trustee Council (NBHTC), proposes to restore 11.7 acres of filled salt marsh on the 20.6 acre Marsh Island site. This project is located at the end of Tabor Street in Fairhaven and extends into the New Bedford Harbor and the Acushnet River. The property is owned by the Fairhaven-Acushnet Land Preservation Trust and the Coalition for Buzzards Bay which has leased a portion of the property to Citadel Broadcasting who has two radio towers and a small transmission building located on-site.

The Marsh Island and the adjacent waters of New Bedford Harbor – Acushnet River are designated in the Massachusetts Surface Water Quality Standards as Class SB. Such waters are designated

> "as habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters habitat for fish, other aquatic life and wildlife

> may include, but is not limited to, seagrass. Where designated in the tables to 314 CMR 4.00, these waters may be suitable for shellfish harvesting with depuration. These waters shall have consistently good aesthetic value." Anti-degradation provisions of these Standards require that "existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."

Marsh Island has a history of disturbance resulting from the filling of the salt marshes of Marsh Island with harbor dredge spoils from the late 1930's to the early 1950's to a quarry operation on the bedrock outcrops that were present on a small portion of original upland areas. Then from the 1940s to the 1970s, electrical parts manufacturers discharged wastes containing polychlorinated biphenyls (PCBs) and toxic metals into New Bedford Harbor, resulting in high levels of contamination throughout the waters, sediments and biota of the Harbor, and becoming today an EPA Superfund site. Portions of Marsh Island have been contaminated with PCBs and those portions will not be a part of this salt marsh restoration project but will wait for EPA to address those areas at a later time as part of the overall Harbor cleanup effort. The NBHTC is responsible for the restoration of natural resources that were injured, destroyed or lost resulting from these PCB releases within New Bedford Harbor. The NBHTC is made up of trustee representatives from the Commonwealth of Massachusetts, U.S. Department of Commerce and the U.S. Department of the Interior. Working with funds provided by Natural Resource Damage settlements, the trustees are making decisions on how to spend this settlement money for restoration projects.

Marsh Island's current condition reflects this history of disturbance as the historic uplands have mixed mature woods while the former salt marsh areas are sparsely vegetated with stunted shrubs and upland grass clumps and the remnant marshes are Phragmites dominated. Unfortunately, the remaining salt marsh fringe located primarily to the north side of the island is contaminated with PCB's. A few small areas on-site and adjacent to the site are classified as primarily wooded wetlands that meet the definition of Bordering Vegetated Wetlands per 310 CMR 10.55.

Because of the past disturbances, the use of harbor sediments from dredging operations to fill the island and contamination events near and on-island (a 500-gallon fuel tank with holes was removed from the site in 1990), in 2003, 2004 and 2008 NOAA performed a series of soils contaminant testing and characterization throughout the area where soils were to be removed. The sediment characterizations typified dredge sediments and were comprised primarily of coarse sandy soils with fractions of silts and gravels. These sediments overlay a relatively intact organic peat deposit reflecting the original marsh plain located at elevations – 1.5 to + 1.5 feet NAVD. Peat samples taken found fine grain organic deposits intermixed with fine sand, roots and sulfide odor indicative of the original marsh horizon.

Soil samples were collected throughout the site for chemical analysis. Generally, and based upon the extent of the samples taken, the soils do not contain hazardous waste or PCB concentrations that would require special management. Specifically sediment analysis determined the following:

a) No PCB's or volatile petroleum hydrocarbons (VPH) were detected in any sample;

b) Metals were detected in the southern soil samples but do not exceed the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) for reportable concentration in soil for S-1 category (RCS-1) criteria;
c) Polycyclic aromatic hydrocarbons (PAH) above MCP reportable concentrations were detected in the composite B—9 sample. This sample, comprised of coarse to medium sands, silt and clay and organic matter did not appear contaminated on visual inspection or via the use of a portable photoionization detector (PID) but the PAH compounds corresponded to the extractable petroleum hydrocarbon (EPH) ranges. Subsequent microscopic analysis confirmed that the sample PAH and EPH ranges are attributed to coal, wood ash and coal ash; and
d) Toluene and EPH were detected in selected samples at concentrations below RCS-1 values.

Other than the PAH compounds it was determined that with proper soil management, there is no restriction on the reuse of the soil as common fill. Section 3.2 of the application narrative describes the proposed soil management plan and the Department has further conditioned within this Water Quality Certification a condition that expands upon this proposal.

The Marsh Island Salt Marsh restoration project generally included marsh restoration and passive recreation into the design. The marsh restoration includes the establishment of high and low salt marsh areas, a main stem tidal creek with smaller creeks branching off it and salt marsh pools scattered throughout the high and low marsh plains. The recreational components include a perimeter walking path with pedestrian bridge (portions of the path will also serve as the radio towers maintenance access road) and viewing platforms placed along the path and into the proposed marsh. Portions of the northern section of the path are elevated to serve as a berm to prevent the migration of PCBs located north of the project from entering the site.

The marsh restoration incorporated hydrological and biological benchmarks into the design to match, as closely as possible, salt marshes adjacent to the project site and from six reference sites that approximate the proposed marsh size and are within 5 miles of the project site. The tidal régime north and south of the project site were recorded over a one month period to capture a full lunar cycle at the project site. The highest tide height recorded was 3.2 feet however the downstream Hurricane Barrier was closed to maintain the 3.2 foot level and control flooding. The highest tide level recorded during this period with the Hurricane Barrier open was 2.83 feet.

Benchmark data from the salt marshes north of the project site found dense stands of *Spartina alterniflora* between 1.0 and 2.0 (NAVD 88) with sparse stands down to elevation -1.1 feet. High marsh communities of short form *S. alterniflora* and *S. patens* were documented from elevation 2.0 feet up to elevation 2.6 to 2.7 feet. From elevation 2.5 to 2.7 the intertidal community was dominated by stunted *Phragmites*. Dense stands of *Phragmites* were found above elevation 2.9 feet along with *Iva frutescens*. Tidal elevations for this area of New Bedford Harbor based on USACE Tidal Flood Profiles are as follows and based upon NAVD 88: mean high water spring = 2.0; mean high water = 1.7; mean low water = -2.1; and conversion to NGVD -0.8.

Tidal creek dimensions were recorded for the six reference sites to determine the width and depth of the tidal channels, depth of water at the tide stage and size of the upgradient marsh. Correlating the recorded data from the reference sites to the proposed marsh suggests the main feeder tidal creek width should be 16 feet with a depth of 27 inches for a total cross sectional

area of 36 square feet. Section 4.2.3 of the Water Quality Certification application provides further analysis on the channel design.

Based upon the above stated hydrological and biological benchmarks NOAA proposes to construct 4.2 acres of high marsh between elevations 2.0 to 2.7 feet (NAVD 88). 6.1 acres of low marsh between elevations 1.0 to 2.0 feet (NAVD 88), and 1.4 acres to tidal creeks between elevations -2.0 to 1.0 (NAVD 88) for a total salt marsh restoration area of 11.7 acres. Further, approximately eight salt marsh pools ranging in size from 1,250 square feet to 2,800 square feet with a reservoir depth of 3 to 3.5 feet are also proposed. The marsh plain will also be sloped at a 1.6% slope to prevent waterlogging and hypersaline conditions. The proposed salt marshes will be planted with plugs appropriate for their tidal régime and 2 foot on center. Herbivory fencing will be placed to prevent predation of the newly planted plugs.

Additional discussion relative to the temporary access road, wheel washing area, radio tower grounding reconstruction and the recreational attributes are found in section 4.2 of the Water Quality Certification application.

The project includes a five year monitoring program where vegetation and physical data will be collected and reviewed to identify trends as indicators of marsh recovery or provide the rationale for instituting adaptive management measures to expedite recovery. In the Secretary's Certificate (see below), the project proponent was required to provide MassDEP with a Contingency Plan and an Adaptive Management Plan. These requirements are stated within this Certificate Conditions and shall be provided to the Department prior to work commencing on-site.

Public Notice: The 401 WQC application public notice was published in on October 15, 2010 and Department received no comment during the 21-day public comment period.

Section 61 Findings: Pursuant to M.G.L. Chapter 30, Sections 61 to 62H including (M.E.P.A.) this project was reviewed as EOEEA No. 14575 and the Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form issued on May 28, 2010, determined that this project does not require the preparation of an Environmental Impact Report (EIR).

Therefore, based on information currently in the record, the Department grants a 401 Water Quality Certification for this project subject to the following conditions to maintain water quality, to minimize impact on waters and wetlands, and to ensure compliance with appropriate state law. The Department further certifies in accordance with 314 CMR 9.00 that there is reasonable assurance the project or activity will be conducted in a manner which will not violate applicable water quality standards (314 CMR 4.00) and other applicable requirements of state law. Finally, the Department has determined that upon satisfying the conditions and mitigation requirements of this approval, the project provides a level of water quality necessary to protect existing uses and accordingly finds that the project as implemented satisfies the Surface Water Quality Standards at 314 CMR 4.00.

1. The Contractor shall take all steps necessary to assure that the proposed activities will be conducted in a manner that will avoid violations of the anti-degradation provisions of Massachusetts Surface Water Quality Standards that protect all waters, including wetlands.

2. Prior to the start of work, the Department shall be notified of any change(s) in the proposed project or plans that may affect waters or wetlands. The Department will determine whether the change(s) require a revision to this Certification.

3. Work in waters and wetlands shall conform to the document entitled; "Marsh Island Salt Marsh Restoration Project, Fairhaven, Massachusetts Application for 401 Water Quality Certification, Submitted to MA DEP, Prepared for New Bedford Harbor Trustee Council and NOAA Restoration Center; Prepared by: The Louis Berger Group, Inc., Needham, MA; Dated October 14, 2011." Said Application includes: 1) the application for a 401 Water Quality Certification Application BRP WW 10 for fill and excavation in waters and wetlands; 2) WPA Form 5 – Order of Conditions Wetlands Protection Act, MGL Ch. 131, section 40 for MASSDEP File No. 23-1094; 3) Plans entitled: "Site Plan, Plans Accompanying Petition of Town of Fairhaven, MA, Marsh Island Salt Marsh Restoration, Fairhaven, MA dated September 2010, sheets 1 of 8 through 8 of 8 all inclusive; Sheet C7 and 8 dated July 2009 revised Feb. 4 2011; Signed and Stamped by Christopher S. Feeney, P.E. The Department shall be notified if there are modifications and or deletions of work as specified in the plans. Depending on the nature of the scope change, approval by the Department may be required.

4. The Department shall be notified by phone by contacting, Jim Sprague 617-654-6601or by email at James.Sprague@state.ma.us, one week prior to the start of in-water work so that Department staff may inspect the work for compliance with the terms and conditions of this Certification.

5. The Certification remains in effect for the same duration as the federal permit that required it.

6. Best Management Practices (BMPs) shall be deployed to minimize turbidity.

7. DEP shall be notified within 24 hours, verbally and in writing, of any impacts to any resource area and/or habitats that occur during the construction phase of the project beyond that authorized by this Certificate. Such occurrences/incidents include, but are not limited to; fill or excavation beyond the project footprint/limits, observed dead or distressed fish or other aquatic organisms, an observed oily sheen on surface water, sediment spill, observed turbidity plume beyond the deployed BMP's, or equipment accident/spills, all site related activities impacting the water shall cease until the source of the problem is identified and mitigation measures employed. Activities shall not recommence until the DEP is satisfied that the mitigation measures implemented have adequately addressed impacts from the incident

8. The applicant/contractor shall comply with the terms and conditions of the Order of Conditions for this project issued under DEP File No. 23-1094 and issued by the Fairhaven Conservation Commission dated 8/2/2010.

9. The project includes a five year monitoring program where vegetation and physical data will be collected and reviewed to identify trends as indicators of marsh recovery or provide the rationale for instituting adaptive management measures to expedite recovery. The project

proponent is required to provide to MassDEP, for its approval prior to work commencing on-site, a Contingency Plan and an Adaptive Management Plan.

10. Excavated material to be transported offsite shall be tested every 7,500 cubic yards. Test frequency may be increased as necessary, based upon receiving facility requirements. Testing to be performed shall consist of Total Arsenic, Total Cadmium, Total Chromium, Total Lead, Total Mercury, Total Petroleum Hydrocarbons (TPH), Total PCBs, Total SVOCs, Total VOCs, and Conductivity. TCLP testing shall be performed for metals or organic compounds when the total concentrations in the soil are above the theoretical limits at which the TCLP criteria may be exceeded. Should testing show that limits are exceeded, all soil removal work on-site shall cease until the appropriate soil management plan has been developed and been submitted to MassDEP for approval prior to implementation.

11. The Applicant shall allow MassDEP staff and conservation commission representatives to enter the Project and mitigation sites to verify compliance with the conditions of this Certificate.

12. Copies of site plan or any permit/order amendment shall be provided to the MassDEP-Boston and appropriate conservation commission representatives. Any modifications to the plans and documents cited within this Certificate must receive Department approval prior to implementation

13. Final Construction Plans shall be submitted at least 60 days prior to construction for MassDEP prior review and written approval. A copy shall be provided at the same time to the Fairhaven Conservation Commission ("Commission"). In seeking approval for plan changes, Applicant must provide sufficient supporting information, explanation, and documentation to MassDEP and the Commission, including detail on changes in impacts from previous submittals, and the proposal for mitigation, if applicable. MassDEP reserves the right to require an amendment to the Certification for major changes to the Project, taking into account the nature and/or relative magnitude of the Project change.

14. Refueling, washing, or other maintenance of vehicles and construction equipment, and storage of hazardous materials shall not take place within Resource Areas or Buffer Zone.

This certification does not relieve the applicant of the obligation to comply with other applicable state or federal statutes or regulations. Any changes made to the project as described in the previously submitted Notice of Intent, 401 Water Quality Certification application, or supplemental documents will require further notification to the Department.

Certain persons shall have a right to request an adjudicatory hearing concerning certifications by the Department when an application is required:

a. the applicant or property owner;
b. any person aggrieved by the decision who has submitted written comments during the public comment period;

c. any ten (10) persons of the Commonwealth pursuant to M.G.L. c.30A where a group member has submitted written comments during the public comment period; or
d. any governmental body or private organization with a mandate to protect the environment, which has submitted written comments during the public comment period.

Any person aggrieved, any ten (10) persons of the Commonwealth, or a governmental body or private organization with a mandate to protect the environment may appeal without having submitted written comments during the public comment period only when the claim is based on new substantive issues arising from material changes to the scope or impact of the activity and not apparent at the time of public notice. To request an adjudicatory hearing pursuant to M.G.L. c.30A, § 10, a Notice of Claim must be made in writing, provided that the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee specified within 310 CMR 4.10 along with a DEP Fee Transmittal Form within twenty-one (21) days from the date of issuance of this Certificate, and addressed to:

Case Administrator
Department of Environmental Protection
One Winter Street, 2nd Floor
Boston, MA 02108.

A copy of the request shall at the same time be sent by certified mail or hand delivery to the issuing office of the Wetlands and Waterways Program at:

Department of Environmental Protection
One Winter Street, 5th Floor
Boston, MA 02108.

A Notice of Claim for Adjudicatory Hearing shall comply with the Department's Rules for Adjudicatory Proceedings, 310 CMR 1.01(6), and shall contain the following information pursuant to 314 CMR 9.10(3):

a. the 401 Certification Transmittal Number and DEP Wetlands Protection Act File Number;
b. the complete name of the applicant and address of the project;
c. the complete name, address, and fax and telephone numbers of the party filing the request, and, if represented by counsel or other representative, the name, fax and telephone numbers, and address of the attorney;
d. if claiming to be a party aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found at 314 CMR 9.02;
e. a clear and concise statement that an adjudicatory hearing is being requested;
f. a clear and concise statement of (1) the facts which are grounds for the proceedings, (2) the objections to this Certificate, including specifically the manner in which it is alleged to be inconsistent with the Department's Water Quality Regulations, 314 CMR 9.00, and (3) the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written Certification; and
g. a statement that a copy of the request has been sent by certified mail or hand delivery to the applicant, the owner (if different from the applicant), the conservation commission of the city or town where the activity will occur, the Department of Environmental Management (when the certificate concerns projects in Areas of Critical Environmental Concern), the public or private water supplier where the project is located (when the

certificate concerns projects in Outstanding Resource Waters), and any other entity with responsibility for the resource where the project is located.

The hearing request along with a DEP Fee Transmittal Form and a valid check or money order payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
Commonwealth Master Lockbox
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory-hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Failure to comply with this certification is grounds for enforcement, including civil and criminal penalties, under MGL c.21 §42, 314 CMR 9.00, MGL c. 21A §16, 310 CMR 5.00, or other possible actions/penalties as authorized by the General Laws of the Commonwealth.

If you have questions on this decision, please contact Jim Sprague at 617-654-6601.

Sincerely,

Ann Lowery
Deputy Assistant Commissioner
Bureau of Resource Protection

Cc Fairhaven Conservation Commission

Craig Wood, Louis Berger Group, Inc

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK
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Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

NOAA Restoration Center
C/o The Lewis Berger Group, Inc. & Associates, Inc.
75 Second Street, Suite 700
Needham, MA 02494

JUN 28 2011

RE: ISSUANCE OF CHAPTER 91 WATERWAYS LICENSE
Waterways License Application No. W10-3162, License No. 13012
Marsh Island Restoration, Fairhaven, Bristol County

Dear Sir or Madam,

The Department of Environmental Protection hereby issues the above-referenced Waterways License, enclosed, authorizing you to perform certain activities pursuant to M.G.L. c. 91, the Public Waterfront Act and its regulations 310 CMR 9.00. Any change in use or alteration of any structure or fill not authorized by this license may render this license void.

This License is not final until all administrative appeal periods from this License have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed. The appeal period is for twenty-one (21) days. No work shall be undertaken until the License has become final and has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property

RECORDING OF THE LICENSE

This License must be recorded at the Registry of Deeds or, if registered land, with the Land Registration Office within sixty (60) days from the date of license issuance. In the case of recorded land, the License shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the project is located. In the case of the registered land, the License shall be noted on the Land Court Certificate of Title of the owner of the land upon which the project is located. **Failure to record this license within sixty (60) days of the date of issuance will render this license void pursuant to 310 CMR 9.18.**

A Waterways License Recordation Notice Form has been enclosed for your use in notifying the Department of the recording information for this License. **Failure to notify the Department of the recording of this license is a violation of 310 CMR 9.00 and is subject to enforcement action by the Department.**

REQUEST CERTIFICATE OF COMPLIANCE

Pursuant to 310 CMR 9.19, once the proposed project is completed you must file a Request for a Certificate of Compliance form, BRP WW05, within sixty (60) days of completion but in no event later

ISSUANCE OF CHAPTER 91 WATERWAYS LICENSE
Waterways License Application No. W10-3162, License No. 13012
Town of Fairhaven, New Bedford Harbor, Marsh Island Restoration, Bristol County

Pursuant to 310 CMR 9.17(3), any Notice of Claim requesting an adjudicatory hearing must include the following information:

(a) the MassDEP Waterways Application File Number;
(b) the complete name, address, fax number and telephone number of the applicant;
(c) the address of the project;
(d) the complete name, address, fax number, and telephone number of the party filing the request and, if represented by counsel, the name, address, fax number, and phone number of the attorney;
(e) if claiming to be a person aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found in 310 CMR 9.02;
(f) a clear statement that a formal adjudicatory hearing is being requested;
(g) a clear statement of the facts which are the grounds for the proceedings, the specific objections to the MassDEP's written decision, and the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written decision; and
(h) a statement that a copy of the request has been sent to: the applicant and the municipal official of the city or town where the project is located.

Dismissal of request

The request for appeal will be dismissed if the filing fee is not paid, unless the appellant is exempt or is granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Please feel free to contact Lisa Ramos of the Waterways Regulation Program, (508) 946-2748, if you have any questions pertaining to the recording of your Waterways license or Certificate of Compliance.

Sincerely,

for Elizabeth A. Kouloheras, Chief
Wetlands and Waterways Program

cc: w/enc. Ben Lynch, Waterways Section Chief, DEP Boston
Office of Coastal Zone Management
Fairhaven Harbormaster
Steve Block, NOAA
John C. Darwin, President, Fairhaven Acushnet Land Preservation Trust
Mark Rasmussen, President, The Coalition for Buzzards Bay
File copy

Michael Girvan, Program Coordinator
Waterways Regulation Program
Department of Environmental Protection
1 Winter Street, 5th Floor
Boston, Massachusetts 02108

RE: **NOTIFICATION OF WATERWAYS LICENSE RECORDATION**
Waterways License ***No. 13012***
Waterway ***New Bedford Harbor***
Municipality ***Fairhaven***
County ***Bristol***

Dear Mr. Girvan:

This is to notify you that the above referenced Waterways license was recorded with the appropriate Registry of Deeds/ Land Court for this project location and to provide your office with the following recordation information.

Date of Recordation: _____
County Registry of Deeds/ Land Court: _____
Book number_____, and page number(s) _____.

Sincerely,

_____, Chapter 91 Waterways Amnesty Interim Licensee

License is void if not recorded within sixty (60) days of issuance.

The Commonwealth of Massachusetts

No. 13012

Whereas, Town of Fairhaven

of -- Fairhaven -- in the County of -- Bristol -- and Commonwealth aforesaid, has applied to the Department of Environmental Protection for license to – restore a salt marsh, construct and maintain tidal creeks and salt pools, an earthen berm, pedestrian bridge with associated rip rap, coir logs, excavate and dredge --

and has submitted plans of the same; and whereas due notice of said application, and of the time and place fixed for a hearing thereon, has been given, as required by law, to the -- Board of Selectmen -- of the Town of -- Fairhaven. --

NOW, said Department, having heard all parties desiring to be heard, and having fully considered said application, hereby, subject to the approval of the Governor, authorizes and licenses the said

-- Town of Fairhaven --, subject to the provisions of the ninety-first chapter of the General Laws, and of all laws which are or may be in force applicable thereto, to – restore a salt marsh, construct and maintain tidal creeks and salt pools, an earthen berm, pedestrian bridge with associated rip rap, coir logs, excavate and dredge --

in and over the waters of – New Bedford Harbor – off of Tabor Street in the -- Town -- of -- Fairhaven -- and in accordance with the locations shown and details indicated on the accompanying DEP License Plan No. 13012 (8 sheets).

PRINTED ON RECYCLED PAPER

The structures hereby authorized shall be limited to the following use(s): to provide public access to waterfront open space for passive recreational purposes and shoreline stabilization for the protection of a water dependent use.

This license is issued for an unlimited term in accordance with 310 CMR 9.15(1)(c).

Special Waterways Conditions:

1. In accordance with any license condition, easement, or other public right of lateral passage that exists in the area of the subject property lying between the high and low water marks, the Licensee shall allow the public in the exercise of such rights to pass freely around or over all structures within such intertidal area. Accordingly, the Licensee shall place and maintain, in good repair, a public access sign at each property line adjacent to the mean high water shoreline and in the parking lot off of Taber Street. Said signs, designed in accordance with the signage specifications provided by the Department, shall be posted immediately upon completion of construction. Nothing in this condition shall be construed as preventing the Licensee from excluding the public from portions of said structure(s) or property not intended for lateral passage.

2. In partial compensation for private use of structures on tidelands of the Commonwealth, which interferes with the rights of the public to use such lands, the Licensee shall allow the public to pass on foot, for any purpose and from dawn to dusk, within the area of the subject property lying seaward of the high water mark. This condition shall not be construed to prevent the Licensee from taking reasonable measures to discourage unlawful activities by users of the area(s) intended for public passage, including but not limited to trespassing on the adjacent private areas and deposit of refuse of any kind or nature in the water or on the shore. Further, the exercise by the public of free on-foot passage in accordance with this condition shall be considered a permitted use to which the limited liability provisions of M.G.L. c.21, s.17c apply.

3. The Licensee shall impose no limitations on the hours or availability of the public access provisions described in Special Waterways License Conditions 1 and 2, except as indicated therein.

4. The Licensee may adopt reasonable rules governing the publicly accessible areas of the site, subject to review and written approval by the Department, as are necessary for the protection of public health and safety and private property, and to ensure public use and enjoyment.

5. All work authorized herein shall be completed within five (5) years of the date of license issuance. Said construction period may be extended by the Department for one or more one year periods without public notice, provided that the Applicant submits to the Department, thirty (30) days prior to the expiration of said construction period, a written request to extend the period and provides an adequate justification for said extension.

6. The Licensee shall request in writing that the Department issues a Certificate of Compliance in accordance with 310 CMR 9.19. The request shall be accompanied by a certification by a registered professional engineer licensed in the Commonwealth that the project was completed in accordance with the License.

Special Waterways Dredge Conditions:

1. Excavation/Dredging shall be performed by mechanical methods.

2. Dredging shall be to a maximum of 2.0 feet below the mean low water (MLW) NAVD 88 datum.

3. Excavated material from the island and dredge material shall be utilized xxx.

4. Within 90 days of completion of the dredging authorized herein, the Licensee shall furnish to the Department a suitable plan showing the depths at MLW over the area dredged.

Please see pages 4 and 5 for additional conditions this license.

Duplicate of said plan, number 13012 is on file in the office of said Department, and original of said plan accompanies this License, and is to be referred to as a part hereof.

STANDARD WATERWAYS LICENSE CONDITIONS

1. Acceptance of this Waterways License shall constitute an agreement by the Licensee to conform with all terms and conditions stated herein.

2. This License is granted upon the express condition that any and all other applicable authorizations necessitated due to the provisions hereof shall be secured by the Licensee prior to the commencement of any activity or use authorized pursuant to this License.

3. Any change in use or any substantial structural alteration of any structure or fill authorized herein shall require the issuance by the Department of a new Waterways License in accordance with the provisions and procedures established in Chapter 91 of the Massachusetts General Laws. Any unauthorized substantial change in use or unauthorized substantial structural alteration of any structure or fill authorized herein shall render this Waterways License void.

4. This Waterways License shall be revocable by the Department for noncompliance with the terms and conditions set forth herein. This license may be revoked after the Department has given written notice of the alleged noncompliance to the Licensee and those persons who have filed a written request for such notice with the Department and afforded them a reasonable opportunity to correct said noncompliance. Failure to correct said noncompliance after the issuance of a written notice by the Department shall render this Waterways License void and the Commonwealth may proceed to remove or cause removal of any structure or fill authorized herein at the expense of the Licensee, its successors and assigns as an unauthorized and unlawful structure and/or fill.

5. The structures and/or fill authorized herein shall be maintained in good repair and in accordance with the terms and conditions stated herein and the details indicated on the accompanying license plans.

6. Nothing in this Waterways License shall be construed as authorizing encroachment in, on or over property not owned or controlled by the Licensee, except with the written consent of the owner or owners thereof.

7. This Waterways License is granted subject to all applicable Federal, State, County, and Municipal laws, ordinances and regulations including but not limited to a valid final Order of Conditions issued pursuant to the Wetlands Protection Act, G.L. Chapter 131, s.40.

8. This Waterways License is granted upon the express condition that the use of the structures and/or fill authorized hereby shall be in strict conformance with all applicable requirements and authorizations of the DEP, Division of Water Pollution Control.

9. This License authorizes structure(s) and/or fill on:

x Private Tidelands. In accordance with the public easement that exists by law on private tidelands, the licensee shall allow the public to use and to pass freely upon the area of the subject property lying between the high and low water marks, for the purposes of fishing, fowling, navigation, and the natural derivatives thereof.

x Commonwealth Tidelands. The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, upon lands lying seaward of the low water mark. Said lands are held in trust by the Commonwealth for the benefit of the public.

_ a Great Pond of the Commonwealth. The Licensee shall not restrict the public's right to use and to pass freely upon lands lying seaward of the high water mark for any lawful purpose.

No restriction on the exercise of these public rights shall be imposed unless otherwise expressly provided in this license.

10. Unless otherwise expressly provided by this license, the licensee shall not limit the hours of availability of any areas of the subject property designated for public passage, nor place any gates, fences, or other structures on such areas in a manner that would impede or discourage the free flow of pedestrian movement thereon.

STANDARD WATERWAYS DREDGING CONDITIONS

1. This Waterways License is issued subject to all applicable federal, state, county, and municipal laws, ordinances, by-laws, and regulations, including but not limited to, a valid Order of Conditions issued pursuant to the Wetlands Protection Act, M.G.L. Chapter 131, s.40. In particular, this issuance is subject to the provisions of Sections 52 to 56, inclusive of Chapter 91 of the General Law and its Regulations 310 CMR 9.40(5), which provides, in part, that the transportation and dumping of dredge material shall be done under the supervision of the Department, and, when required, the Licensee shall provide at his/her expense a dredge inspector approved by the Department.

2. This Waterways License is issued upon the express condition that the dredging, transport and/or disposal of dredged material shall be in strict conformance with the Water Quality Certificate issued by the DEP, Waterways Regulation Program.

3. All subsequent maintenance dredging, and transport and disposal of dredged material during the term of this License shall conform to the standards and conditions applied to the original dredging operation performed under this License.

4. After completion of the work hereby authorized, the Licensee shall furnish to the Department a suitable plan showing the depths at mean low water over the area dredged. Dredging under this License shall be conducted so as to cause no unnecessary obstruction of the free passage of vessels, and care shall be taken to cause no shoaling. If, however, any shoaling is caused, the Licensee shall, at his/her expense, remove the shoal areas. The Licensee shall pay all costs associated with such work. Nothing in this License shall be construed to impair the legal rights of any person, or to authorize dredging on land not owned by the Licensee without consent of the owner(s) of such property.

5. The Licensee shall assume and pay all claims and demands arising in any manner from the work authorized herein, and shall save harmless and indemnify the Commonwealth of Massachusetts, its officers, employees, and agents from all claims, suits, damages, costs and expenses incurred by reason thereof.

6. The Licensee shall, at least three days prior to the commencement of any dredging in tide water, give written notice to the Department of the location and amount of the proposed work, and or the time at which work is expected to begin.

7. Whosoever violates any provision of this License shall be subject to a fine of $25,000 per day for each day such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or shall be subject to civil penalty not to exceed $25,000 per day for each day such violation occurs or continues.

The amount of tide-water displaced by the work hereby authorized has been ascertained by said Department, and compensation thereof has been made by the said – Town of Fairhaven -- by paying into the treasury of the Commonwealth -- zero dollars and zero cents ($0.00) -- for each cubic yard so displaced, being the amount hereby assessed by said Department. (0 cy = $0.00)

Nothing in this License shall be so construed as to impair the legal rights of any person.

This License shall be void unless the same and the accompanying plan are recorded within 60 days from the date hereof, in the Registry of Deeds for the County of Bristol.

IN WITNESS WHEREAS, said Department of Environmental Protection have hereunto set their hands this 28th day of June in the year two thousand eleven.

Commissioner _____

Department of Environmental Protection

Program Chief _____

THE COMMONWEALTH OF MASSACHUSETTS

This license is approved in consideration of the payment into the treasury of the Commonwealth by the said Town of Fairhaven --

of the further sum of -- zero dollars and zero cents ($0.00) --

the amount determined by the Governor as a just and equitable charge for rights and privileges hereby granted in the land of the Commonwealth.

BOSTON,

Approved by the Governor.

Governor

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
MARSH ISLAND SALT MARSH RESTORATION PROJECT
FAIRHAVEN, MASSACHUSETTS