

# **UPLAND, BENEFICIAL USE, AND SEDIMENT DEWATERING SITE INVESTIGATIONS PHASE 2**

## **Long Island Sound Regional Dredged Material Management Plan (DMMP)**

**Contract No. W912WJ-09-D-0001  
Task Order #24**



Prepared For:  
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New England District  
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November 15, 2010

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**Acronyms**

BBL	Borough/Block/Lot
CFR	Code of Federal Regulations
CRRA	Connecticut Resources Recovery Authority
CT DEP	Connecticut Department of Environmental Protection
CUGIR	Cornell University Geospatial Information Repository
DMMP	Dredged Material Management Plan
EPA	US Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
LIS	Long Island Sound
MARSEC	Coast Guard Marine Security
MBL	Map/Block/Lot
NRCS	Natural Resources Conservation Service
NYCDEC	New York City Department of Environmental Conservation
NYDOS	New York Department of State
NYSDEC	New York State Department of Environmental Conservation
NYNHP	New York Natural Heritage Program
OLISP	State of Connecticut, Office of Long Island Sound Programs
RI DEM	Rhode Island Department of Environmental Management
USACE	US Army Corps of Engineers
USDA	United States Department of Agriculture

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## **1.0 INTRODUCTION**

In June 2005, the Environmental Protection Agency (EPA) designated two open water dredged material disposal sites in Long Island Sound (LIS). These sites are intended to provide long-term, environmentally acceptable disposal options for potential use by federal, state, municipal and private entities, which must dredge channels, harbors, marinas and other aquatic areas to maintain conditions safe for marine commerce and recreational navigation. The Designation Rule (40 CFR 228.15(b)(4)) anticipated the development of a regional Dredged Material Management Plan (DMMP) for LIS. Subsequent to the publication of the Designation Rule, EPA, the US Army Corps of Engineers (USACE), and appropriate federal and state resource agencies agreed to partner in the development of a LIS DMMP. The LIS DMMP, which was initiated in 2006, will include an in-depth analysis of all potential dredged material management alternatives including open-water placement, beneficial use, upland placement, and innovative treatment technologies, which may be used by dredging proponents in developing alternatives analyses for dredging and dredged materials placement in the LIS vicinity.

One of the tasks undertaken by the USACE for the LIS was updating the Upland, Beneficial Use, and Sediment Dewatering Site Inventories for the region. Under this task, potential upland disposal, beneficial use, and sediment dewatering sites in the Long Island Sound region were identified. The 2009 report “Upland, Beneficial Use, and Sediment Dewatering Site Inventory Report” (USACE, 2009) describes, in preliminary fashion, sites potentially available for upland placement, beneficial use, or dewatering of dredged material in the Long Island Sound region. The initial report included a screening of the sites to identify the ones that were considered potentially viable for use by USACE in management of dredged material from Federal Navigation Projects. The current study builds on the 2009 work to more fully describe upland sites that may be available for processing or placement of dredged material from Federal projects. To distinguish this project from the prior one, this project is denoted Upland, Beneficial Use and Sediment Dewatering Site Investigations, Phase 2. Additional work is being done to characterize the other sites that were not considered feasible for use by Federal projects but could be used by State or local interests. This additional assessment will be documented in a separate report.

### **1.1 PURPOSE OF STUDY**

The objective of this project is to characterize potential upland, beneficial use, and sediment dewatering sites in the Long Island Sound region. Results from this analysis will be used to determine the feasibility of these sites for dewatering and upland placement of dredged material.

### **1.2 STUDY AREA**

The study area includes the entire State of Connecticut, Washington County, RI, and Westchester, Suffolk, Nassau, Queens, Kings (Brooklyn), New York (Manhattan), Bronx, and Westchester Counties in NY. Figure 1 shows the study area.



**Figure 1. Study Area**

## 2.0 METHODS

General methods used to complete the study included the following:

- **A final site inventory was developed**, based on information from the 2009 Site Inventory Report (USACE, 2009) and communication with USACE on other potentially viable sites.
- **Relevant information was downloaded from online sources**, for example parcel maps and wetland boundaries.
- **Site visits were conducted** to obtain information on site conditions, current use, and capacity to accept dredged material.
- **Site capacity calculations were performed** for beach nourishment sites and dewatering sites to estimate the volume of dredged material that could be accommodated by each site. These calculations were not necessary for landfills, habitat restoration sites, or re-development sites, where capacity estimates were pre-determined and obtained from site manager/operators.
- **Site summaries were produced** based on information gathered over the course of the study.

The following sections describe the methods in further detail.

## **2.1 DEVELOPMENT OF FINAL SITE INVENTORY**

The final site inventory was developed using the Phase I Site Inventory Report (USACE, 2009), along with information from the USACE on additional sites that could potentially accept dredged material. The Phase I Site Inventory Report (USACE, 2009) identified 157 potential sites that could potentially accept dredged material and 22 potential dewatering sites. The sites with capacity for material included 104 beaches, 5 habitat restoration sites, 6 landfills, 10 redevelopment-construction sites, 1 mine reclamation, 1 Brownfield site, and 30 concrete/asphalt plants. In consultation with the USACE, the concrete/asphalt plants were removed from the site investigations, as were municipal and county-owned beaches located greater than 2 miles from the Federal Navigation Projects in the study area.

The rationale for removing the concrete/asphalt plants was based on the fact that concrete/asphalt plants do not utilize silty material and the sandy material that the plants would use would be more appropriate for beach renourishment. The rationale for eliminating the renourishment sites located more than 2 miles from Federal Navigation Projects was based on the significant cost and logistical issues associated with pumping dredged material more than 2 miles from the dredging sites. Sites on the south side of Long Island (excluding habitat restoration sites), where it would be impractical to move dredge material, and sites the USACE no longer considered viable were also eliminated from further review.

Sites added to the inventory included Federal Shore Protection or Coastal Storm Damage Reduction projects in the study area, whether or not they were in the original Phase I Site Inventory Report (USACE, 2009). This was done to insure that potential beach renourishment sites within a reasonable pumping distance from the projects were considered. All State-owned beaches from the Phase I Site Inventory Report indicating a need for material were retained for further consideration in the final site inventory.

The final site inventory included 102 sites at 99 different locations. Of these 102 sites, 50 potential sites are located in Connecticut, 46 in New York, 5 in Rhode Island, and 1 in Pennsylvania (Table 1; Figure 2). The majority of the sites are beaches, with 30 municipal/county beaches, 10 state beaches, and 27 Federal Shore Protection beaches. The final site inventory also included 1 mine reclamation site, 6 landfills, 3 redevelopment/construction sites, 4 habitat restoration areas, and 21 potential dewatering sites.

The final site inventory, including site ID, location, category of site, and site name is provided in Tables 2 and 3. Table 2 includes all upland placement and beneficial use sites. Table 3 lists the dewatering sites.

**Table 1. Final Site Inventory Summary**

<b>Category</b>	<b>CT</b>	<b>NY</b>	<b>RI</b>	<b>PA</b>	<b>Total</b>
Beach – Municipal/County	18	10	2	0	30
Beach – State	2	8	0	0	10
Beach – Fed. Shore Protection	19	7	1	0	27
Mine	0	0	0	1	1
Landfill	3	3	0	0	6
Redevelopment/Construction	0	3	0	0	3
Habitat Restoration	0	4	0	0	4
Dewatering	8	11	2	0	21
<b>Total</b>	<b>50</b>	<b>46</b>	<b>5</b>	<b>1</b>	<b>102</b>

Note: Co-located sites were combined in the final site inventory (Tables 2 and 3): Site 455 (Federal Shore Protection) & 82 (Town Beach); CT-49 (dewatering) & 373 (landfill); 422 & 423 (redevelopment/construction).

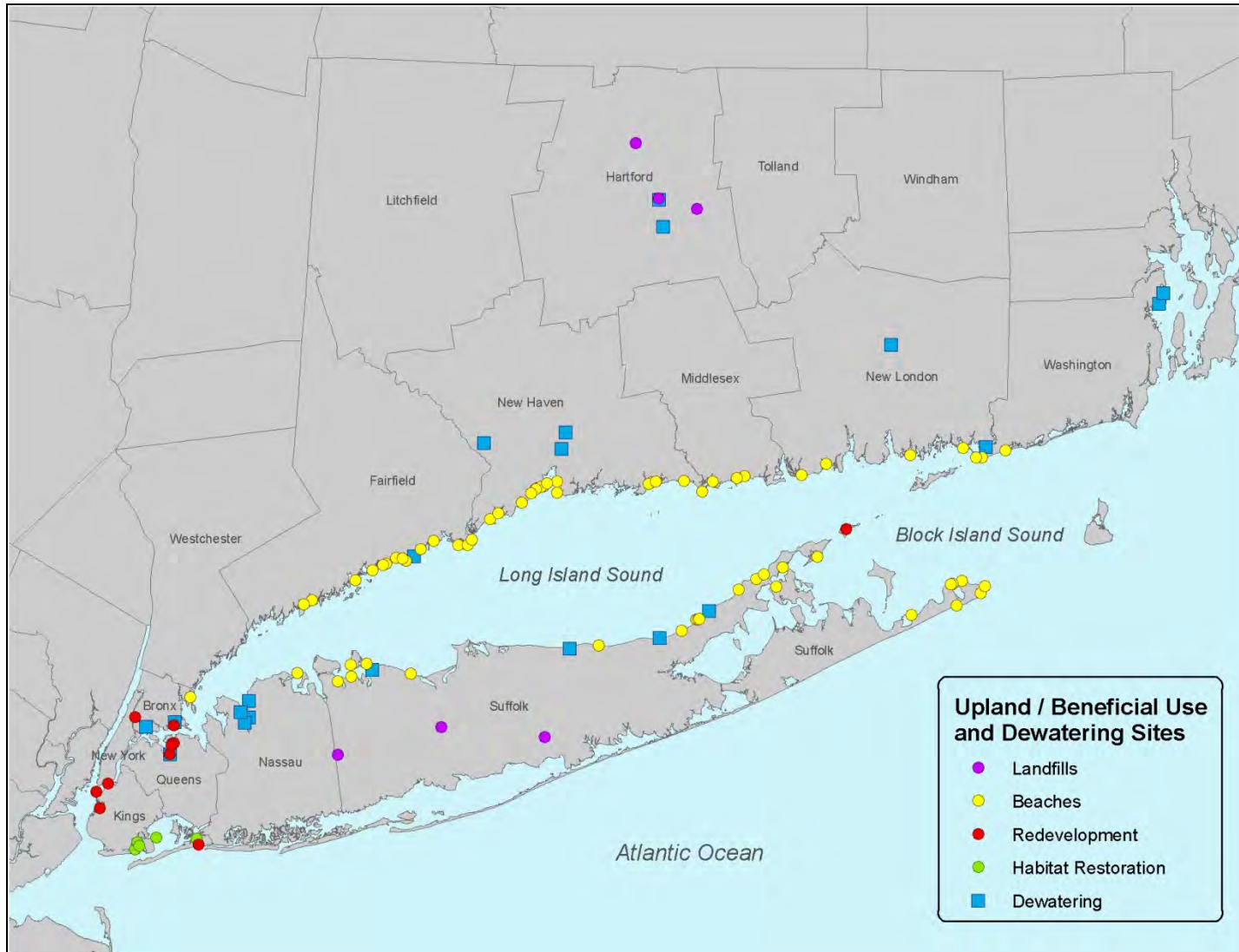


Figure 2. Distribution of Upland, Beneficial Use, and Dewatering Sites in Final Site Inventory

**Table 2. Upland and Beneficial Use Sites in Final Site Inventory**

Site ID	State	Town	Project Type	Site Name
323	CT	Bridgeport	Federal Shore Protection	Seaside Beach
433	CT	Fairfield	Federal Shore Protection	Southport Beach
434	CT	Fairfield	Federal Shore Protection	Sasco Hill Beach
436	CT	Fairfield	Federal Shore Protection	Jennings Beach
443	CT	Guilford	Federal Shore Protection	Guilford Point Beach
365	CT	Madison	Federal Shore Protection	Hammonasset State Park
457	CT	Madison	Federal Shore Protection	East Wharf Beach
364	CT	Milford	Federal Shore Protection	Silver Sands State Park
444	CT	Milford	Federal Shore Protection	Gulf Beach
451	CT	Milford	Federal Shore Protection	Woodmont Shore Beach
337	CT	New Haven	Federal Shore Protection	Lighthouse Point Park Beach
320	CT	Norwalk	Federal Shore Protection	Calf Pasture Beach
441	CT	Stamford	Federal Shore Protection	Cove Island Beach
442	CT	Stamford	Federal Shore Protection	Cummings Park Beach
450	CT	Stratford	Federal Shore Protection	Short Beach
447	CT	West Haven	Federal Shore Protection	Prospect Beach
438	CT	Westport	Federal Shore Protection	Burial Hill Beach
440	CT	Westport	Federal Shore Protection	Compo Beach
449	CT	Westport	Federal Shore Protection	Sherwood Island State Park
181	NY	Bronx	Federal Shore Protection	Orchard Beach
453	NY	East Hampton	Federal Shore Protection	Lake Montauk Harbor
63	NY	Huntington	Federal Shore Protection	Asharoken Beach
456	NY	Oyster Bay	Federal Shore Protection	Bayville
454 East	NY	Southold	Federal Shore Protection	Hashamomuck Cove - County Road 48
454 West	NY	Southold	Federal Shore Protection	Hashamomuck Cove - Kenney's Beach
384	RI	Westerly	Federal Shore Protection	Misquamicut State Beach
455 / 82	NY	Mattituck	Federal Shore Protection / Beach (Town)	Mattituck Harbor 111 / Bailie's Beach
367	CT	East Lyme	Beach (State)	Rocky Neck State Park
368	CT	Groton	Beach (State)	Bluff Point State Park
171	NY	Wading River	Beach (State)	Wildwood State Park
173	NY	East Hampton	Beach (State)	Hither Hills State Park
177	NY	East Hampton	Beach (State)	Shadmoor State Park
178	NY	East Hampton	Beach (State)	Camp Hero State Park
179	NY	East Hampton	Beach (State)	Montauk Point State Park
170	NY	Kings Park	Beach (State)	Sunken Meadow State Park
180	NY	Orient	Beach (State)	Orient Beach State Park
445	NY	Riverhead	Beach (State)	Jamesport State Park

Site ID	State	Town	Project Type	Site Name
446	NY	East Hampton	Beach (County)	Theodore Roosevelt County Park
343	CT	Clinton	Beach (Town)	Clinton Town Beach
474	CT	Fairfield	Beach (Town)	South Pine Creek Beach
339	CT	Guilford	Beach (Town)	Jacobs Beach
470	CT	Guilford	Beach (Town)	Chaffinch Island Park
459	CT	New Haven	Beach (Town)	Fort Nathan Hale Park
348	CT	Old Lyme	Beach (Town)	White Sands Beach
480	CT	Stonington	Beach (Town)	duBois Beach
467	CT	Stratford	Beach (Town)	Long Beach
468	CT	Stratford	Beach (Town)	Russian Beach
325	CT	West Haven	Beach (Town)	Altschuler Beach
327	CT	West Haven	Beach (Town)	Bradley Point Park
329	CT	West Haven	Beach (Town)	Morse Beach
330	CT	West Haven	Beach (Town)	Oak Street Beach
331	CT	West Haven	Beach (Town)	Peck Beach
332	CT	West Haven	Beach (Town)	Sandy Point
333	CT	West Haven	Beach (Town)	Savin Rock
344	CT	Westbrook	Beach (Town)	Middle Beach
345	CT	Westbrook	Beach (Town)	West Beach
121	NY	East Hampton	Beach (Town)	Gin Beach
64	NY	Huntington	Beach (Town)	Hobart Beach
67	NY	Huntington	Beach (Town)	Crescent Beach (Huntington)
68	NY	Huntington	Beach (Town)	Gold Star Battalion Beach
81	NY	Mattituck	Beach (Town)	Breakwater Park Beach
111	NY	Shelter Island	Beach (Town)	Crescent Beach (Shelter Island)
76	NY	Southold	Beach (Town)	Southold Town Beach
79	NY	Southold	Beach (Town)	Gull Pond Beach (Norman E. Klipp Park)
381	RI	Westerly	Beach (Town)	Watch Hill Beach
382	RI	Westerly	Beach (Town)	Napatree Point Beach
427	NY	Brooklyn	Habitat Restoration	Plumb Beach
430	NY	Brooklyn	Habitat Restoration	White Island
431	NY	Brooklyn	Habitat Restoration	Gerritsen Creek
429	NY	Jamaica Bay	Habitat Restoration	Jamaica Bay Marsh Islands
251	CT	Manchester	Active Landfill Site	Manchester Landfill
272	CT	Windsor	Active Landfill Site	Windsor-Bloomfield Landfill
61	NY	Brookhaven	Active Landfill Site	Town of Brookhaven Landfill
60	NY	Islip	Active Landfill Site	Blydenburgh Road Landfill Complex, Clean Fill Phase 1 + 2
59	NY	Melville	Active Landfill Site	110 Sand Company Clean Fill Disposal Site

Site ID	State	Town	Project Type	Site Name
422 / 423	NY	Flushing	Redevelopment/Construction	Flushing Airport Wetlands / Flushing Airport Uplands
437	NY	Southold	Redevelopment/Construction	Plum Island
417	PA	Hazelton	Mine Reclamation	Hazelton Mines

**Table 3. Dewatering Sites in Final Site Inventory**

Site ID	State	Town	Project Type	Site Name
CT-49 / 373	CT	Hartford	Dewatering / Active Landfill Site	CRRA Hartford Landfill
CT-41	CT	Ansonia	Dewatering	Ansonia Target Store
CT-50	CT	East Hartford	Dewatering	Goodwin College
CT-8	CT	Fairfield	Dewatering	Fairfield Public Works Site
CT-30-A	CT	Hamden & North Haven	Dewatering	North Haven Tire Pond Site
CT-28	CT	New Haven	Dewatering	Anastasio Trucking Site
CT-54	CT	Norwich	Dewatering	P&W Railroad Co. Site
CT-35	CT	Stonington	Dewatering	Osbrook Point Agricultural Fields
NY-5-A	NY	Huntington	Dewatering	Northport Boat Ramp and Fields
NY-5-B	NY	Huntington	Dewatering	Northport Power Station
NY-18	NY	Bronx	Dewatering	Barry St. Industrial Site
NY-28	NY	Brookhaven	Dewatering	Shoreham Power Station
NY-7-A	NY	Glen Cove	Dewatering	Garvies Pt. Remediation Site
NY-1	NY	Mattituck	Dewatering	Mattituck Agricultural Fields
NY-10	NY	North Hempstead	Dewatering	Port Washington Landfill
NY-29	NY	North Hempstead	Dewatering	North Hempstead Aerodrome
NY-8	NY	North Hempstead	Dewatering	Glen Cove Industrial Site
NY-3	NY	Northville	Dewatering	Northville Agricultural Fields
NY-16-B	NY	Queens	Dewatering	Queens Parking Garage
RI-4-C	RI	North Kingstown	Dewatering	Quonset Point South
RI-5	RI	North Kingstown	Dewatering	Quonset Point North

## 2.2 BACKGROUND DATA COLLECTION

Once the final site inventory was developed, background data necessary to prepare the detailed site summaries was gathered. Information describing parcel boundaries, wetlands, habitat areas for Federal or State listed species, soils, Federal Emergency Management Agency (FEMA) flood zones, zoning, and cultural resources was obtained from a variety of sources. This information will be used in the screening of potential



sites for use in dredged material management plans for Federal Navigation Projects. A description of the data sources and types of information gathered is provided below.

### 2.2.1 Parcel Boundaries

Plot plan or tax assessor map data were obtained for each location in the final site inventory. These were obtained as digital files from tax assessor database sources where available, or from paper copies in cases where digital versions could not be obtained. Source information for parcel boundaries from the various regions throughout the study area is shown in Table 4.

**Table 4. Data Sources Used for Parcel Boundaries**

State	Municipality/County	Parcel Source
CT	Towns of Ansonia, Clinton, East Hartford, East Lyme, Groton, Guilford, Hartford, Madison, Manchester, Milford, New Haven, Norwalk, Norwich, Old Lyme, Stamford, Stonington, Stratford, West Haven, Westbrook, Westport, and Windsor	Digital parcel data from CT DEP GIS file: Connecticut Parcels (CT DEP, 2010)
CT	Town of Bridgeport	Parcel map from City of Bridgeport GIS (City of Bridgeport, 2010)
CT	Town of Fairfield	Town of Fairfield, CT Planning and Zoning Districts Map (Town of Fairfield, 2008)
NY	Suffolk County	Digital parcel data from Suffolk County Real Property Tax Service Agency (personal communication)
NY	Nassau County	Parcel maps from Nassau County Land Record Viewer (Nassau County, 2010)
NY	Bronx, Queens, Brooklyn Boroughs	Parcel maps from New York Finance, Digital Tax Map Online (2010)
RI	Town of North Kingstown	Parcel maps from North Kingstown RI Online GIS (North Kingstown RI, 2006)
RI	Town of Westerly	Parcel maps from Town of Westerly, RI GIS (Westerly RI, 2010)
PA	Town of Hazelton	Parcel data not obtained

The digital parcel boundary data for sites in Connecticut and Suffolk County were displayed in ESRI's GIS software ArcGIS. For the sites where digital boundary datalayers were unavailable, parcel maps were brought into ArcGIS as images and georeferenced to aerial photography. The parcel boundaries were then captured digitally

through heads-up digitizing. Parcel reference IDs (map/block/lot; borough/block/lot; etc.) were saved in associated attribute tables.

Parcel boundaries and reference IDs were obtained for all properties in the final site inventory identified with a potential to accept dredged material. Parcel boundaries and reference IDs were also obtained for abutting properties. These were defined as properties directly abutting the dredged material site, as well as properties directly across a road from the dredged material site. Parcel boundaries for sites and abutters were overlain on Google Earth aerial photography. The resulting parcel maps are included with each site summary in Section 4.0.

### 2.2.2 Wetlands

Information on mapped wetlands was gathered from State online information sources and is presented with each site summary in Section 4.0. Connecticut wetlands data were obtained as an ArcGIS shapefile from the CT DEP Tidal Wetlands 1990s data layer available online (CT DEP, 2002). This data layer shows all mapped tidal wetlands across the state of Connecticut. The mapping was compiled by the State of Connecticut, Office of Long Island Sound Programs (OLISP) using two sources: the 1994 Ramsar Tidal Wetlands Mapping; and the 1995 OLISP Tidal Wetlands Mapping. The tidal wetland boundaries are not regulatory boundaries, but rather a guide to the location of tidal wetlands throughout the state. The data layer shows the presence/absence of tidal wetlands, and does not provide information on type of tidal wetland. Information on the location of mapped freshwater wetlands for the state of Connecticut is not provided by CT DEP.

For New York, online data for tidal wetlands were obtained from the NY State GIS Clearinghouse. The data were obtained as an ArcGIS shapefile entitled *Tidal Wetlands – NYC and Long Island – 1974*, produced by NYSDEC (2005). This data layer represents the most recent digital mapping of tidal wetlands for the study area. The data were produced by NYSDEC by digitizing the official 1974 tidal wetlands inventory maps. Categories of tidal wetlands include the following:

- Dredged spoil – All areas of fill material (regulated area).
- Formerly connected - The tidal wetland zone in which normal tidal flow is restricted by man-made causes.
- Fresh marsh - The tidal wetland zone found primarily in the upper tidal limits of riverine systems where significant freshwater inflow dominates the tidal zone (regulated area).
- High marsh - The normal uppermost tidal wetland zone usually dominated by salt meadow grass, *Spartina patens* and *Distichlis spicata*. This zone is periodically flooded by spring and storm tides (regulated area).
- Intertidal marsh - The vegetated tidal wetland zone lying generally between average high and low tidal elevation in saline waters (regulated area).
- Coastal shoals, bars and mudflats - The tidal wetland zone that at high tide is covered by saline or fresh tidal waters, at low tide is exposed or is covered by

water to a maximum depth of approximately one foot, and is not vegetated (regulated area).

Freshwater wetland data in New York were obtained from the Cornell University Geospatial Information Repository (CUGIR). The data were obtained as an ArcGIS shapefile entitled, Freshwater Wetlands, produced by NYSDEC (2010). DEC based the data layer on the official NYS Freshwater Wetlands Maps (and updates) as described in Article 24-0301 of the Environmental Conservation Law. The wetland lines indicate the approximate location of the actual boundaries of the wetlands. The data layer shows the presence/absence of freshwater wetlands, and does not provide information on type of wetland.

Wetland data for sites in Rhode Island were obtained online from Rhode Island GIS. The ArcGIS shapefile, Wetlands of Rhode Island, was produced by RI GIS using aerial photography from 1988 (RI GIS, 2010). Categories of wetlands at the project sites include the following:

- Emergent wetland – marsh/wet meadow
- Estuarine emergent wetland
- Marine/estuarine rocky shore
- Marine/estuarine unconsolidated shore
- Palustrine open water
- Scrub-shrub wetland – shrub swamp

### *2.2.3 State and Federally Listed Species Habitat*

Like the wetlands data layers, information on State and Federally listed rare, threatened, and endangered species were obtained from online sources. Sites containing habitat for rare species are indicated in the summaries provided in Section 4.0. Habitat locations for areas in Connecticut were obtained as an ArcGIS shapefile from the CT DEP Natural Diversity Database Areas layer (CT DEP, 2010). The data represent general locations of endangered, threatened and special concern species and significant natural communities. The layer, which is updated every 6 months, is based on information collected by CT DEP staff, cooperating scientists, conservation groups, and landowners. The locations provided for the species are created by randomly shifting the true locations of each species and then adding a 0.25 mile buffer distance to each point. Thus, the exact location of the species or community falls somewhere within the polygon area and not necessarily in the center. Species names are not provided in the data layer to protect sensitive species from collection and disturbance.

State and Federally listed species habitat areas for New York were obtained from the New York Natural Heritage Program (NYNHP). A series of three related ArcGIS shapefiles were supplied directly by the NYNHP for locations in the final site inventory. The following types of information are included:

- Records of rare plants and animals last documented since 1980, for which relatively precise locations are known.
- Records of rare plants and animals either last documented before 1980 (historical records), and/or records for which precise or relatively precise locations are not known.
- Records of significant natural communities having high ecological and conservation value.

To facilitate display of the information, data from these three data layers were combined into one shapefile. Species names are not provided in the data layer to protect sensitive species from collection and/or disturbance.

Information for Rhode Island State and Federally listed species habitat was obtained from RI Department of Environmental Management (RI DEM) GIS as the ArcGIS shapefile entitled, Natural Heritage Areas (RI DEM/Nature Conservancy Natural Heritage Program, 1990). This data layer contains information on estimated habitat and range of rare species and noteworthy natural communities in Rhode Island. The delineations were estimated, based on actual data for rare species, as well as knowledge of the biology of the species. The boundaries were also enlarged to include reasonable buffers from 200-500 feet from development, non-compatible land uses, pollutions sources, etc. As with the other states, species names are not provided to ensure adequate protection of the plants and animals.

#### *2.2.4 Soils Data*

Soils data were obtained for dewatering sites, and redevelopment sites. Soils properties are important for these types of sites, where construction of dikes, dewatering basins, or other types of development depends on soil properties. Mapped soil types for each parcel were obtained from the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) online (USDA, 2010). Mapped soil types are indicated in site summaries for the dewatering and redevelopment sites in Section 4.0, and a detailed description of soil properties, including engineering properties is included in Appendix A.

#### *2.2.5 Flood Zone Data*

FEMA flood zone information was obtained from the Map Service Center available on line (FEMA, 2010). FEMA flood zone designations (V-zone, A-zone) were determined for each of the dewatering and redevelopment sites. The A-zone is the land area subject to flooding during a 100-year storm event. The velocity flood zone, or V-zone, includes land areas subject to flooding during a 100-year storm event, where additional hazards due to storm-induced wave action are also likely. The sites in this report are classified as with “VE” and “AE” designations. The “E” in the VE and AE zone designations refers to the known elevation of the 100-year storm event. In a VE zone, for example, the land is subject to wave action during the 100-year storm event, and the expected elevation of the water during the storm is known.

These FEMA flood zones are used in planning, permitting, and insuring coastal land, and would be important factors to consider when planning projects such as dewatering or redevelopment. The flood zone designations for sites within the 100-yr floodplain are presented in the site summaries in Section 4.0.

### *2.2.6 Zoning Information*

Information on municipal zoning for locations in the final site inventory was obtained from online research. Data sources included Town/Borough web sites, as well as public tax assessor databases such as Vision Appraisal and NYC Finance. Zoning information is presented for each location in the site summaries in Section 4.0.

### *2.2.7 Cultural Resources*

Information on cultural resources for locations in the final site inventory was gathered from the recently completed Cultural Resources Inventory prepared for the LIS DMMP (USACE, 2010). The Cultural Resources Inventory covered areas underwater within one-half mile of the shoreline and inland a distance of 10 miles. As such, the majority of sites within the final site inventory were included in the Cultural Resources Inventory. Potential sites for dredged materials placement or dewatering were compared with ArcGIS shapefiles for cultural resources for the following types of information:

- Historic Cultural Resources - Locations of all recorded archaeological sites (terrestrial and underwater), and historic districts, sites, buildings, structures, and objects listed or eligible for listing in the National Register of Historic Places.
- Terrestrial Archaeological Sites – Locations of all recorded aboveground archaeological sites (Confidential – Not for Public Distribution).
- Marine Archaeological Sites – Locations of all recorded underwater archaeological sites (Confidential – Not for Public Distribution).

Any site or parcel from the final site inventory that contained one or more of the cultural resources listed above was identified and noted in the site summaries provided in Section 4.0. Marine archaeological sites within one half mile of the shore were included for coastal sites included in this investigation. Appendix B provides a summary of the types of cultural resources present and also identifies the sites included in this study that were not considered under the Cultural Resources Inventory (USACE, 2010).

## **2.3 SITE VISITS**

Site visits were conducted between June 21 and August 4, 2010. Prior to the site visits, the various site owner/operators were contacted to secure access to the area and to obtain information on current use and acceptability of dredged material placement.

During the site visits, information on physical characteristics, including site size, condition, current use, abutting property conditions, site access, wetlands, and other readily apparent resources was collected and recorded on field data sheets. Photographs were taken to characterize the sites. Field data sheets and site operator interviews are included in Appendix C.

For beaches, additional information collected on-site included grain size, type and condition of erosion control/shore stabilization structures, berm width and location, dune characteristics, and offshore features such as mooring fields or navigation channels.

For the habitat restoration sites, the USACE project manager was interviewed to obtain information on existing conditions, prior conditions, purpose and nature of the restoration project, any particular species expected to benefit from the project, specific requirements for dredged material placement, and interested agencies or groups. Because of the offshore nature of the habitat restoration sites, field visits were limited to viewing the sites from onshore vantage points.

At landfills, site managers were interviewed to obtain information on acceptability of dredged material at the site, site capacity, tipping fees, and times of day/week/year when material is accepted. A questionnaire for landfill operators was completed during the site visits, and a copy of each completed questionnaire is provided in Appendix C.

At the redevelopment locations, site managers were interviewed to obtain information on the project plan for redevelopment, potential use for dredged material, types of material accepted at the site, and timeframe for redevelopment. A questionnaire for redevelopment site operators was completed during the site visits, and a copy of each completed questionnaire is provided in Appendix C.

At the dewatering locations, site managers were interviewed to obtain information on current and historical land use, availability of the site for dewatering, access by water, rail and land, shoreline stabilization, potential staging and dewatering areas within the parcel, and presence/absence of wetlands or other sensitive environmental resources on the site. Operator questionnaires were completed during the site visits, and a copy of each completed questionnaire is provided in Appendix C.

## **2.4 SITE CAPACITY CALCULATIONS**

Site capacity calculations for placement of dredged materials were performed for beaches and dewatering sites. Calculations were not required for habitat restoration sites, landfills, redevelopment/construction sites, or the mine reclamation site since capacities to store material at these sites were provided by the site operators or the associated planning documents. Methodologies utilized for the site capacity calculations were developed during the early stages of the project through consultation with the USACE. Details of the calculation procedures and assumptions were provided in two separate memoranda, which were reviewed and discussed with the USACE (Appendices D and E). The following sections describe briefly the methods used to estimate capacity for beaches and dewatering sites.

### *2.4.1 Beach Capacity Calculations*

The potential for various beaches throughout the study area to accept dredged material was determined using information gathered during the site visits, interviews with site operators, and review of aerial photography. Although present day conditions on the sites did not always suggest an immediate need for beach nourishment, capacity

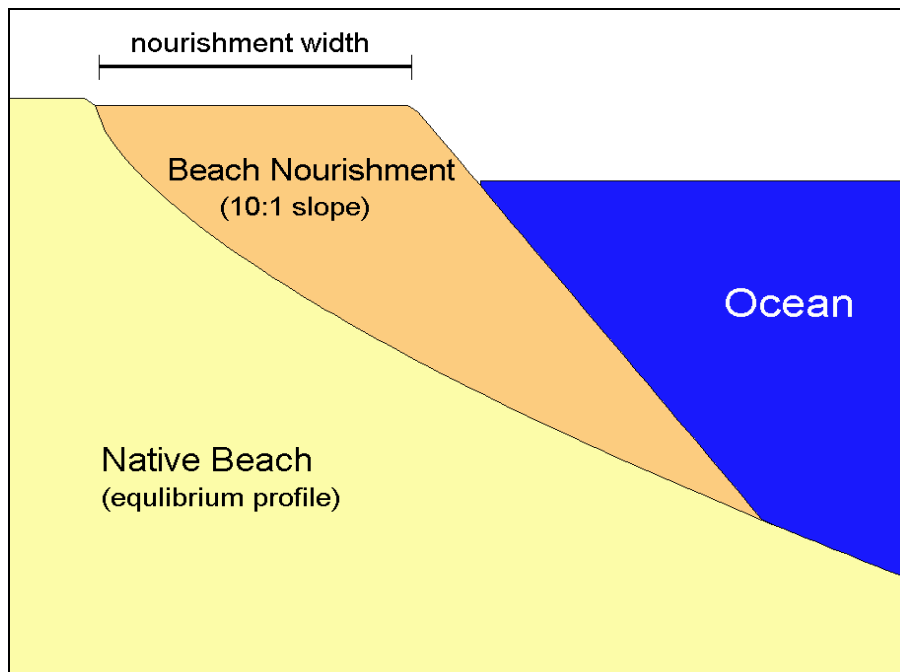
calculations were performed where feasible, to mitigate against future erosion and storm damages, and to enhance the recreational resource.

The general approach for the beaches was to estimate a nourishment volume per unit beach length (cy/linear ft of beach), and to multiply this by the length of beach to be nourished. The unit nourishment volume was obtained by superimposing a basic beach nourishment template on the existing beach profile, and then computing the area between the two beach profiles. In Figure 3 this area is represented by the orange colored beach nourishment area.

It was assumed that the profiles of the existing beaches could be described using equilibrium beach profile theory. This assumption was necessary since actual field surveys of beach conditions at each site were not available. The equilibrium beach profile is estimated using the empirical equation:

$$h(x) = Ax^{\frac{2}{3}}$$

where  $h(x)$  is the depth below the mean water surface,  $x$  is the cross shore distance, and  $A$  is a sediment scale parameter that can be related to physical properties of the beach sediment. Many studies have been conducted relating the sediment scale parameter to the median size of beach sediment (USACE, 2002).



**Figure 3. Example Equilibrium Beach Profile for Native Beach and Assumed Beach Fill Profile.**

Appropriate values for the sediment scale parameter were chosen based on observations of sediment grain size made during the site visits. The size characteristics of the native

beach sand were determined visually according to the Wentworth size classification scheme and recorded on the field notes. Observations were made from the intertidal portion of the beach and samples were also collected for future reference. The sediment grain size data were then used to select appropriate sediment scale parameters (A). The equilibrium beach profile, or beach slope, was then calculated for each beach site.

Parameters for the beach nourishment, including length and berm width, were determined using criteria described in Appendices D and E. The criteria were based on conditions documented during the site visits, review of parcel boundaries and aerial photography, and professional engineering judgment. In most cases, the nourishment lengths were designed to extend across the entire beach parcel. Exceptions were made in areas with sensitive wetland resources where buffers were applied to protect the resources. Nourishment lengths were also reduced on beaches without terminal engineering structures that were located updrift of navigational channels or areas in need of tidal flushing.

Berm width for the beach nourishment templates was determined using best professional judgment. In general, the berm widths were set equal to 10% of the nourishment length, but not more than 100 feet wide. Certain modifications to this standard were made using the following site specific criteria:

- Berm widths for beaches located downdrift of a terminal structure protecting a navigational channel were set to the smaller of (a) 10% of the nourishment length, (b) 100 feet, or (c) distance between shoreline and end of terminal structure.
- Berm widths for beaches without terminal structures and away from navigational channels were set to 10% of the nourishment length, with a maximum of 100 feet.
- Berm widths for beaches located updrift of terminal structures protecting navigational channels, where the structure is nearly filled to entrapment, were set to zero. Beach nourishment was not recommended in these cases and nourishment capacities were not computed.
- Berm widths for beaches located updrift of terminal structures protecting navigational channels, where the structure is not filled to entrapments, were set using best professional judgment to be approximately one-half to two-thirds the distance between the shoreline and the end of the terminal structure.
- Berm widths for beaches with terminal or intermediate structures, where the 10% rule does not fill the structure to entrapment, were widened to bring the nourishment out to the end of the structure.

Beach nourishment lengths and berm widths chosen for each of the sites are provided in the site summary tables and aerial photographs presented in Section 4.0.

Once the parameters for the nourishment were determined, the basic beach nourishment template was developed by extending the existing beach berm horizontally a distance equal to the design berm width, and grading the material down to the native profile using a 10:1 nearshore slope. As shown in Figure 3, the area above the native equilibrium profile and below the beach nourishment profile was calculated as the nourishment



volume per unit beach length. Finally, site capacity was determined by multiplying the unit nourishment volume by the selected nourishment length.

The methodology used to compute the beach nourishment volumes generates conservative values (on the low end) in terms of overall site capacity. In most cases, the beaches in the study area could hold an additional volume of material on the upper beach face above the berm, or in dune areas at the landward edge of the beach. However, without site specific survey information to define the geometry of these areas, it was not possible to refine the volume calculation procedure to account for the increased capacity at the various sites. Instead, the computed beach nourishment volume was considered the low end for site capacity, and a high end was computed by increasing the volumes by 35%. The analysis herein is for planning purposes, and should not be considered a substitute for proper site-specific beach nourishment design. A summary of site capacity for the beaches in cubic yards (rounded to the nearest 100 cubic yards) is provided in the results Section 3.1, and in the site summaries presented in Section 4.0 for each beach.

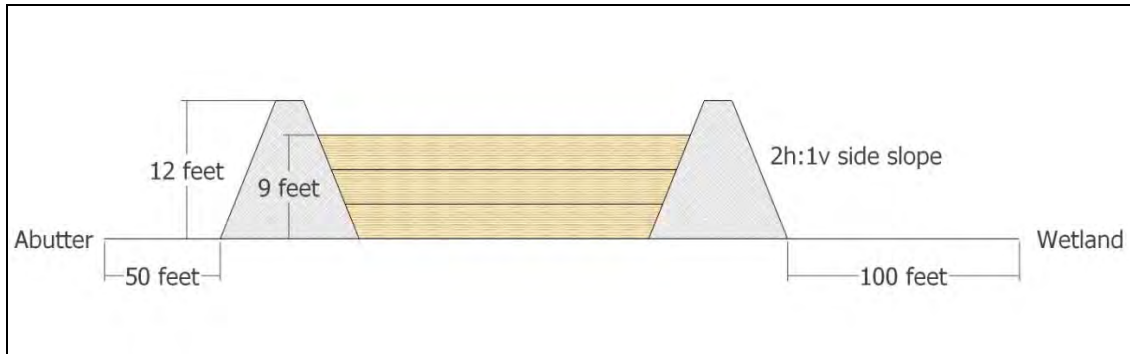
#### *2.4.2 Dewatering Site Capacity*

Dewatering site capacity calculations were performed to estimate the maximum amount of material that could be dewatered on a given parcel. While actual designs for dewatering sites must consider site-specific information on dredged material properties, as well as the size and characteristics of areas available for building dikes and effluent control, this project involved making approximate capacity estimates using a number of assumptions. The following basic assumptions regarding the dewatering sites and the retaining dikes were made:

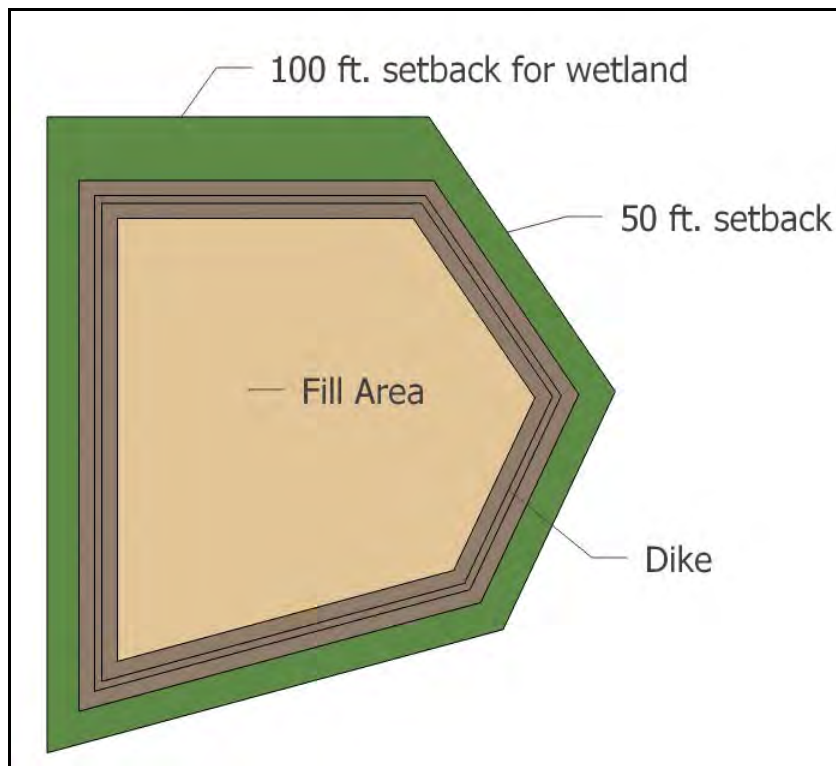
- Dikes have a 2:1 horizontal:vertical side slope,
- Dikes have a maximum crest height of 12 feet,
- Dikes have a minimum crest width of 12 feet,
- Dikes are set back 50 feet from parcel boundaries and 100 feet from wetland boundaries,
- Maximum height of the dredged material will be 3 feet below the crest of the dike.
- The parcel on which the dewatering facility is constructed is flat and level, and has a means to accommodate effluent runoff.
- The entire dewatering facility is a single basin, as large as possible, that will be filled with dredged material in a series of individual lifts.

The analysis did not consider the complex processes or duration of time involved in achieving the final volume, nor the specifics on internal dikes that could facilitate drainage and drying. Rather it calculated the total capacity of fully dewatered and consolidated sediment in a single basin. For large sites with capacity over 50,000 cy, the total volumes were reduced by 10% to allow for internal dikes and related drainage structures. It was assumed that the dewatering facility would be filled in lifts with consolidated depths of 3 feet. Therefore, sediment fill depths of 3, 6, or 9 feet were considered for dike crest elevations of 6, 9 and 12 feet, respectively.

Figure 4 shows an example cross section of a dewatering basin with a dike crest elevation of 12 feet and total fill depth of 9 feet. A setback of 50 feet from the outer edge of the dike to abutting properties is shown, and a setback of 100 feet is provided from the dike edge to wetland areas. Figure 5 shows an example plan view of an irregularly shaped parcel where the fill area of the parcel is indicated as well as the area required for setbacks and dike construction.



**Figure 4. Example Dewatering Basin Cross-Section.**



**Figure 5. Example Dewatering Basin Plan View.**

Since the maximum site capacity is highly dependent on the size and geometry of the parcel, it was necessary to calculate capacities assuming different scenarios for dike

height and fill depth. For example, relatively small sites can hold a greater volume of dredged material with fewer lifts and smaller dikes. Figure 6 shows how the fill area varies with site width for a cross section similar to that shown in Figure 4, assuming the three different fill depths of 3, 6, and 9 feet. For a site width of 210 feet, greater capacity is available with 9 foot high dikes than with 12 foot high dikes, when taking into account the setback distances and required footprint of the dikes. As such, dewatering site capacity calculations were performed for all scenarios of dike height and fill depth, and the conditions producing the greatest capacity were selected to report the maximum capacity.

Areas available for dewatering were determined using the parcel boundaries and wetland delineations mapped and observed in the field. Setback distances to parcel edges and wetlands, according to the criteria provided above, were applied to the available dewatering areas. In addition, a minimum one-quarter acre was reserved outside the dewatering area, for staging such as storage of trucks, equipment, pipeline, and to support work on constructing and maintaining drainage features. Summary results from the dewatering capacity calculations (rounded to the nearest 100 cubic yards) are provided in Section 3.5, and in the individual site summary reports in Section 4.0.

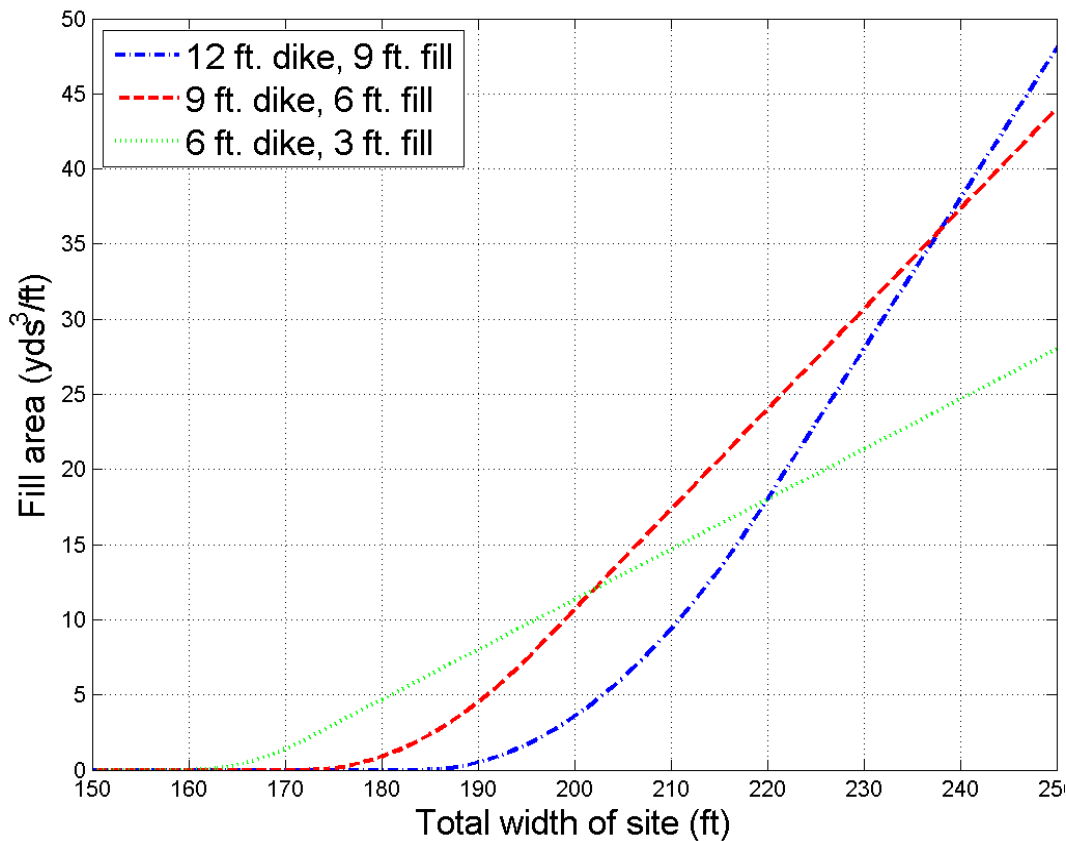


Figure 6. Site Width Versus Fill Area for Various Dike and Fill Heights.

## **2.5 SITE SUMMARIES**

Information gathered during the field investigations and operator interviews was combined with the capacity data to produce site summaries for each location. For all sites, the summary information also included figures illustrating site features. These site summaries include the following types of information:

- An aerial image of the site and surrounding environment showing parcel boundaries, mapped wetlands and Federal and State listed habitat areas.
- An aerial image of the site showing the selected locations for beach nourishment, or a generalized layout for the dewatering basin, dikes, and staging areas.
- A summary table of relevant information about each site.
- Photographs with descriptions collected during the site visits.
- An aerial image of the site showing parcel boundaries for the work area and abutters, as well as parcel ID numbers such as Map/Block/Lot (MBL) or Borough/Block/Lot (BBL), etc.

The various types of sites required slightly different types of information. For example, beach sites required a grain size description, while habitat restoration sites required a list of species of concern that would benefit from the project. The type of site summary information gathered is described in Tables 5, 6, 7, 8, and 9 for beach, habitat restoration, landfill, redevelopment, and dewatering sites, respectively. Individual site summary reports are provided in Section 4.0.

**Table 5. Beach Site Summary Information**

<b>Site Address</b>	Street address for the parcel.
<b>General Description</b>	Identifies the type of beach (municipal, State, Federal Shore Protection), general location, and existing site use.
<b>Ownership/POC</b>	Identifies site ownership, operator, and telephone number.
<b>Zoning</b>	Identifies the local zoning information for the parcel.
<b>Surrounding Land Use</b>	Identifies land use on surrounding parcels that could affect a dredged material placement project.
<b>Wetlands</b>	Indicates whether mapped and/or observed wetlands occur on or near the site, as this affects project setbacks and permitting.
<b>State and Federally Listed Species Habitat</b>	Indicates whether mapped habitat for threatened, rare, or endangered species; or habitat of special concern occurs on or near the site.
<b>Sediment Type</b>	Describes sediment grain size characteristics determined by visual inspection following the Wentworth classification scheme.
<b>Nourishment length</b>	Length in feet of beach where nourishment was considered and site capacities calculated.
<b>Design berm width</b>	Width in feet of the finished berm at nourishment sites.
<b>Capacity</b>	Identifies volume of sediment site could accommodate, based on calculations described in Methods section of this report.
<b>Site Access</b>	Land – road from which the site would be accessed. Water – waterbody from which the site would be accessed.
<b>Staging Area</b>	Describes potential staging area(s) on or adjacent to the work area.
<b>Additional Considerations</b>	Identifies shoreline stabilization structures on the beaches (groins, jetties). Provides additional information on beach physical characteristics, resource areas such as fringing marsh or rocky outcrops that would potentially control where nourishment could be placed. Discusses any other considerations relevant to beach nourishment.

**Table 6. Habitat Restoration Site Summary Information**

<b>Site Address</b>	Street address for the parcel.
<b>General Description</b>	Identifies the general location and type of restoration for the habitat restoration sites.
<b>Ownership/POC</b>	Identifies site ownership, operator, and telephone number.
<b>Agencies/groups involved in project</b>	Identifies entities sponsoring or involved in the restoration project.
<b>Zoning</b>	Identifies the local zoning information for the parcel.
<b>Surrounding Land Use</b>	Identifies land use on surrounding parcels that could affect a habitat restoration project.
<b>Wetlands</b>	Indicates whether mapped and/or observed wetlands occur on or near the existing site.
<b>Existing Condition</b>	Indicates current habitat conditions on the site.
<b>Prior Condition</b>	Indicates prior habitat conditions and need for restoration.
<b>State and Federally Listed Species Habitat</b>	Indicates whether listed species habitat occurs on or near the site.
<b>Species of Concern Expected to Benefit From Project</b>	Indicates the species that will benefit from the expected habitat enhancement provided by the project.
<b>Staging Area</b>	Describes any potential or available staging areas on or near the site.
<b>Capacity</b>	Identifies volume of dredged material needed for restoration project (estimates from USACE project plans).
<b>Additional Considerations</b>	Provides additional information on site physical characteristics, resource areas, or particular issues of concern for the site. Identifies constraints on dredged material placed on the site (i.e. grain size requirements, percent fines accepted, etc.). Provides additional background on the site as a restoration project.

**Table 7. Landfill Site Summary Information**

<b>Site Address</b>	Street address for the parcel.
<b>General Description</b>	Identifies the general location and status of the landfill.
<b>Ownership/POC</b>	Identifies site ownership, operator, and telephone number.
<b>Zoning</b>	Identifies the local zoning information for the parcel.
<b>Surrounding Land Use</b>	Identifies land use on surrounding parcels that could affect a dredged material placement project.
<b>Wetlands</b>	Indicates whether mapped and/or observed wetlands occur on or near the site, as this affects project setbacks and permitting.
<b>State and Federally Listed Species Habitat</b>	Indicates whether mapped habitat for threatened, rare, or endangered species; or habitat of special concern occurs on or near the site.
<b>Types of Material Accepted</b>	Describes general types of material landfill can accept.
<b>Acceptability of Dredged Material, and Type of Use</b>	Identifies whether dredged material can be accepted at the site, and intended use at the landfill (capping, daily cover, etc.).
<b>Tipping Fees</b>	Identifies unit cost for placement of dredged material.
<b>Landfill Capacity and Design Years</b>	Identifies total landfill capacity in cubic yards, and if available, information on the capacity for dredged material specifically. Also identifies active life of landfill or timeframe for closure.
<b>Site Access</b>	Identifies roadway access to site.
<b>Restrictions on Time of Day or Year</b>	Identifies any restrictions on timing of dredged material drop off and hours of operation.
<b>Additional Considerations</b>	Describes any constraints to dredged material placement at the site.

**Table 8. Redevelopment/Construction Site Summary Information**

<b>Site Address</b>	Street address for the parcel.
<b>General Site Description</b>	Identifies the general location and type of redevelopment or construction project.
<b>Ownership/Developer POC</b>	Identifies site ownership, operator, and telephone number.
<b>Development Project</b>	Describes the development project plan and use for dredged material.
<b>Zoning</b>	Identifies the local zoning information for the parcel..
<b>Surrounding Land Use</b>	Identifies land use on surrounding parcels that could affect a dredged material placement project.
<b>Wetlands</b>	Indicates whether mapped and/or observed wetlands occur on or near the site, as this affects project setbacks and permitting.
<b>State and Federally Listed Species Habitat</b>	Indicates whether listed species habitat occurs on or near the site.
<b>Staging Area</b>	Describes any potential or available staging areas on or near the site.
<b>Capacity and Intended Use for Dredged Material</b>	Identifies capacity estimate for fill material in cubic yards, and intended use for material at the site.
<b>Timetable for Redevelopment</b>	Identifies the expected timing of redevelopment and receipt of fill material at the site.
<b>Land Access</b>	Identifies access by road and/or rail.
<b>Limitations to Truck or Heavy Equipment Use</b>	Describes any limitations on access for trucks and heavy equipment.
<b>Water Access</b>	Identifies access via adjacent water, if there is one. Also identifies water depth if there is access for barges.
<b>Additional Considerations</b>	Describes any features of the project that pertain to dredged material placement, such as contaminant issues, grain size limitations, etc.



**Table 9. Dewatering Site Summary Information**

<b>Site Address</b>	Street address for the parcel.
<b>General Description</b>	Identifies the general location and existing use of the site.
<b>Ownership/POC</b>	Identifies site ownership, operator, and telephone number.
<b>Zoning</b>	Identifies the local zoning information for the parcel.
<b>Surrounding Land Use</b>	Identifies land use on surrounding parcels that could affect a dredged material placement project.
<b>Wetlands</b>	Indicates whether mapped and/or observed wetlands occur on or near the site, as this affects project setbacks and permitting.
<b>State and Federally Listed Species Habitat</b>	Indicates whether listed species habitat occurs on or near the site.
<b>Mapped Soils</b>	Indicates mapped soil type(s) at the site, based on Natural Resources Conservation Services soil survey data. Engineering properties of these soils as they pertain to construction of dikes and soil drainage properties are given in Appendix A.
<b>Staging Area</b>	Describes any potential or available staging areas on or near the site.
<b>Dewatering Capacity</b>	Identifies the total dewatering capacity in cubic yards, estimated using site characteristics and setbacks.
<b>Land Access</b>	Identifies access by road and/or rail.
<b>Water Access</b>	Identifies access via adjacent waterbody, if there is one.
<b>Additional Considerations</b>	Describes any constraints to dewatering, or factors that may make the site favorable. Identifies the feasibility of dewatering at the sites according to three classifications: (i) currently feasible, (ii) potentially feasible in the future, or (iii) not feasible.

### 3.0 RESULTS

Review of the 102 sites developed as part of the final site inventory in Section 2.1 yielded 90 potential upland and beneficial use sites with capacity for dredged materials. Of these 90 sites identified with capacity, 44 are located in Connecticut, 40 in New York, 5 in Rhode Island, and 1 in Pennsylvania (Table 10). The majority of sites in Connecticut are beaches, with a total of 37 municipal/county, state, or Federal Shore Protection beach sites. Similarly, beaches comprise the greatest number of sites in New York, with a total of 25 municipal/county, state, or Federal Shore Protection sites with capacity for dredged material. Rhode Island has a total of 3 beaches with capacity. Four landfill sites, 2 in Connecticut and 2 in New York, were identified as potential locations. Two habitat restoration sites that will accept dredged material were identified in New York. The dewatering sites were classified as currently feasible or potentially feasible in the future. Of these viable sites, Connecticut has 2 locations that are currently feasible and 3 with potential in the future. New York also has 2 locations that are currently feasible, with 7 additional sites that are potentially feasible in the future. Rhode Island has 2 sites that are potentially viable in the future.

**Table 10. Upland, Beneficial Use, and Dewatering Sites with Capacity to Accept Dredged Material**

Category	CT	NY	RI	PA	Total
Beach – Municipal/County	17	10	2	0	29
Beach – State	2	8	0	0	10
Beach – Fed. Shore Protection	18	7	1	0	26
Mine	0	0	0	1	1
Landfill	2	2	0	0	4
Redevelopment/ Construction	0	2	0	0	2
Habitat Restoration	0	2	0	0	2
Dewatering					
Currently feasible	2	2	0	0	4
Potentially feasible in future	3	7	2	0	12
<b>Total</b>	<b>44</b>	<b>40</b>	<b>5</b>	<b>1</b>	<b>90</b>

Site capacities determined for each location are provided in the following sections, along with brief summaries and relevant information for each type of placement site.

#### 3.1 BEACHES

Specific beach sites with capacity for dredged materials placement are shown in Table 11. The beach nourishment volumes presented in Table 11 provide both a conservative low-end estimate calculated using the equilibrium beach profile theory methodology, and a higher estimate that adds 35% more material to account for nourishment capacity on the upper beach face and dune area.

At several sites, beach nourishment designs have been completed by the USACE or DEP offices in preparation for shore protection projects. In these cases, the nourishment volumes computed as part of the engineering design are reported in Table 11, as they provide the most up to date values on the capacity for dredged materials.

In general, most of the beaches considered in this study have capacity for clean, beach-compatible sand in the medium to coarse-grained size range. Total site capacity for beaches in the study area ranges between 4.9 and 6.0 million cy. Three of the beaches in this study were not considered viable sites for beach nourishment. Two of these are surrounded by fringing marsh and the placement of beach nourishment would adversely impact the resource (Sites 443 and 470). The third, Site 81, is located updrift of a jetty that protects a navigation channel into Mattituck Harbor, and the existing beach has already filled the jetty to entrapment. In this case, the USACE NY District is evaluating alternatives to artificially bypass sediment from the updrift side of the harbor to the downdrift side. As such, nourishment was not considered at this site.

**Table 11. Beach Nourishment Site Capacities**

Site ID	State	Town	Site Name	Nourishment Volume (cy)	Nourishment Volume +35% (cy)
323	CT	Bridgeport	Seaside Beach	130,900	176,700
433	CT	Fairfield	Southport Beach	15,700	21,200
434	CT	Fairfield	Sasco Hill Beach	6,300	8,500
436	CT	Fairfield	Jennings Beach	24,700	33,400
443	CT	Guilford	Guilford Point Beach	Not considered viable	
365	CT	Madison	Hammonasset State Park	562,700*	562,700*
457	CT	Madison	East Wharf Beach	4,300	5,700
364	CT	Milford	Silver Sands State Park	21,000	28,400
444	CT	Milford	Gulf Beach	5,300	7,100
451	CT	Milford	Woodmont Shore Beach	500	700
337	CT	New Haven	Lighthouse Point Park Beach	3,400	4,600
320	CT	Norwalk	Calf Pasture Beach	31,900	43,000
441	CT	Stamford	Cove Island Beach	20,100	27,100
442	CT	Stamford	Cummings Park Beach	38,700	52,200
450	CT	Stratford	Short Beach	54,400	73,500
447	CT	West Haven	Prospect Beach	63,100	85,300
438	CT	Westport	Burial Hill Beach	2,800	3,700
440	CT	Westport	Compo Beach	65,800	88,800
449	CT	Westport	Sherwood Island State Park	71,400	96,300
181	NY	Bronx	Orchard Beach	33,750*	33,750*
453	NY	East Hampton	Lake Montauk Harbor	400,000*	400,000*
63	NY	Huntington	Asharoken Beach	600,000*	600,000*
456	NY	Oyster Bay	Bayville	77,200	104,200
454 East	NY	Southold	Hashamomuck Cove - County Road 48	162,800	219,800

Site ID	State	Town	Site Name	Nourishment Volume (cy)	Nourishment Volume +35% (cy)
454 West	NY	Southold	Hashamomuck Cove - Kenney's Beach	50,700	68,500
455 / 82	NY	Mattituck	Mattituck Harbor 111 / Bailie's Beach	100,000*	100,000*
384	RI	Westerly	Misquamicut State Beach	32,000	43,200
367	CT	East Lyme	Rocky Neck State Park	10,400	14,100
368	CT	Groton	Bluff Point State Park	131,200	177,100
171	NY	Wading River	Wildwood State Park	164,100	221,500
173	NY	East Hampton	Hither Hills State Park	319,600	431,500
177	NY	East Hampton	Shadmoor State Park	20,100	27,100
178	NY	East Hampton	Camp Hero State Park	76,900	103,800
179	NY	East Hampton	Montauk Point State Park	147,300	198,900
170	NY	Kings Park	Sunken Meadow State Park	160,600	216,800
180	NY	Orient	Orient Beach State Park	119,900	161,800
445	NY	Riverhead	Jamesport State Park	120,000	161,900
446	NY	East Hampton	Theodore Roosevelt County Park	427,400	577,000
343	CT	Clinton	Clinton Town Beach	1,200	1,600
474	CT	Fairfield	South Pine Creek Beach	100	100
339	CT	Guilford	Jacobs Beach	6,400	8,600
470	CT	Guilford	Chaffinch Island Park	Not considered viable	
459	CT	New Haven	Fort Nathan Hale Park	5,300	7,100
348	CT	Old Lyme	White Sands Beach	1,700	2,300
480	CT	Stonington	DuBois Beach	3,300	4,500
467	CT	Stratford	Long Beach	23,200	31,300
468	CT	Stratford	Russian Beach	31,700	42,800
325	CT	West Haven	Altschuler Beach	51,200	69,100
327	CT	West Haven	Bradley Point Park	11,600	15,600
329	CT	West Haven	Morse Beach	17,700	23,900
330	CT	West Haven	Oak Street Beach	17,700	23,900
331	CT	West Haven	Peck Beach	29,800	40,200
332	CT	West Haven	Sandy Point	27,700	37,400
333	CT	West Haven	Savin Rock	1,800	2,400
344	CT	Westbrook	Middle Beach	600	900
345	CT	Westbrook	West Beach	42,200	57,000
121	NY	East Hampton	Gin Beach	9,000	12,200
64	NY	Huntington	Hobart Beach	128,800	173,900
67	NY	Huntington	Crescent Beach (Huntington)	3,600	4,800
68	NY	Huntington	Gold Star Battalion Beach	2,400	3,200
81	NY	Mattituck	Breakwater Park Beach	Not considered viable	

Site ID	State	Town	Site Name	Nourishment Volume (cy)	Nourishment Volume +35% (cy)
111	NY	Shelter Island	Crescent Beach (Shelter Island)	23,900	32,200
76	NY	Southold	Southold Town Beach	23,200	31,300
79	NY	Southold	Gull Pond Beach (Norman E. Klipp Park)	14,400	19,500
381	RI	Westerly	Watch Hill Beach	22,600	30,500
382	RI	Westerly	Napatree Point Beach	68,100	91,900
437	NY	Southold	Plum Island	41,600	56,100
<b>TOTAL</b>				<b>4,935,500</b>	<b>6,068,550</b>

\*Nourishment volume obtained from USACE or DEP engineering design.

### 3.2 HABITAT RESTORATION SITES

Two of the four habitat restoration sites in the study (Jamaica Bay Marsh Islands and Plumb Beach) have capacity for dredged material. The remaining two (Gerritson Creek and White Island) have no additional capacity, as the material required for these projects has been placed onsite, and the habitat restoration projects are underway. The Jamaica Bay Islands have capacity for over 600,000 cy of clean sand, and Plumb Beach is in need of beach compatible sand both to stem the severe erosion along the beach and roadway, and to enhance the beach and dune habitat. For Plumb Beach, a USACE project design volume was not available for this report. Therefore a volume estimate was made based on the beach nourishment calculations presented in the methods section. Table 12 shows the fill capacity for the habitat restoration projects.

**Table 12. Habitat Restoration Site Capacity**

Site ID	State	Area	Site Name	Capacity (cy)
427	NY	Brooklyn	Plumb Beach	47,700 – 64,400
429	NY	Brooklyn & Queens	Jamaica Bay Marsh Islands	600,000 - 750,000
430	NY	Brooklyn	White Island	No additional capacity. Material has been placed.
431	NY	Brooklyn	Gerritsen Creek	No additional capacity. Material has been placed.
<b>TOTAL</b>				<b>647,700 – 814,400</b>

### 3.3 LANDFILLS

Two of the landfills in the study do not accept dredged material; the others could accept dredged material for various uses, including fill (Site 59 only), daily cover, or as final cap material. The sites can accept fine-grained dredged material, although cap material is generally required to be higher in organics to support vegetative growth. Site 251 in Manchester, CT is the only landfill with the potential to accept contaminated dredged sediment. Under CT DEP regulations this would require a special application for a Special Waste Disposal Authorization. Tipping fees vary between landfills, and tend to be relatively high for dredged material. The costs associated with transport of dredged

material to the landfills would also need to be taken in to account. Table 13 lists the landfills and describes their potential for accepting dredged material.

**Table 13. Landfill Sites**

Site ID	State	Town	Site Name	Accepting Dredge Material	Comment
373	CT	Hartford	Hartford Landfill	No	Site operator indicates facility is undergoing final capping and will not accept dredged material.
251	CT	Manchester	Manchester Landfill	Yes	Under Special Waste Program, for daily cover and capping
272	CT	Windsor	Windsor-Bloomfield Landfill	Possibly	For final capping
61	NY	Brookhaven	Town of Brookhaven Landfill	Yes	For daily cover or capping
60	NY	Islip	Blydenburgh Rd Landfill	Unlikely	Site operator indicates prior problems with dredged material coming to the site.
59	NY	Melville	110 Sand Company	Yes	For daily cover or fill, but prefer freshwater sources

### 3.4 REDEVELOPMENT/CONSTRUCTION SITES

The redevelopment/construction sites in the study have capacity for material. One of the sites, Plum Island in NY, has no firm redevelopment plan at present, so the capacity could not be estimated for a redevelopment project. The site does have a beach area that has been nourished in the past with sediment dredged from the Plum Gut harbor. This area has capacity for more material, and was evaluated in terms of capacity for beach nourishment in Section 3.1 (Table 11).

The other sites evaluated, Flushing Airport and the Hazelton Mine reclamation site, both have capacity for dredged material. The Flushing Airport wetlands and uplands projects are required to use clean fill according to NYDEC TAGM 4046 criteria. Placement of fine-grained dredged materials is allowable, provided they meet these regulatory criteria. Fines can also be accepted at the Hazelton Mine site, as long as chemical analyses show that PA DEP O-05 and O-96 criteria have been met. Table 14 shows capacity at these sites.

**Table 14. Redevelopment/Construction Site Capacity**

Site ID	State	Town	Site Name	Capacity (cy)
422/423	NY	Flushing	Flushing Airport Wetlands and Upland	140,000
417	PA	Hazelton	Hazelton Mine Redevelopment	15,000,000
<b>TOTAL</b>				<b>15,140,000</b>

### **3.5 DEWATERING SITES**

Regarding dewatering sites, certain locations are feasible in the near-term, as they have both the required physical characteristics and a site owner/operator who is amenable to dewatering on the parcel. A total of 4 sites were identified in this “Currently Feasible” category; two sites in Connecticut and two in New York. Total storage capacity was computed as 193,100 cy.

Other sites were identified as potentially able to accommodate a dewatering site, but the current land use is not compatible with dewatering, and/or the site owner was not amenable to dewatering at the site. For these “Potentially Feasible in the Future” sites, a dewatering capacity was calculated, as there may be potential for dewatering at the site in future if the land use structure, or ownership changes. In other cases, the area originally identified for the site investigation was considerably larger than the area actually available for dewatering. These sites could have potential for smaller-scale dewatering facilities that may not be large enough for USACE use, but could be appropriate for private or smaller public dredging projects. These sites were also placed in the “Potentially Feasible in the Future” category. A total of 3 sites in Connecticut, 7 in New York and 2 in Rhode Island combine for an estimated dewatering site capacity of 2.6 million cy.

Lastly, five of the sites investigated are infeasible, as they have been recently developed, or are under land use restrictions that do not allow placement of dredged material. Table 15 shows the dewatering sites investigated, estimated fill volume, and whether they are feasible for either large- or small-scale dewatering.

**Table 15. Dewatering Site Capacity**

Site ID	State	Town	Site Name	Fill Volume (cy)	Comments
<b>Currently Feasible</b>					
CT-28	CT	New Haven	Anastasio Trucking Site	23,100	Site is viable for small-scale dewatering (~ 2 acres). Site has railroad and highway access, and is in close proximity to navigable waterway.
CT-54	CT	Norwich	P&W Railroad Co. Site	17,500	Site is viable for small-scale dewatering (~ 2 acres). Deep water and rail access on site.
NY-5-A	NY	Huntington	Northport Boat Ramp and Fields	122,000	Site is viable for dewatering. Northern end of parcel has been used for dewatering in the past. Site has deep water access.
NY-18	NY	Bronx	Barry St. Industrial Site	30,500	Site is viable for small-scale dewatering (~ 2.4 acres). Site has deep water, railroad, and highway access.
<b>TOTAL (Currently Feasible)</b>				<b>193,100</b>	
<b>Potentially Feasible in Future</b>					
NY-5-B	NY	Huntington	Northport Power Station	63,000	Site is potentially viable for dewatering in the future. Current owner using property as lawn/grounds area, and does not anticipate changing use of site. Site is subject to US Coast Guard Maritime Security (MARSEC) requirements.
CT-30-A	CT	Hamden & North Haven	North Haven Tire Pond Site	99,600	South end of site possibly viable for dewatering in the future. South end of site is currently used as private recycling facility and a remediation site is located at the north end. No deep water access.
CT-8	CT	Fairfield	Fairfield Public Works Site	47,800	Site is potentially viable for dewatering in the future. Current use as town recycling facility and site operator does not anticipate near-term changes in land use. No deep water access.
NY-1	NY	Mattituck	Mattituck Agricultural Fields	2,085,000	Parts of site possibly viable in the future. Current use is private agriculture. Development rights on many parcels within this 16 parcel site have been sold, and are unavailable for dewatering. No direct access by water. Steep bluffs approximately 60 ft high with private residences between site and LIS.
NY-29	NY	North Hempstead	North Hempstead Aerodrome	39,900	Eastern end of site possibly viable for dewatering. Western portion of the site (aerodrome) is not viable due to landfill and methane capture system beneath field. Clearing/regrading of woodland would be required, and site is separated from the harbor by a major road (West Shore Rd.).



Site ID	State	Town	Site Name	Fill Volume (cy)	Comments
<b>Potentially Feasible in Future (cont.)</b>					
RI-5	RI	North Kingstown	Quonset Point North	102,200	Site is potentially viable for dewatering in the future. Currently site has a lease option with offshore wind development company.
NY-28	NY	Brookhaven	Shoreham Power Station	42,600	Site potentially viable for dewatering. Site is subject to US Coast Guard Maritime Security (MARSEC) requirements.
NY-7-A	NY	Glen Cove	Garvies Pt. Remediation Site	27,300	Western end of site possibly viable for small-scale dewatering (~2 acres). Site is part of Glen Cove Harborfront Revitalization Project and east end is currently being developed as a ferry terminal. Western end of site to be redeveloped within the next 4 years, and is possibly viable in the short-term.
NY-8	NY	North Hempstead	Glen Cove Industrial Site	11,000	West end of site possibly viable for small-scale dewatering (~1 acre). Current use for majority of the site is electrical transformer station and buried cable, and this part of the site is separated from the harbor by a major road (Shore Rd.). Bulkhead would need repair/replacement prior to use and site has soil contamination issues.
NY-3	NY	Northville	Northville Agricultural Fields	35,200	North end of site possibly viable in the future for small-scale dewatering (~4 acres). Current use is private agriculture. Development rights on most of the site have been sold and are unavailable for dewatering. No direct access by water. Steep bluffs approx. 60 ft high with private residences between site and LIS.
CT-41	CT	Ansonia	Ansonia Target Store	1,000	South end of site possibly viable in the future for small-scale dewatering (~ 0.2 acres). Current use for majority of site is shopping center and parking lot. South corner of site has no deep water access and surrounding area is retail/manufacturing and may not be compatible.
RI-4-C	RI	North Kingstown	Quonset Point South	87,800	Site is potentially viable for dewatering in the future. Currently site is used by Electric Boat for the manufacture of submarine components. Site has deep water access and possible dockage for barges.
<b>TOTAL (Potentially Feasible in Future)</b>				<b>2,642,400</b>	

Site ID	State	Town	Site Name	Fill Volume (cy)	Comments
<b>Not Feasible</b>					
CT-49 / 373	CT	Hartford	CRRA Hartford Landfill	n/a	Not feasible for dewatering. Landfill capping is almost complete, and site manager indicated the site will not be available for dewatering or placement of dredged material.
CT-35	CT	Stonington	Osbrook Point Agricultural Fields	n/a	Not feasible for dewatering. Parcel is in CT Farm Protection Program, which does not allow dewatering on site.
CT-50	CT	East Hartford	Goodwin College	n/a	Not feasible for dewatering. Parcel was recently remediated and developed into a college campus.
NY-10	NY	North Hempstead	Port Washington Landfill	n/a	Not feasible for dewatering. Closed/capped landfill. Site operator indicated site is not available for dewatering or placement of dredged material.
NY-16-B	NY	Queens	Queens Parking Garage	n/a	Not feasible for dewatering. Retail/shopping area covers entire site.

## **4.0 SITE SUMMARIES**

Detailed summaries for each of the 102 sites in the final site inventory are presented in this section. Beaches are discussed first, followed by habitat restoration sites, redevelopment sites, a mine reclamation site, and finally dewatering sites. The information was compiled according to the methods and protocols outlined in Section 2.0.

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# Site 323 Seaside Beach Bridgeport, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>0 4000</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
	<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_323-2.ai</p>

# Site 323 Seaside Beach Bridgeport, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">4000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	

**Site 323 Seaside Beach**  
**Bridgeport, CT**

<b>Site Address</b>	350 Waldemere Ave., Bridgeport, CT
<b>General Description</b>	Federal Shore Protection area and large Municipal Beach in Bridgeport; parcel lies between Bridgeport Harbor on east side and Burr Creek at west.
<b>Ownership/POC</b>	City of Bridgeport, CT Charles Carroll, Parks and Recreation (203) 576-7233
<b>Zoning</b>	RA Residential Single Family Home
<b>Surrounding Land Use</b>	Residential; light industrial to north; marina and canal to northwest.
<b>Wetlands</b>	Yes. Mapped wetlands are present at end of sand spit at west of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers majority of site.
<b>Sediment Type</b>	Well sorted medium-grained sand with shell hash
<b>Nourishment Length</b>	9,120 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	130,900 cy
<b>Site Access</b>	Land – Waldemere Ave to Barnum Rd (west end) or Soundview Rd. (east end). Approximately 1 mile to Rte. 95. Water – LIS
<b>Staging Area</b>	Potential staging areas in paved lots behind beach at east and west ends. Lots are relatively narrow but have room for staging.
<b>Additional Considerations</b>	Main section of beach has a rock revetment and seawall with walking path. At east end of parcel the beach has a small dune in back corner, and a sand tombolo just behind a stone breakwater. The point at the tombolo is rocky with little to no beach. A seawall with rip-rap continues around the point to the Bridgeport Harbor area. At the west end the beach terminates in a stone jetty with fringing marsh. Beach is bordered by a seawall that lies 2-3 ft above the berm. Burr Creek has a marina and boat basin. Sand spit at west end has wetland and endangered species habitat. No nourishment calculated for this area. Also, nourishment would not extend to rocky outcrop and tombolo at east side of beach, in order to avoid sediment transport to channel. Cultural resources present.

## Site 323 Seaside Beach Bridgeport, CT

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**Date:** June 22, 2010

**Direction:** West

**Description:**

Main section of beach looking west.



**Date:** June 22, 2010

**Direction:** West

**Description:**

Central beach/recreation area. Stone revetment and seawall behind beach.



## Site 323 Seaside Beach Bridgeport, CT

---



**Date:** June 22, 2010

**Direction:** South

**Description:**

Sand tombolo and stone breakwater at east end of parcel.



**Date:** June 22, 2010

**Direction:** South

**Description:**

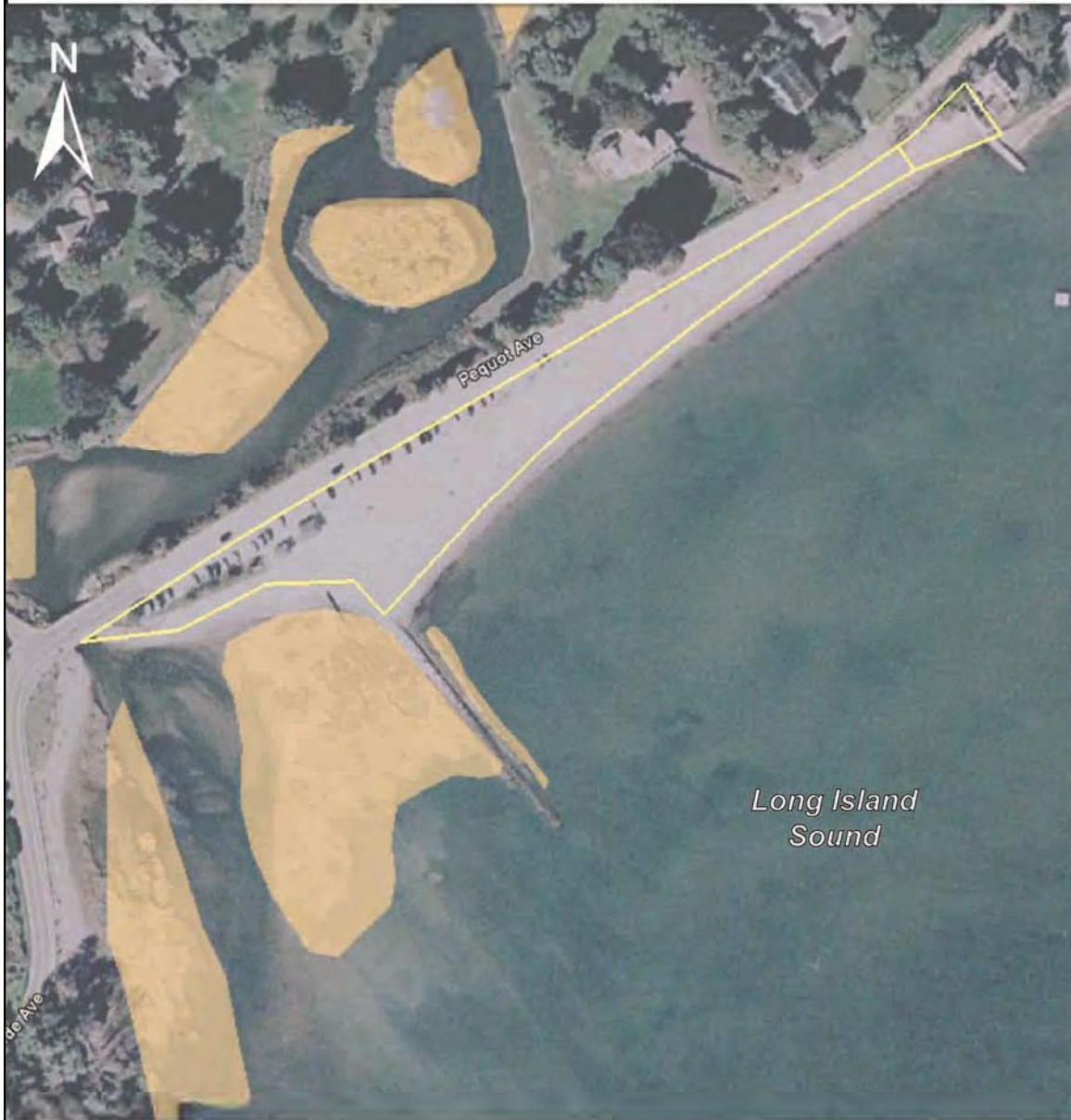
Staging area in paved lot at back of beach.



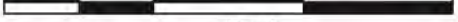



Parcel	MBL	Parcel	MBL
1	413-1	17	541-4
2	424-2A	18	541-5
3	436-1	19	540-4
4	437-2	20	540-5
5	437-2A	21	540-6
6	427-1	22	539-3
7	421-1	23	538-1
8	421-2	23	537-15
9	421-5	25	530-11A
10	421-3	26	531-12A
11	421-4	27	542-20
12	419-1	28	542-19
13	423-3	29	542-5
14	423-2	30	542-4
15	423-1	31	542-2A
16	541-6L	32	538-2
		33	537-4

**Site 323 Bridgeport, CT  
Seaside Beach**




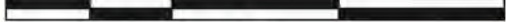

# Site 433 Southport Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0  500                  Feet</p> <p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	 US Army Corps of Engineers Date: 8-18-10 File: TO-0024_LIS_433-2.ai
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# Site 433 Southport Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0 <span style="float: right;">574</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-27-10                  File: TO-0024_LIS_433-3.ai</p>
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**Site 433 Southport Beach  
Fairfield, CT**

<b>Site Address</b>	105 Pequot Ave., Fairfield, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach in Long Island Sound, just west of Southport Harbor.
<b>Ownership/POC</b>	Town of Fairfield, CT Richard White, Director of Public Works (203) 256-3010
<b>Zoning</b>	R-3 Residential
<b>Surrounding Land Use</b>	Residential; outlet to LIS from Sasco Creek Marsh at west end of parcel.
<b>Wetlands</b>	Yes. Mapped wetlands on west end of parcel and in tidal channel landward of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	920 ft
<b>Design Berm Width</b>	80 ft
<b>Capacity</b>	15,700 cy
<b>Site Access</b>	Land – Pequot Ave. Rte 95 approximately ½ mile from site. Water - LIS
<b>Staging Area</b>	Potential staging along roadside at west end of beach where cars can be parked. Beach does not have a large parking lot, but there is room at the west end where cars park along the road.
<b>Additional Considerations</b>	Stone groin at west end of beach; low relief stone revetment at east end. Rip-rap revetment along road at west end of beach on west side of tidal inlet to marsh. Stone seawall east side of tidal channel. Stone seawall collapsed in places; foundation of bath houses exposed. Extensive wetland in back of parcel, and fringing marsh at west end of beach. No nourishment calculated for this area. Cultural resources present.

## Site 433 Southport Beach Fairfield, CT

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**Date:** June 22, 2010

**Direction:** East

**Description:**

Beach profile from groin at west end.



**Date:** June 22, 2010

**Direction:** Southwest

**Description:**

Fringing marsh at west side of parcel.

**Site 433 Southport Beach  
Fairfield, CT**

---



**Date:** June 22, 2010

**Direction:** North

**Description:**

Seawall on upland side of berm collapsed in some places. Small parking area along road in back.



**Date:** June 22, 2010

**Direction:** Northeast

**Description:**

Paved area for parking along road could serve as staging area.



Parcel	MBL
1	2810190000
2	281032A0000
3	2810330000
4	281034A0000
5	2810340000
6	2810350000
7	2810350000

**Site 433    Fairfield, CT**  
**Southport Beach**








# Site 434 Sasco Hill Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0 1500</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009 Image Date: October 1, 2006 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-28-10 File: TO-0024_LIS_434-2.ai</p>

# Site 434 Sasco Hill Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>0  446</p> <p>Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-28-10              File: TO-0024_LIS_434-3.ai</p>
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**Site 434 Sasco Hill Beach  
Fairfield, CT**

<b>Site Address</b>	1401 Sasco Hill Rd., Fairfield, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach on Long Island Sound just to the east of Southport Harbor entrance, adjacent to private beach and country club.
<b>Ownership/POC</b>	Town of Fairfield, CT Richard White, Director of Public Works (203) 256-3010
<b>Zoning</b>	AAA Residential
<b>Surrounding Land Use</b>	Golf course/beach club (Country Club of Fairfield) to north; Residential to west and east; Southport Harbor entrance at west side of parcel.
<b>Wetlands</b>	Yes. Mapped wetland west of groin.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of the site.
<b>Sediment Type</b>	Poorly sorted medium to coarse-grained sand
<b>Nourishment Length</b>	680 ft
<b>Design Berm Width</b>	68 ft
<b>Capacity</b>	6,300 cy
<b>Site Access</b>	Land – Sasco Hill Rd. Rte. 95 approximately 2 miles from site. Water - LIS
<b>Staging Area</b>	Potential staging area in paved lot along road.
<b>Additional Considerations</b>	Beach at west end has a wide berm; at east end the berm is narrower and grades into a rocky intertidal area. Stone groin on west end where sand is accreting. Southport harbor channel entrance to west. This channel was dredged 4-5 years ago and material was placed on Sasco Hill Beach, transported to site by truck. Sand from beach berm overtops the jetty at Southport Harbor during winter storms, so maintenance dredging is required from time to time. Wetland and rocky intertidal at east end of parcel. Cultural resources present.

**Site 434 Sasco Hill Beach  
Fairfield, CT**

---



**Date:** June 22, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** June 22, 2010

**Direction:** Northwest

**Description:**

Wide berm at west end of beach.

## Site 434 Sasco Hill Beach Fairfield, CT

---



**Date:** June 22, 2010

**Direction:** East

**Description:**

Fringing marsh and rocky intertidal at east end of beach.



**Date:** June 22, 2010

**Direction:** Northeast

**Description:**

Potential staging area in paved lot at back of beach.



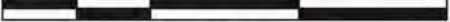



Parcel	MBL
1	2390120000
2	2390170000

**Site 434    Fairfield, CT**  
**Sasco Hill Beach**

# Site 436 Jennings Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0  1000                  Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_436-2.ai</p>

# Site 436 Jennings Beach Fairfield, CT



<p><b>Legend</b></p>	<p>0 1072</p> <p>Feet</p>	
<p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>US Army Corps of Engineers</p> <p>Date: 8-27-10                  File: TO-0024_LIS_436-3.ai</p>



**Site 436 Jennings Beach  
Fairfield, CT**

<b>Site Address</b>	880 South Benson Rd., Fairfield, CT
<b>General Description</b>	Federal Shore Protection area and Municipal Beach just west of Ash Creek on Long Island Sound.
<b>Ownership/POC</b>	Town of Fairfield, CT Richard White, Director of Public Works (203) 256-3010
<b>Zoning</b>	Beach District
<b>Surrounding Land Use</b>	Commercial (marina) to north; Residential in other surrounding areas.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers the entire site.
<b>Sediment Type</b>	Moderately sorted medium to coarse-grained sand
<b>Nourishment Length</b>	2,030 ft
<b>Design Berm Width</b>	150 ft
<b>Capacity</b>	24,700 cy
<b>Site Access</b>	Land – South Benson Rd. Rte. 95 is approximately 1 mile from the site. Water - LIS
<b>Staging Area</b>	Potential staging area in large paved lot behind beach.
<b>Additional Considerations</b>	Jetty between beach and Ash Creek at east side of parcel. Ash Creek was undergoing emergency dredging during site visit and material was being placed on Jennings beach. Material was removed from Ash Creek using excavators on the bank at east side of channel, allowed to dewater in piles, and transported to the beach by truck. Beach has racks for small boats on northeast end of parcel. Beach house and concessions in center of parcel. Vegetated dune runs along the beach at back of parcel for most of the length of the beach.

## Site 436 Jennings Beach Fairfield, CT

---



**Date:** June 22, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** June 22, 2010

**Direction:** East

**Description:**

Vegetated dune behind the beach.

## Site 436 Jennings Beach Fairfield, CT

---



**Date:** June 22, 2010

**Direction:** East

**Description:**

Ash Creek undergoing emergency dredging during site visit. Dredged material was dewatered at east side of Ash Creek, then trucked to Jennings Beach.



**Date:** June 22, 2010

**Direction:** Northwest

**Description:**

Placement of dredged material during site visit. Sand was scraped off the surface of the beach, dredged material placed on beach, then sandy material re-graded to cover dredged material. Photo shows scraped material ready for re-grading. Parking lot/staging area in background at right.

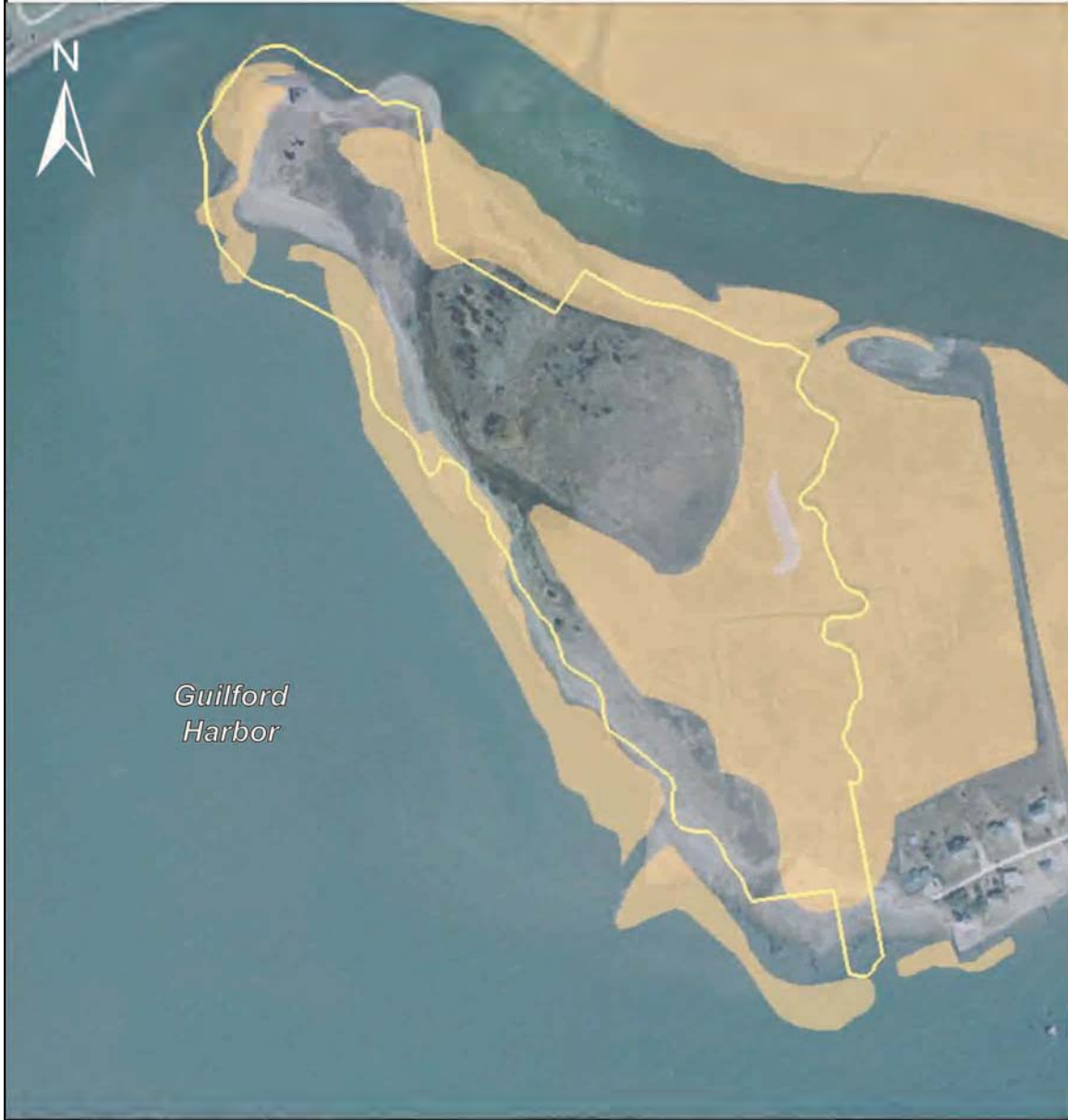






Parcel	MBL	Parcel	MBL
1	1380200000	17	1390550000
2	1310060000	18	1380460000
3	1380070000	19	1390340000
4	1380060000	20	1390330000
5	1380050000	21	1390310000
6	1380040000	22	1390290000
7	1380030000	23	1390070000
8	1380020000	23	1390060000
9	1380150000	25	1390050000
10	1391020000	26	1390040000
11	1391010000	27	1390030000
12	1391000000	28	1390020000
13	1390990000	29	1390010000
14	1390980000	30	1310100000
15	1390570000	31	1310090000
16	1390400000		

**Site 436      Fairfield, CT**  
**Jennings Beach**

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# Site 443 Guilford Point Beach Guilford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_443-2.ai</p>
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**Site 443 Guilford Point Beach**  
**Guilford, CT**

<b>Site Address</b>	Circle Beach Rd., Guilford, CT
<b>General Description</b>	This is a Federal Shore Protection project at a municipal recreation area located at the mouth of the East River in Guilford Harbor.
<b>Ownership/POC</b>	Town of Guilford, CT R. Maynard, Parks and Recreation (203) 453-8068
<b>Zoning</b>	R-6 Residential
<b>Surrounding Land Use</b>	Peninsula surrounded by Guilford Harbor and East River. Parcel abuts residential area to the east. Surrounding uses are open space and recreational, with East River State Boat Launch and East River Wildlife Management Area estuary complex to the northeast.
<b>Wetlands</b>	Yes. Mapped wetlands cover most of parcel, aside from dunes and a central upland portion. A large mapped salt marsh occupies most of the parcel east of the dune, and adjacent parcels. Unmapped fringing marshes were noted seaward of the dune.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Moderately sorted coarse-grained sand with gravel and shells
<b>Nourishment Length</b>	Not considered viable.
<b>Design Berm Width</b>	See above
<b>Capacity</b>	n/a
<b>Site Access</b>	Land – None except gravel driveway to Boat Launch Water – LIS, Guilford Harbor; East River navigation channel.
<b>Staging Area</b>	None, but adjacent Boat Launch has approximately large gravel parking area on marsh plain at boat ramp on East River.
<b>Additional Considerations</b>	Small south-facing beach on point of Grass Island south of abandoned house with little to no berm present. Locals indicated history of erosion. 20 ft wide dune runs northwest from end of Circle Beach Rd. to point. Beach is surrounded by fringing marsh and dune system. Dune flanked by fringing marsh and tidal flats to west, and salt marsh to east. Tidal flats are open to shell fishing.

## Site 443 Guilford Point Beach Guilford, CT

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**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Dune, tidal flat and fringing marsh at southern end of parcel.



**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Beach, dune and fringing marsh at northern end of parcel.



**Site 443 Guilford Point Beach  
Guilford, CT**

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**Date:** July 16, 2010

**Direction:** South

**Description:**

Parking lot and salt marsh at East River State Boat Launch.

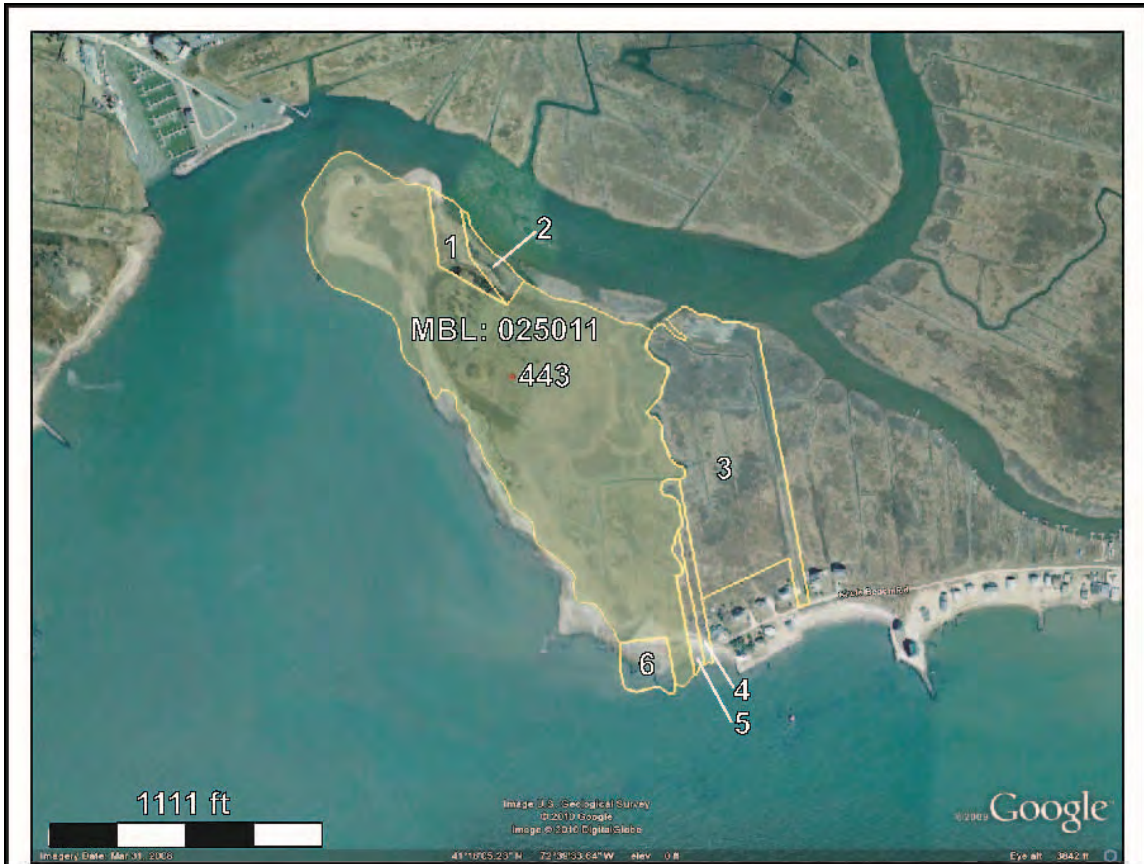


**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Rip rap revetment at marina looking across navigation channel at mouth of East River.


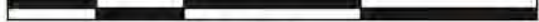




Parcel	MBL
1	030002
2	030001
3	025015
4	025009
5	025010
6	025011A

**Site 443    Guilford, CT**  
**Guilford Point Beach**




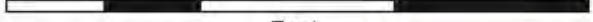

# Site 365 Hammonasset State Park Madison, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <p> Tidal Wetland</p>	<p>0 5000</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <p> Federal/State Listed Species Habitat</p>	<p>Image Source: Google © 2009 Image Date: April 1, 2008 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10 File: TO-0024_LIS_365-2.ai</p>

# Site 365 Hammonasset State Park Madison, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Nourishment Area</p>	<p>0 <span style="float: right;">3790</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-31-10              File: TO-0024_LIS_365-3.ai</p>
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**Site 365 Hammonasset State Park  
Madison, CT**

<b>Site Address</b>	1288 Boston Post Rd., Madison, CT
<b>General Description</b>	Federal Shore Protection project on a state beach with park, camping, nature center and recreation area. Situated on Long Island Sound just west of Clinton Harbor.
<b>Ownership/POC</b>	State of Connecticut Bureau of Outdoor Recreation State Parks and Public Outreach Jon Cimochowaki (860) 424-3200 ext. 3204
<b>Zoning</b>	R-1 Residential
<b>Surrounding Land Use</b>	Open space in immediate vicinity; residential surrounding park with some commercial to north and east.
<b>Wetlands</b>	Yes. Mapped wetlands in northwestern portion of site, and in eastern half of parcel.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Moderately sorted medium-grained sand
<b>Nourishment Length</b>	6,425 ft (per CT DEP design)
<b>Design Berm Width</b>	100 ft (per CT DEP design)
<b>Capacity</b>	562,700 cy (per CT DEP design)
<b>Site Access</b>	Land – Boston Post Rd. (Route 1) and internal park roads. Water – LIS.
<b>Staging Area</b>	Potential staging area in large asphalt parking lot behind West Beach.
<b>Additional Considerations</b>	Beach is bounded by jetty on west end and large groin at Meigs Point on east end. West Beach is eroding and sloped steeply to water from boardwalk. East Beach to Meigs Point has a gently sloping 75 ft berm with a nearshore that slopes moderately to the water. Meigs Point groin is sand tight and higher at landward end, but does not extend to back edge of beach. A vegetated dune runs the length of the park landward of the beach, with a few breaks for beach access.

**Site 365 Hammonasset State Park  
Madison, CT**

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**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Erosion at West Beach.



**Date:** July 16, 2010

**Direction:** South

**Description:**

East Beach profile and Meigs Point groin.

**Site 365 Hammonasset State Park  
Madison, CT**

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**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Dune behind West Beach at end of boardwalk.

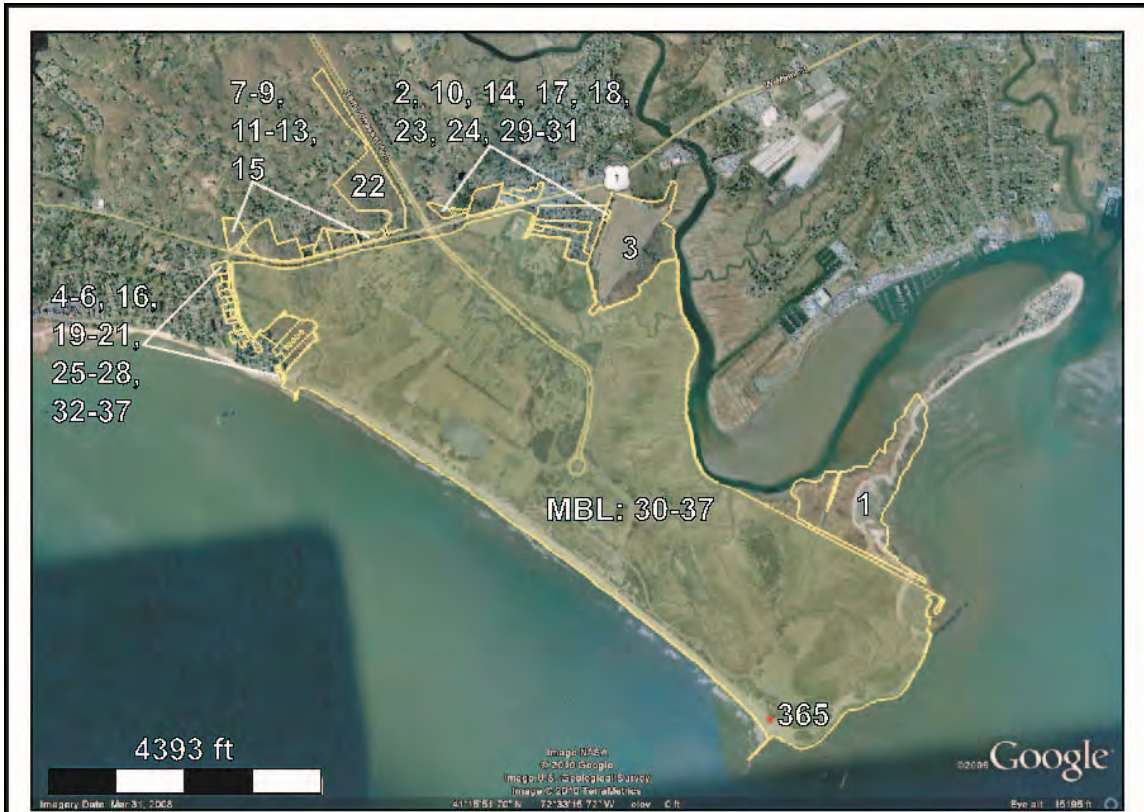


**Date:** July 16, 2010

**Direction:** South

**Description:**

Access to West Beach site via asphalt parking lot. Potential staging area in parking lot.




Parcel	MBL	Parcel	MBL
1	46-73-2	22	30-33
2	31-48	23	31-69
3	31-38	24	31-68
4	18-1	25	18-32
5	19-1	26	18-36
6	19-4	27	18-31
7	29-21	28	18-30
8	30-38	29	31-66
9	30-40	30	31-52
10	31-50	31	31-51
11	29-27	32	29-28
12	30-41	33	29-31
13	30-42	34	29-32
14	31-45	35	18-33
15	30-39	36	18-35
16	29-29	37	18-17
17	31-46		
18	31-47		
19	18-29		
20	18-40		
21	18-10		

**Site 365 Madison, CT  
Hammonasset State Park**




# Site 457 East Wharf Beach Madison, CT



<p><b>Legend</b></p> <p>Mapped Wetlands Tidal Wetland</p> <p>Mapped Habitat Federal/State Listed Species Habitat *(Covers Entire Site)</p>	<p>0 500 Feet</p> <p>Image Source: Google ©2009 Image Date: April 1, 2008 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-18-10 File: TO-0024_LIS_457-2.ai</p>
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# Site 457 East Wharf Beach Madison, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f0f0f0; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0      62      124      186</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009 Image Date: April 1, 2008 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10 File: TO-0024_LIS_457-3.ai</p>

**Site 457 East Wharf Beach  
Madison, CT**

<b>Site Address</b>	Middle Beach Rd., Madison, CT
<b>General Description</b>	Federal Shore Protection Project at a Municipal Beach located south of downtown Madison.
<b>Ownership/POC</b>	Town of Madison, CT S. Erskine, Beach and Recreation (203) 245-5623
<b>Zoning</b>	R-2 Residential
<b>Surrounding Land Use</b>	Residential
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse to medium--grained sand with gravel
<b>Nourishment Length</b>	Two separate areas for beach nourishment: West of pier - 230 ft North of pier - 170 ft
<b>Design Berm Width</b>	Two separate areas for beach nourishment: West of pier - 50 ft North of pier - 80 ft
<b>Capacity</b>	4,300 cy
<b>Site Access</b>	Land – Middle Beach Rd. Water – Long Island Sound
<b>Staging Area</b>	Potential staging area in small asphalt parking lot landward of beach with central landscaped area. Storm drain empties on east side of beach.
<b>Additional Considerations</b>	Solid fill pier and low wall separates south-facing beach from east-facing beach. South-facing beach has 30 ft berm of gentle slope, with moderately sloping foreshore and rock outcrop. East beach contains finer sands and has a steep slope from pavilion to water. Small dune between parking lot and beach. Abutting residences on either side of beach have seawalls. Homes to east have no beach; homes to west have timber groins and steeply sloping beaches.

## Site 457 East Wharf Beach Madison, CT

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**Date:** July 16, 2010

**Direction:** West

**Description:**

Beach, rock outcrop and timber groins west of pier.



**Date:** July 16, 2010

**Direction:** Northeast

**Description:**

Beach, parking lot drain and seawalls northeast of pier.

## Site 457 East Wharf Beach Madison, CT

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**Date:** July 16, 2010

**Direction:** South

**Description:**

Wall and pier.

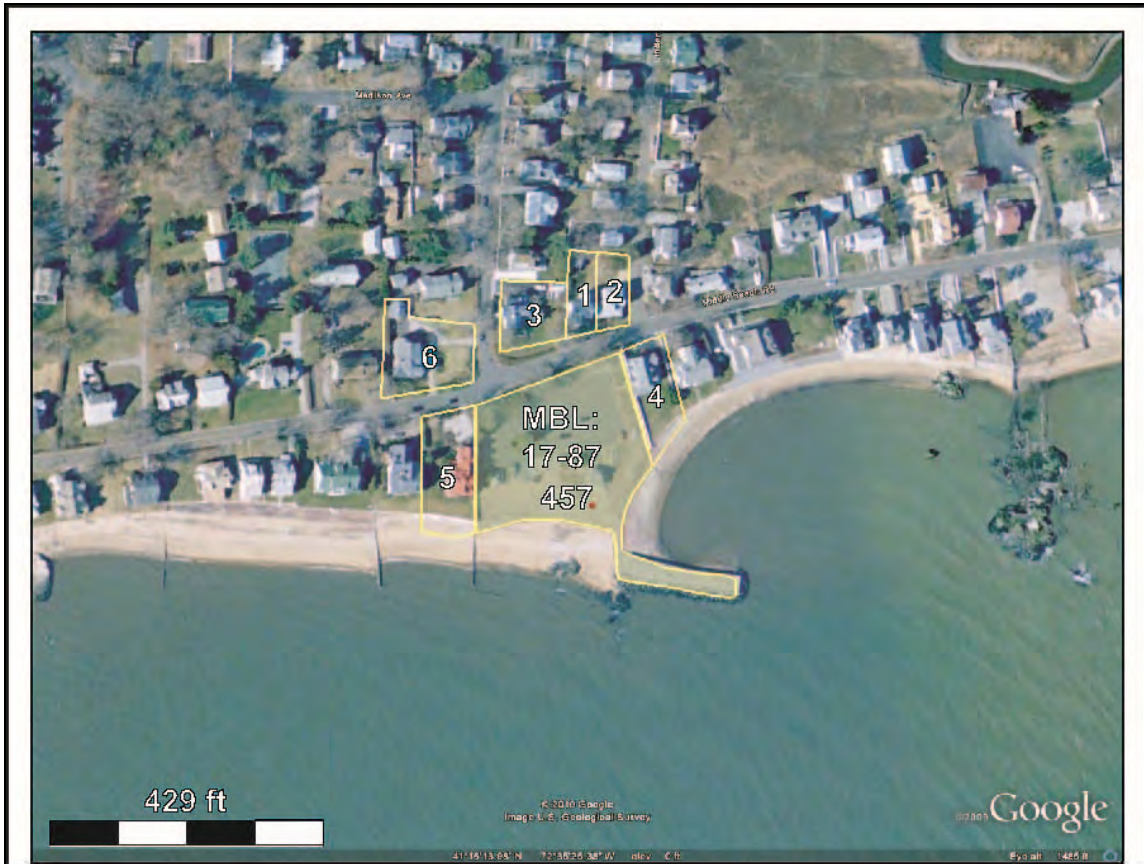


**Date:** July 16, 2010

**Direction:** Northwest

**Description:**

Dune, pavilion and bath house  
between beach and parking lot.




Parcel	MBL
1	17-39
2	17-40
3	17-38
4	17-86
5	17-88
6	17-12

**Site 457      Madison, CT**  
**East Wharf Beach**




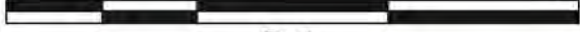

# Site 364 Silver Sands State Park Milford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands Tidal Wetland</p> <p>Mapped Habitat Federal/State Listed Species Habitat</p>	<p>0 1500 Feet</p> <p>Image Source: Google © 2009 Image Date: October 1, 2006 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-18-10 File: TO-0024_LIS_364-2.ai</p>
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# Site 364 Silver Sands State Park Milford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p> <p> Nourishment Area</p>	<p>0 <span style="float: right;">1495</span></p>  <p>Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-26-10              File: TO-0024_LIS_364-3.ai</p>
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**Site 364 Silver Sands State Park  
Milford, CT**

<b>Site Address</b>	East Broadway, Milford, CT
<b>General Description</b>	Federal Shore Protection area and State Park in Milford, CT. Extensive beach and wetland on parcel.
<b>Ownership/POC</b>	Silver Sands State Park Joe Mailer, Park Supervisor (203) 735-4311
<b>Zoning</b>	OS Open Space Non-residential.
<b>Surrounding Land Use</b>	Residential to the west and east, open space to the south.
<b>Wetlands</b>	Yes. Extensive mapped wetland on parcel inland of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers the entire site.
<b>Sediment Type</b>	Poorly sorted fine-grained sand with shell material
<b>Nourishment Length</b>	Two separate areas for beach nourishment: Western side of parcel - 900 ft Eastern side of parcel - 730 ft No nourishment in central area where tidal inlet runs through beach area to wetland on parcel behind.
<b>Design Berm Width</b>	Two separate areas for beach nourishment: Western side - 175 ft Eastern side - 50 ft
<b>Capacity</b>	21,000 cy
<b>Site Access</b>	Land –Short Beach Rd. to Dorne Dr. in Park. Water - LIS
<b>Staging Area</b>	Potential staging area in small unpaved lot at eastern end of parcel behind beach.
<b>Additional Considerations</b>	A large sand spit is forming between beach and Charles Island at east end of parcel. At low tide it is possible to walk all the way out to Charles Island. From main parking lot, access to beach is via elevated boardwalk that runs across the wetland on the eastern end. Truck and equipment access via paved road through park at eastern end of parcel.  There is an extensive marsh in back of the beach. The marsh drains through a culvert at central area of beach. This area would not be appropriate for beach nourishment. Shorebird enclosures noted during site visit.

**Site 364 Silver Sands State Park  
Milford, CT**

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**Date:** June 23, 2010

**Direction:** Northeast

**Description:**

Beach profile on east end of parcel.



**Date:** June 23, 2010

**Direction:** Southeast

**Description:**

View of Charles Island. Sand bar is dry all the way out to Charles Island at low tide.

## Site 364 Silver Sands State Park Milford, CT

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**Date:** June 23, 2010

**Direction:** East

**Description:**

Beach profile at western end of parcel.

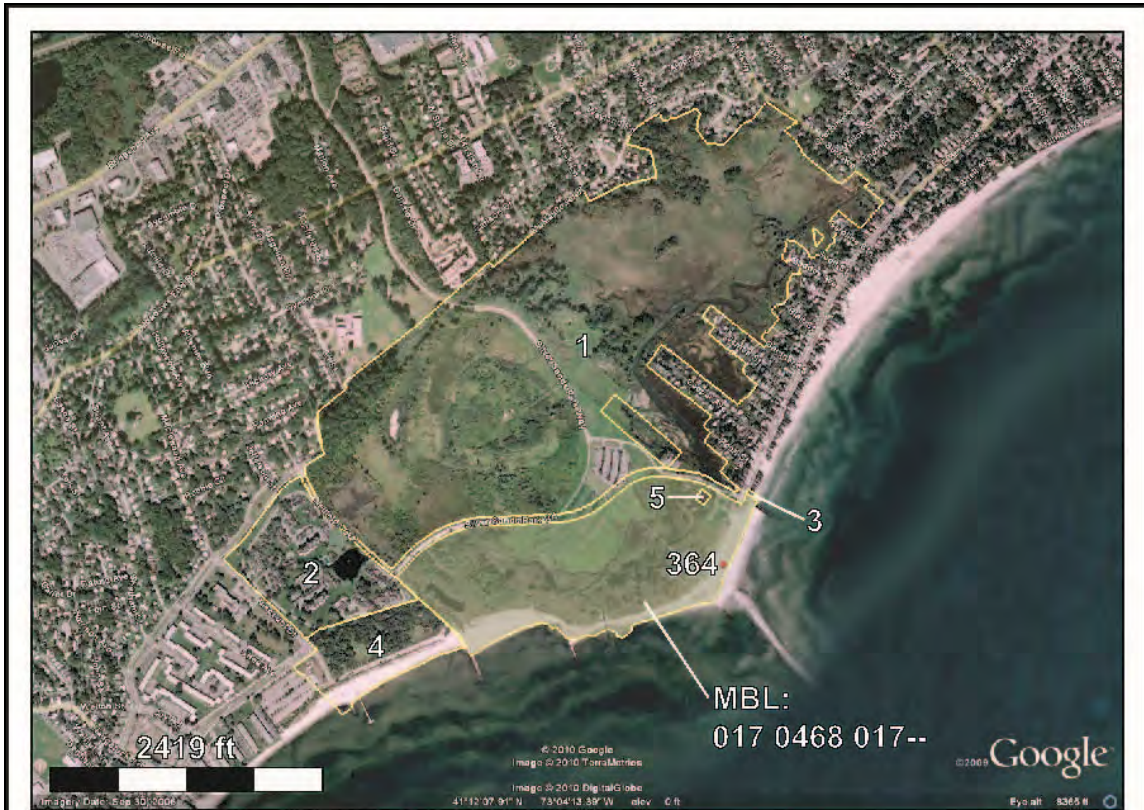


**Date:** June 23, 2010

**Direction:** West

**Description:**

Beach and stone groin in central area of parcel. Shorebird enclosures in background.







Parcel	MBL
1	017 0468 017--
2	017 0157 004--
3	022 0474 00004
4	017 0150 00003
5	022 0461 0001C

**Site 364 Milford, CT  
Silver Sands State Park**




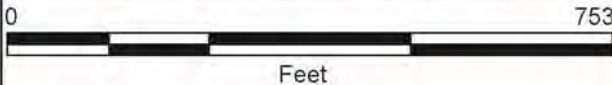

# Site 444 Gulf Beach Milford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p>	<p>0 250 500 750                    Feet</p> <p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>                  US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_444-2.ai</p>
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# Site 444 Gulf Beach Milford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p> <p> Nourishment Area</p>		<p>0 753</p>  <p>Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-27-10              File: TO-0024_LIS_444-3.ai</p>
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**Site 444 Gulf Beach**  
**Milford, CT**

<b>Site Address</b>	561 Gulf St., Milford, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach just east of Milford Harbor. Gulf Pond lies behind beach.
<b>Ownership/POC</b>	City of Milford, CT Mike Jacobsen, Recreation Department (203) 783-3280
<b>Zoning</b>	OS Open Space, Non-residential
<b>Surrounding Land Use</b>	Commercial (marina and related businesses) to the northwest; Residential in other surrounding areas.
<b>Wetlands</b>	No. Mapped wetlands north of parcel at the southern extent of Gulf Pond.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Poorly sorted medium-grained sand
<b>Nourishment Length</b>	670 ft
<b>Design Berm Width</b>	67 ft
<b>Capacity</b>	5,300 cy
<b>Site Access</b>	Land –Gulf St. Water - LIS
<b>Staging Area</b>	Potential staging area in large paved lot at southeast end of parcel; also potential staging in parking area along road on north side behind beach.
<b>Additional Considerations</b>	Landward side of beach at southeast end has a concrete seawall. Fishing pier at southeast end of parcel. Low-lying dunes between beach and parking area; dunes are segmented and vegetated. Gulf Pond behind beach has a large salt marsh/wetland area. Cultural resources present.

## Site 444 Gulf Beach Milford, CT

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**Date:** June 23, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** June 23, 2010

**Direction:** Southeast

**Description:**

View of beach with dune behind berm.



**Site 444 Gulf Beach  
Milford, CT**

---



**Date:** June 23, 2010

**Direction:** North

**Description:**

Gulf Pond behind beach and road.



**Date:** June 23, 2010

**Direction:** East

**Description:**

Potential staging in parking area behind beach.





Parcel	MBL
1	036 0588 00001
2	036 0519 OPENS
3	037 0588 0002A
4	028 0520 00022
5	028 0520 00023
6	036 0584 00006

**Site 444 Milford, CT  
Gulf Beach**

# Site 451 Woodmont Shore Beach Milford, CT





<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_451-2.ai</p>

# Site 451 Woodmont Shore Beach Milford, CT



Long Island Sound

<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f08080; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">251</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-27-10 File: TO-0024_LIS_451-3.ai</p>
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**Site 451 Woodmont Shore Beach**  
**Milford, CT**

<b>Site Address</b>	Beach Ave., Milford, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach in Milford, CT about half way between Milford Harbor and New Haven Harbor.
<b>Ownership/POC</b>	City of Milford, CT Mike Jacobsen, Recreation Department (203) 783-3280
<b>Zoning</b>	R 12.5 Residential
<b>Surrounding Land Use</b>	Residential; park/open space landward of beach.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Poorly sorted medium to coarse-grained sand
<b>Nourishment Length</b>	250 ft
<b>Design Berm Width</b>	25 ft
<b>Capacity</b>	500 cy
<b>Site Access</b>	Land – Beach Ave. Paved road in residential neighborhood. Water - LIS
<b>Staging Area</b>	No lot adjacent to beach. There is a small parking area approximately 100 yds from beach on street.
<b>Additional Considerations</b>	Beach has a low-lying bank between the sidewalk and beach. Bank has loosely placed rip-rap and sparse vegetation. Groins on north and south ends of parcel. Berm is near height of stone groin on north side, lower on adjacent parcel farther north, indicating sediment transport from south to north. Cement groin on southwest side has openings at the bottom that allow passage of water and sand.

**Site 451 Woodmont Shore Beach  
Milford, CT**

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**Date:** June 23, 2010

**Direction:** South

**Description:**

Beach profile looking south.



**Date:** June 23, 2010

**Direction:** Southeast

**Description:**

Stone groin at north end of parcel showing sediment offset.

## Site 451 Woodmont Shore Beach Milford, CT

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**Date:** June 23, 2010

**Direction:** South

**Description:**

Cement groin at south end of parcel.



**Date:** June 23, 2010

**Direction:** West

**Description:**

No parking or staging area along road next to beach. Potential staging area in narrow parking area adjacent to park across the street, but no space directly adjacent to beach.







Parcel	MBL
1	071 0783 00001
2	071 0777 00001
3	071 0774 00003
4	071 0775 00003

**Site 451      Milford, CT**  
**Woodmont Shore Beach**

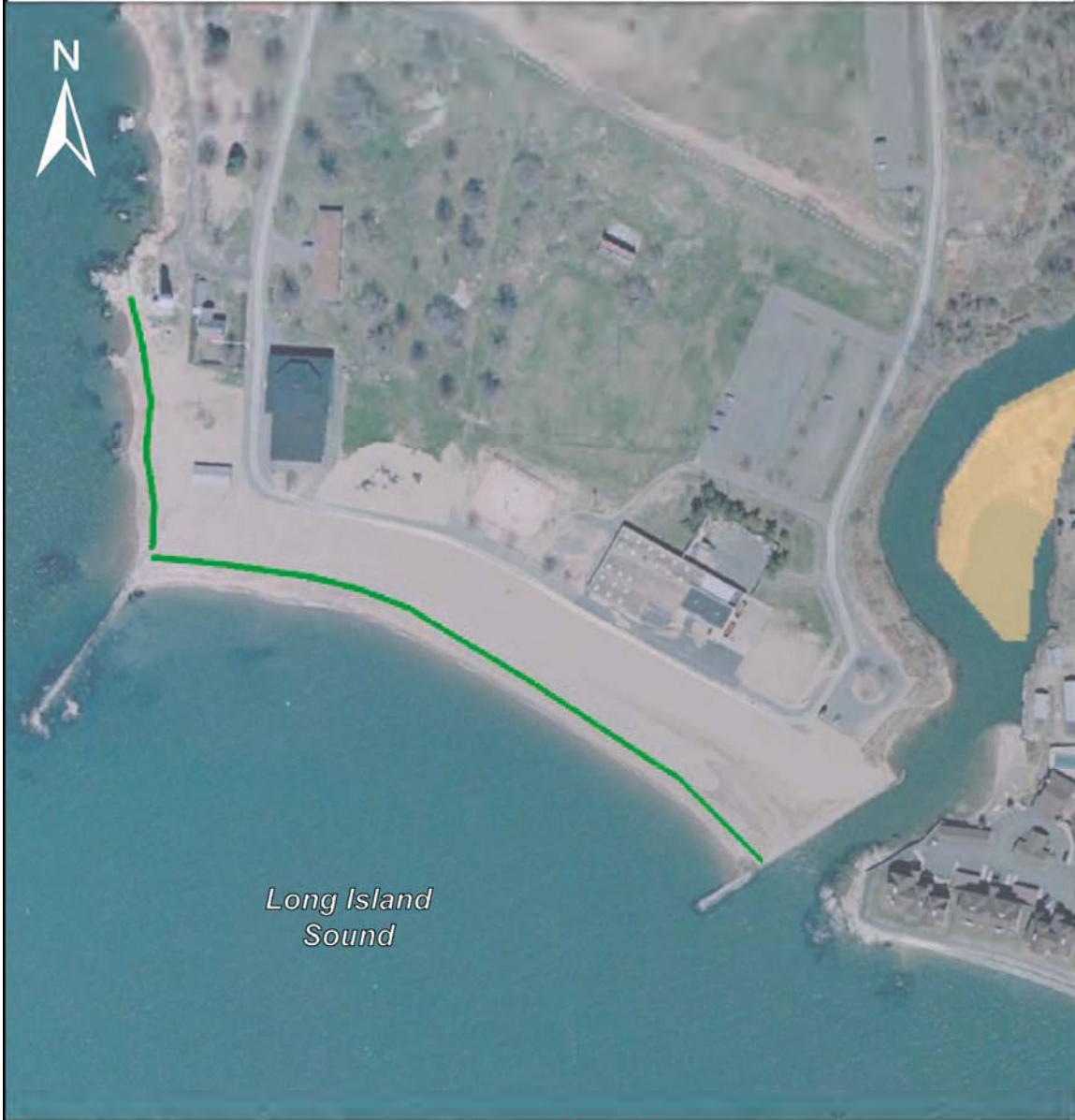







# Site 337 Lighthouse Point Park Beach New Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p>	<p>0 500 1000 1500</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_337-2.ai</p>

# Site 337 Lighthouse Point Park Beach New Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat</li> <li> Nourishment Area</li> </ul>	<p>0  611</p> <p>Feet</p> <p>Image Source: Google © 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-26-10              File: TO-0024_LIS_337-3.ai</p>
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**Site 337 Lighthouse Point Park Beach**  
**New Haven, CT**

<b>Site Address</b>	21 Lighthouse Rd., New Haven, CT
<b>General Description</b>	Municipal Beach and park on the east side of New Haven Harbor south of Morris Cove. Primary beach area runs east-west; secondary beach area runs north-south. Parcel is adjacent to Morris Creek and has a large park area upland of the beach.
<b>Ownership/POC</b>	City of New Haven, CT Robert Levine , Director Parks Department (203) 946-8027
<b>Zoning</b>	Park
<b>Surrounding Land Use</b>	Residential with small commercial marina on northern border. Parcel itself is open space, and bordered on east by Morris Creek and associated salt marsh.
<b>Wetlands</b>	No. Mapped wetlands surround adjacent Morris Creek. Unmapped <i>Phragmites</i> wetlands were observed growing on eastern border of park along Morris Creek.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium grained sand with gravel
<b>Nourishment Length</b>	East-west beach: 1,030 ft North-south beach: 380 ft
<b>Design Berm Width</b>	East-west beach: 50 ft North-south beach: 38 ft
<b>Capacity</b>	3,400 cy
<b>Site Access</b>	Land – Lighthouse Rd. to Park Ave. Water – LIS to south, New Haven Harbor channel to west
<b>Staging Area</b>	Potential staging area in asphalt parking lot with storm drains at southeast corner of parcel, about 200 yards from the south facing beach. Paved access road continues past parking lot to beach. Extensive unpaved grassy upland areas also used for parking.
<b>Additional Considerations</b>	South facing beach has stone groin on west end and stone jetty on east end; West facing beach shares groin on southern end and is bounded by rocky outcrop to north. South facing beach has 50 ft berm sloping gradually to water. Smaller west facing beach south of lighthouse has 40 ft berm and gradual slope to water. Both beaches are bordered on the landward side by a paved walking path, and the beach is at the same elevation as the path. Small vegetated dunes are found at the foot of each groin. The east breakwater for New Haven Harbor is 2,800 ft south of the eastern jetty. There is a 180 ft fishing pier along the rocky western bluff approximately halfway between the point and the northern border. Cultural resources present.

## Site 337 Lighthouse Point Park Beach New Haven, CT

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**Date:** June 25, 2010

**Direction:** West

**Description:**

South facing beach profile, groin and walkway looking west.



**Date:** June 25, 2010

**Direction:** North

**Description:**

West facing beach profile and lighthouse looking north.

## Site 337 Lighthouse Point Park Beach New Haven, CT

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**Date:** June 25, 2010

**Direction:** Southwest

**Description:**

Jetty at eastern end of beach, with breakwaters in background.

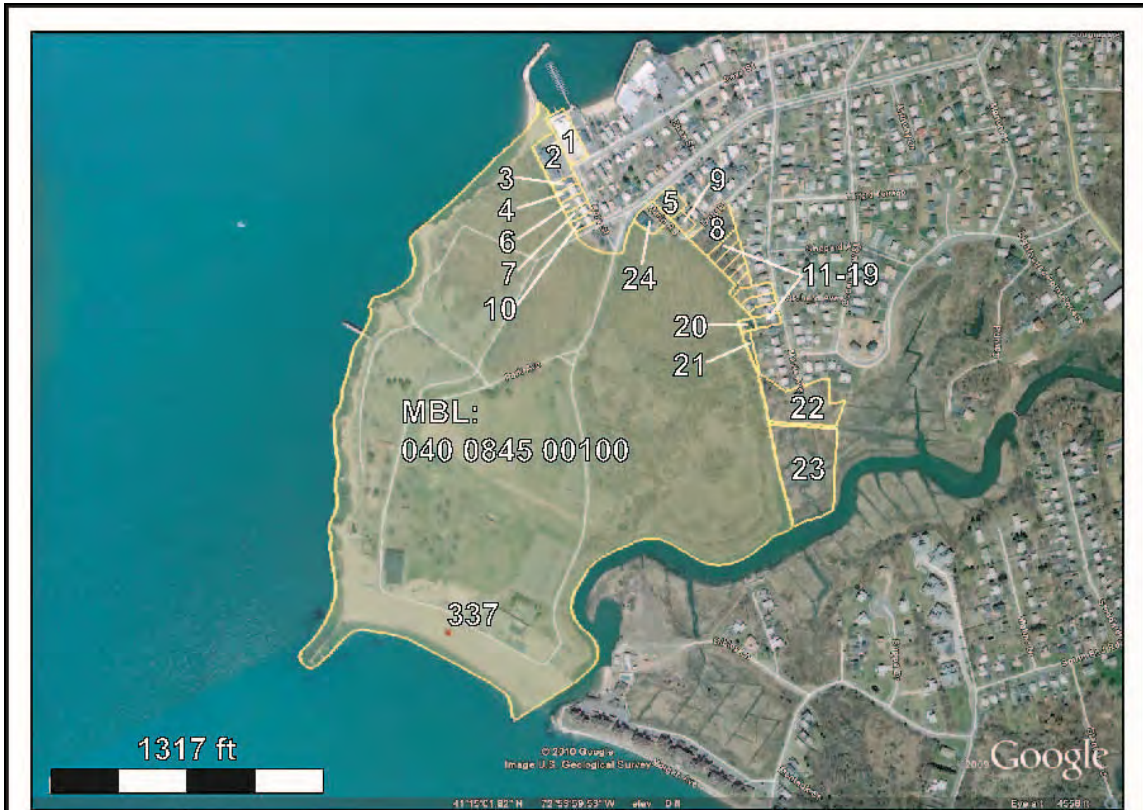


**Date:** June 25, 2010

**Direction:** Northeast

**Description:**

Potential staging for trucks and grading equipment in lot at back of beach.




Parcel	MBL	Parcel	MBL
1	035 0865 00100	13	036 0847 01200
2	035 0846 00100	14	036 0847 01300
3	035 0846 00200	15	036 0847 01400
4	035 0846 00300	16	036 0847 01900
5	035 0854 00100	17	036 0847 02000
6	035 0846 00400	18	036 0847 02100
7	035 0846 00500	19	036 0847 02200
8	036 0847 00100	20	036 0847 02300
9	035 0854 02000	21	037 0847 03000
10	035 0846 00600	22	037 0848 00900
11	036 0847 01000	23	037 0848 00800
12	036 0847 01100	24	035 0854 02100

**Site 337      New Haven, CT**  
**Lighthouse Point Park Beach**

# Site 320 Calf Pasture Beach Norwalk, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>0 500 1000 1500</p> <p>Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-18-10              File: TO-0024_LIS_320-2.ai</p>
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# Site 320 Calf Pasture Beach Norwalk, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> <li>Nourishment Area</li> </ul>	<p>0 324 648 972</p> <p>Feet</p>	
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>US Army Corps of Engineers</p> <p>Date: 8-26-10                  File: TO-0024_LIS_320-3.ai</p>



**Site 320 Calf Pasture Beach  
Norwalk, CT**

<b>Site Address</b>	Calf Pasture Beach Rd., Norwalk, CT
<b>General Description</b>	Federal Shore Protection area in Norwalk, with Norwalk Harbor to west, Cockenoe Harbor to the east.
<b>Ownership/POC</b>	City of Norwalk, CT Richard Macdonald, Recreation & Parks Beach Supervisor (203) 838-0596
<b>Zoning</b>	AAA Residential
<b>Surrounding Land Use</b>	Boat yard and marina to west and north of site; residential to north and northeast.
<b>Wetlands</b>	Yes. Mapped wetlands on the beach at the southern end of site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of the site.
<b>Sediment Type</b>	Well sorted medium grained sand on south end; Poorly sorted coarse sand to gravel on north side
<b>Nourishment Length</b>	2,220 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	31,900 cy
<b>Site Access</b>	Road – Calf Pasture Rd. Water – Cockenoe Harbor
<b>Staging Area</b>	Potential staging area in large paved lot near center of parcel.
<b>Additional Considerations</b>	South side of parcel has 3 stone groins connected at the landward end by a stone seawall. The beach in this area has a narrow berm and fringing marsh. There is a wood pier at the end of the groin on the southeastern tip of the parcel. There is a sand launch ramp at the south end of the parcel with a wooden crib structure on one side. Nourishment is not recommended in this area due to proximity to wetland and rocky intertidal habitat. The east-facing beach (which runs from north to south) has a wide berm that tapers on the north side. This area has capacity for beach nourishment. Cultural resources present.

## Site 320 Calf Pasture Beach Norwalk, CT

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**Date:** June 22, 2010

**Direction:** North

**Description:**

Beach profile looking north. Repairs on walk/bike path were underway during site visit.



**Date:** June 22, 2010

**Direction:** Southeast

**Description:**

Stone groin and pier at southeastern tip of parcel; fringing marsh at shoreline.

## Site 320 Calf Pasture Beach Norwalk, CT

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**Date:** June 22, 2010

**Direction:** North

**Description:**

Wide berm at central/northern beach area.



**Date:** June 22, 2010

**Direction:** South

**Description:**

Potential staging area in paved lot behind beach; also unpaved (sand) boat ramp to water.







Parcel	MBL
1	3-75-17-0
2	3-75-2-0
3	3-75-1-0
4	3-75-3-0
5	3-77-1-0

**Site 320**    **Norwalk, CT**  
**Calf Pasture Beach**

# Site 441 Cove Island Beach Stamford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 500 1000 1500</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 9-10-10                  File: TO-0024_LIS_441-2.ai</p>	

# Site 441 Cove Island Beach Stamford, CT



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b>   Tidal Wetland</p> <p><b>Mapped Habitat</b>   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0      271      542      813</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-28-10                  File: TO-0024_LIS_441-3.ai</p>

**Site 441 Cove Island Beach  
Stamford, CT**

<b>Site Address</b>	Cove Rd., Stamford, CT
<b>General Description</b>	Federal Shore Protection area in Stamford with marina on east side, large spillway from Holly Pond on west. Cove Island recreation area adjacent to beach.
<b>Ownership/POC</b>	City of Stamford, CT S. Beauregard, Recreation and Leisure Services (203) 977-5214
<b>Zoning</b>	P Park
<b>Surrounding Land Use</b>	Residential to east and northwest; park and marina to west.
<b>Wetlands</b>	Yes. Mapped wetlands below spillway and around rocky headlands.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse sand
<b>Nourishment Length</b>	940 ft
<b>Design Berm Width</b>	94 ft
<b>Capacity</b>	20,100 cy
<b>Site Access</b>	Land – Access to site restricted by a narrow bridge. Access for pedestrians and small maintenance vehicles is possible, but trucks and equipment would be restricted. Water – Cove Harbor
<b>Staging Area</b>	No existing staging areas on site. There is a large paved lot to west of beach, but access would be restricted by the small bridge between the beach and lot.
<b>Additional Considerations</b>	Parcel has two beach areas, separated by a rocky point. The larger beach at the east side has a stone groin at its east end. Here the beach is higher and wider at west side of groin; shoreline on east side of groin is set way back and has an exposed tidal flat with fringing marsh. Farther east the beach drops off to the spillway at Holly Pond. The beach at the west end has a rocky intertidal and fringing marsh, but then grades up to a sandy area with planted trees. Nourishment was not calculated for this area because of potential damage to the fringing marsh and rocky intertidal habitat. Access for trucks and heavy equipment restricted, as noted above. Cultural resources present.

## Site 441 Cove Island Beach Stamford, CT

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**Date:** June 21, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** June 21, 2010

**Direction:** North

**Description:**

Dune at east end of parcel, and spillway to Holly Pond in background.



## Site 441 Cove Island Beach Stamford, CT

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**Date:** June 21, 2010

**Direction:** Southeast

**Description:**

West side beach with fringing marsh and rocky intertidal. Placement of material is not considered viable on the beach here due to proximity to wetland.



**Date:** June 21, 2010

**Direction:** East

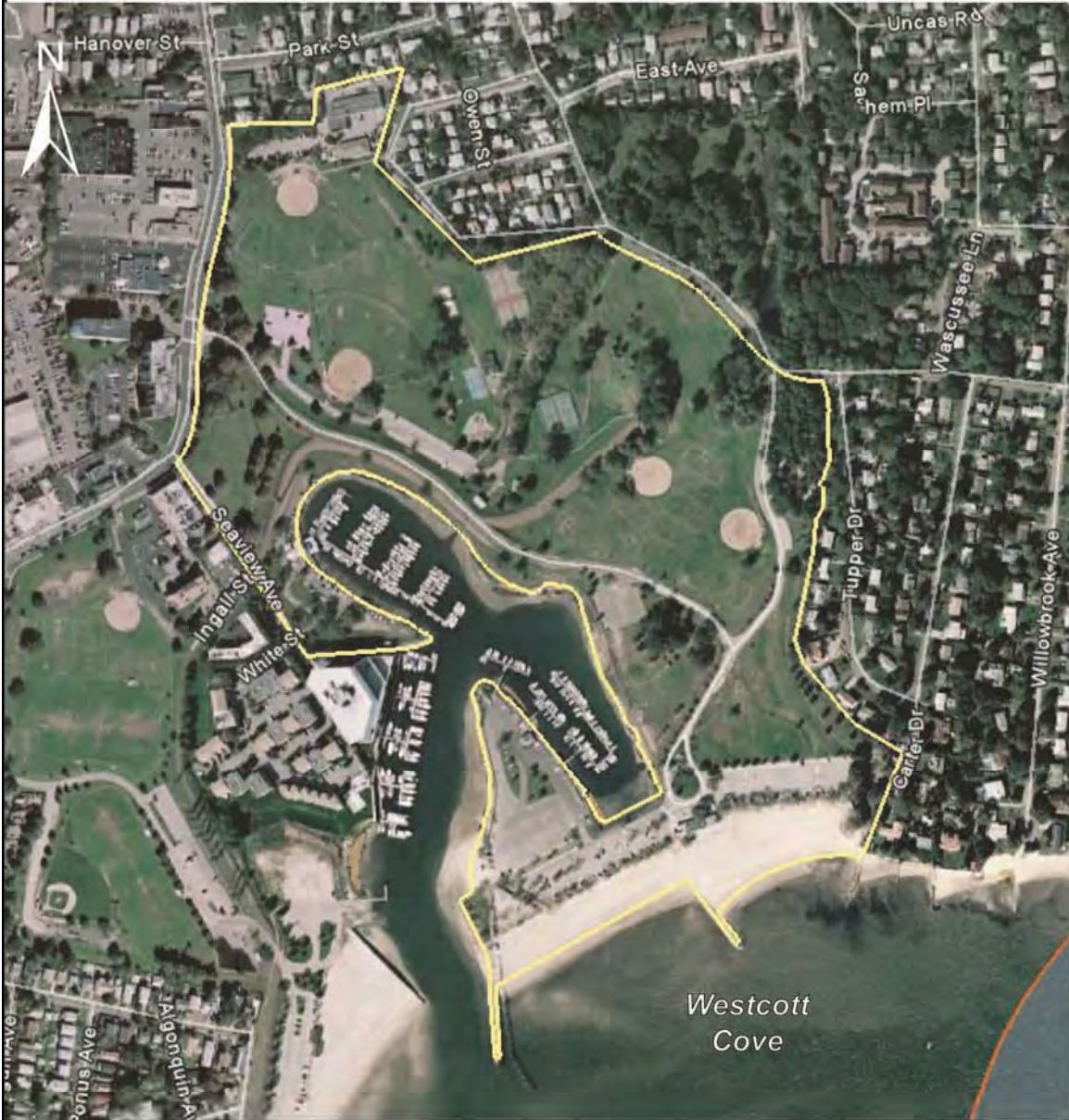
**Description:**

Access to beach area for equipment is restricted by narrow bridge from parking lot to main beach parcel.



**Site 441    Stamford, CT  
Cove Island Beach**






# Site 442 Cummings Park Beach Stamford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 500 1000 1500</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-19-10                  File: TO-0024_LIS_442-2.ai</p>

# Site 442 Cummings Park Beach Stamford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat</li> <li> Nourishment Area</li> </ul>	<p>0  774</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-19-10                  File: TO-0024_LIS_442-3.ai</p>

## Site 442 Cummings Park Beach Stamford, CT

<b>Site Address</b>	Shippan Ave., Stamford, CT
<b>General Description</b>	Municipal Beach and a Federal Shore Protection site, located just east of Shippan Point in Westcott Cove.
<b>Ownership/POC</b>	City of Stamford, CT S. Beauregard, Recreation and Leisure Services (203) 977-5214
<b>Zoning</b>	Park
<b>Surrounding Land Use</b>	Marina and yacht club in basin behind the beach; recreational fields landward of beach; residential parcels adjacent to site.
<b>Wetlands</b>	Yes. Mapped wetlands bordering marina basin, but not in the beach area.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	Two separate areas for beach nourishment: Western side of parcel - 640 ft Eastern side of parcel - 530 ft
<b>Design Berm Width</b>	Two separate areas for beach nourishment: Western side - 250 ft Eastern side - 140 ft
<b>Capacity</b>	38,700 cy
<b>Site Access</b>	Land – McMullen Ave. Water – LIS, Westcott Cove
<b>Staging Area</b>	Potential staging area in paved parking lot landward of beach; potential access for equipment across paved walking path; large trees present in certain places between walking path and beach.
<b>Additional Considerations</b>	Stone jetty and wooden pile structure (pier with no decking) at west end of beach; stone groins near center of beach and at east end. Updrift offset noted on east sides of structures suggesting transport from east to west. Marina basin lies just west of the parcel (west end jetty is located at entrance to marina basin). Cultural resources present.

## Site 442 Cummings Park Beach Stamford, CT

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**Date:** June 26, 2010

**Direction:** East

**Description:**

Beach profile from west side.



**Date:** June 26, 2010

**Direction:** South

**Description:**

Groin and wood pier structure at west end of beach.

## Site 442 Cummings Park Beach Stamford, CT

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**Date:** June 26, 2010

**Direction:** South

**Description:**

Groin at center of beach, showing sand offset on east side.

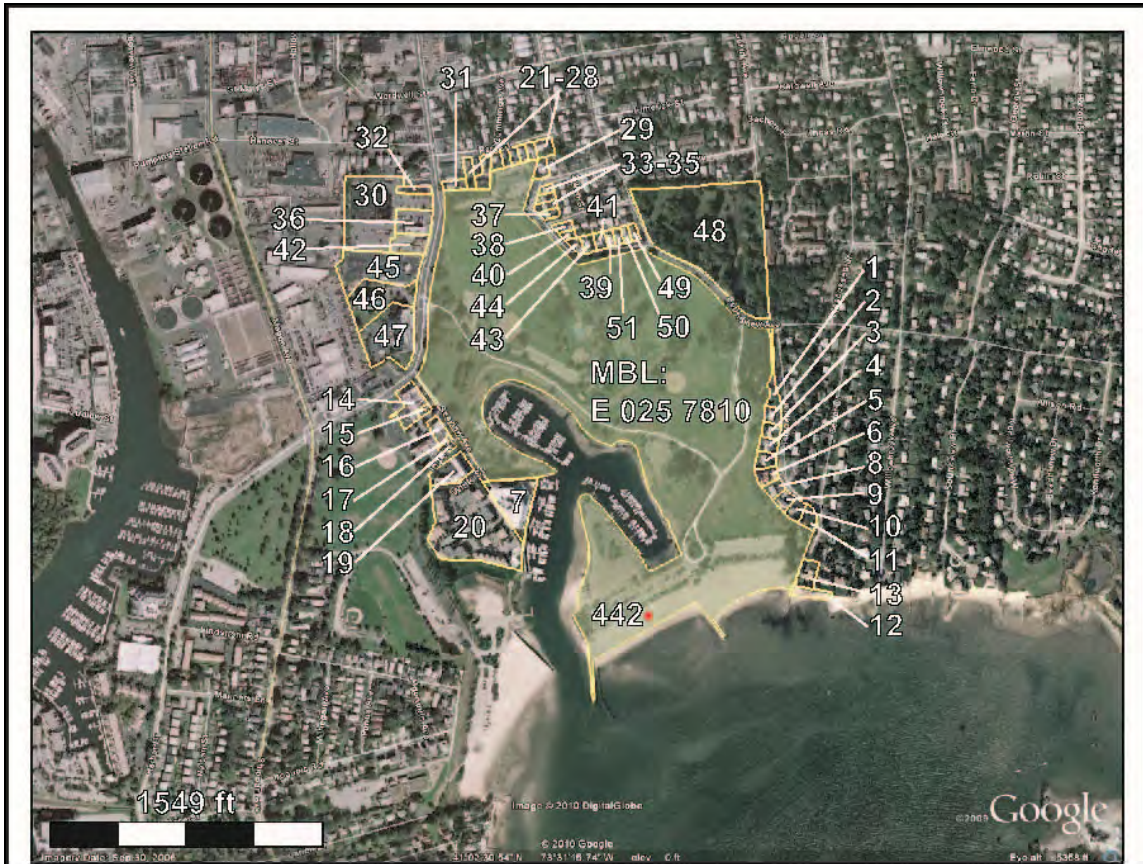


**Date:** June 26, 2010

**Direction:** Southeast

**Description:**

Potential staging for trucks and grading equipment in lot at back of beach.





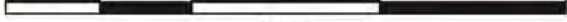

Parcel	MBL	Parcel	MBL	Parcel	MBL
1	W 002 8760	22	S 009 6544	43	N 005 5608
2	W 003 8760	23	S 008 6544	44	N 006 5608
3	W 004 8760	24	S 007 6544	45	N 007 5608
4	W 005 8760	25	S 006 6544	46	W 030 7810
5	W 006 8760	26	S 005 6544	47	W 031 7810
6	W 007 8760	27	S 004A 6544	48	W 032 7810
7	E 002Z 7688	28	S 002 6544	49	E 025 7810
8	W 008 8760	29	S 003 5608	50	N 001 5608
9	W 009 8760	30	W 027 7810	51	N 002 5608
10	W 010 8760	31	E 024 7810		
11	W 011Z 8760	32	W 026 7810		
12	E 017 1312	33	N 013 5608		
13	E 018 1312	34	N 012 5608		
14	E 026 7810	35	N 011 5608		
15	W 003 7688	36	W 028 7810		
16	W 004 7688	37	N 010 5608		
17	W 007 7688	38	N 009 5608		
18	W 008 7688	39	N 003 5608		
19	W 010 7688	40	N 008 5608		
20	W 012 7688	41	N 004 5608		
21	S 010 6544	42	W 029 7810		

**Site 442      Stamford, CT**  
**Cummings Park Beach**

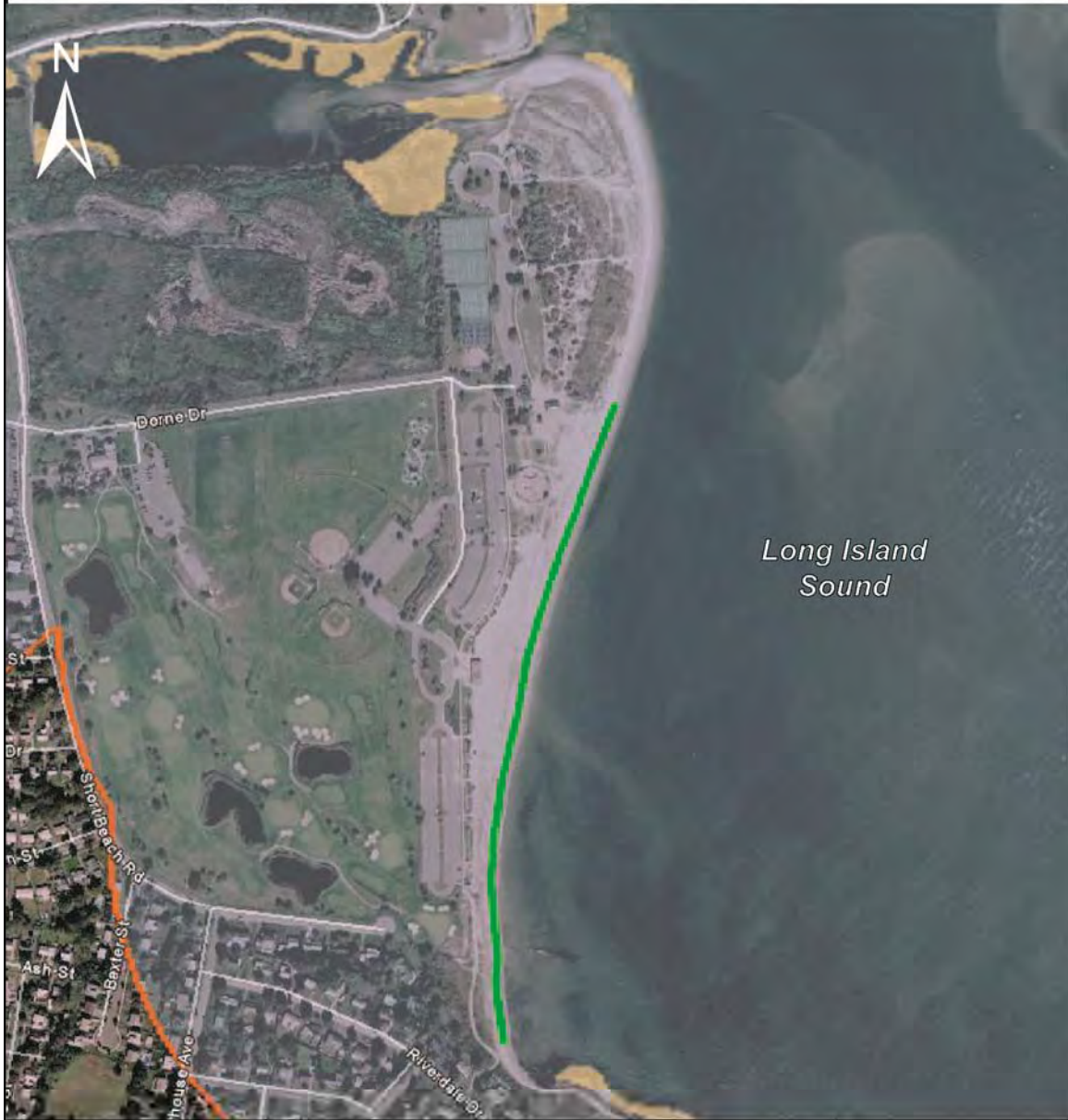







# Site 450 Short Beach Stratford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 <span style="float: right;">2000</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_450-2.ai</p>
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# Site 450 Short Beach Stratford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0 <span style="float: right;">1729</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-27-10 File: TO-0024_LIS_450-3.ai</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		

**Site 450 Short Beach  
Stratford, CT**

<b>Site Address</b>	Short Beach Dr., Stratford, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach in Long Island Sound near the mouth of the Housatonic River. Beach runs in a north-south direction.
<b>Ownership/POC</b>	Town of Stratford, CT Patricia Patusky, Recreation Department (203) 385-4052
<b>Zoning</b>	Primarily RS-3 Single Family Residential Also MA Industrial and MC Coastal Industrial District
<b>Surrounding Land Use</b>	Residential to south; airport to northwest.
<b>Wetlands</b>	Yes. Mapped wetland at north end of parcel near mouth of the Housatonic River.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers the entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand with shells
<b>Nourishment Length</b>	2,310 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	54,400 cy
<b>Site Access</b>	Land –Short Beach Rd. to Dorne Dr. Water - LIS
<b>Staging Area</b>	Potential staging area in large paved lot behind beach.
<b>Additional Considerations</b>	South end of beach has detached stone groin. Beach berm is flat, very wide (about 80-100 ft wide) with steeply sloping foreshore. At north end of beach there is a large vegetated dune and wooden sitting area and access ramp. Beach berm is narrower in this area.

## Site 450 Short Beach Stratford, CT

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**Date:** June 23, 2010

**Direction:** North

**Description:**

Beach profile looking north.



**Date:** June 23, 2010

**Direction:** South

**Description:**

View of beach looking south with dune at back of beach.

## Site 450 Short Beach Stratford, CT

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**Date:** June 23, 2010

**Direction:** North

**Description:**

Wide berm and access ramp to beach at north side of parcel.

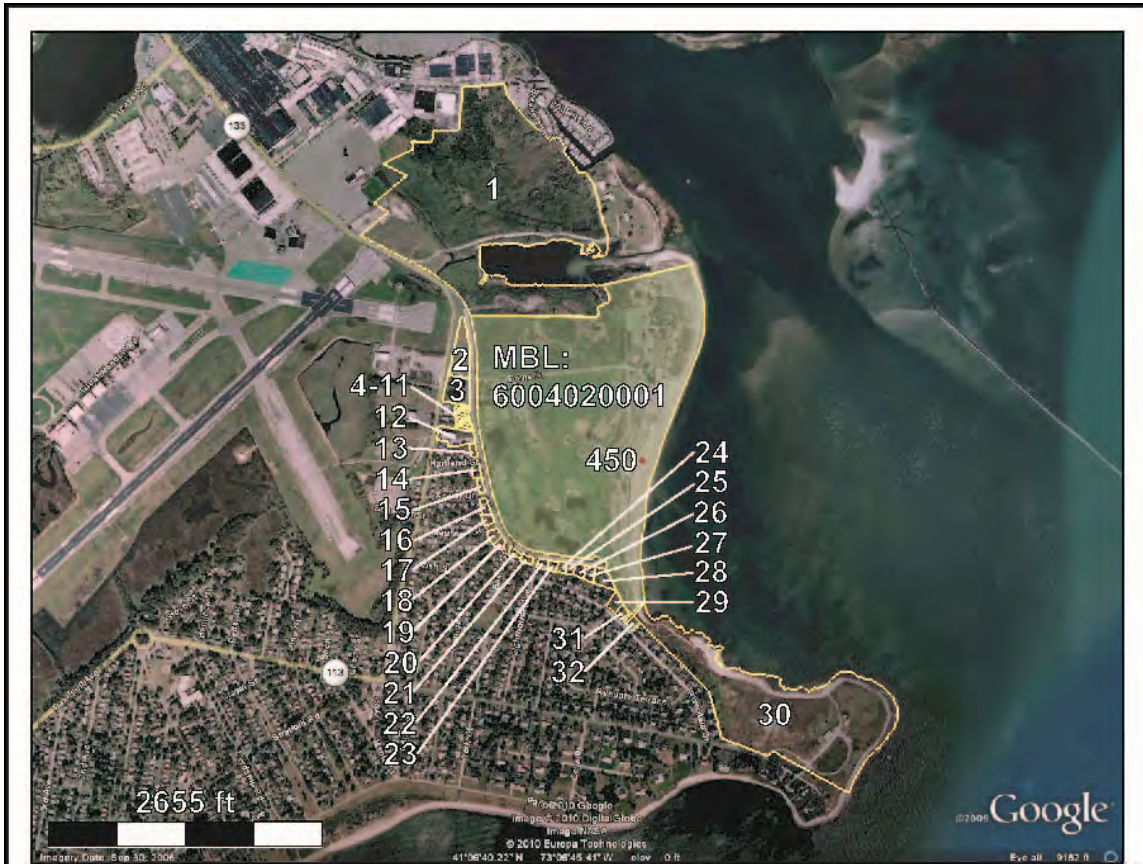


**Date:** June 23, 2010

**Direction:** North

**Description:**

Wooden sitting area and vegetated dune.

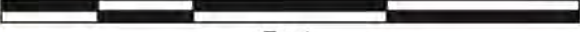



Parcel	MBL	Parcel	MBL
1	5004030001	17	6003030005
2	5004020001	18	6003040015
3	6004010003	19	6003040014
4	6004010002	20	6003040007
5	6004010001	21	6003040006
6	6003010009	22	6003060007
7	6003010008	23	6003060006
8	6003010007	23	6003060005
9	6003010006	25	6003060004
10	6003010005	26	6003060003
11	6003010004	27	6003060002
12	5003020004	28	6003060001
13	6003010003	29	6003060016
14	6003020005	30	7002010001
15	6003020004	31	6003060017
16	6003030006	32	6002060001

**Site 450      Stratford, CT**  
**Short Beach**






# Site 447 Prospect Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10              File: TO-0024_LIS_447-2.ai</p>
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# Site 447 Prospect Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p> <p> Nourishment Area</p>	<p>0      680      1360      2040</p>  <p>Feet</p> <p>Image Source: Google © 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-27-10              File: TO-0024_LIS_447-3.ai</p>
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**Site 447 Prospect Beach**  
**West Haven, CT**

<b>Site Address</b>	711 Ocean Dr., West Haven, CT
<b>General Description</b>	Federal Shore Protection site and Municipal Beach on Long Island Sound just west of entrance to New Haven Harbor.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Residential.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No. Mapped habitat just across the parcel boundary at south end.
<b>Sediment Type</b>	Well sorted medium grained sand
<b>Nourishment Length</b>	4,400 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	63,100 cy
<b>Site Access</b>	Land – Ocean Ave.; paved 2-lane road. Water - LIS
<b>Staging Area</b>	Potential staging area in paved area along road in back of beach in center of parcel. Limited parking along the road adjacent to beach.
<b>Additional Considerations</b>	There are 12 stone groins on this parcel. Most are very low and allow sand transport along the beach. Berm is flat and wide. Some erosion evident at southwest end of parcel. North side of beach ends in a rip-rap groin and concrete tide gate that runs to a wetland north of the parcel. Nourishment not calculated in vicinity of tide gate area to north of parcel to avoid shoaling in this area and interference with tidal flow to marsh.

## Site 447 Prospect Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** South

**Description:**

Beach profile looking south.



**Date:** June 23, 2010

**Direction:** North

**Description:**

Tide gate at northern end of parcel.

## Site 447 Prospect Beach West Haven, CT

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**Date:** June 23, 2010

**Direction:** Northwest

**Description:**

Beach is graded each morning to remove trash and organic debris.

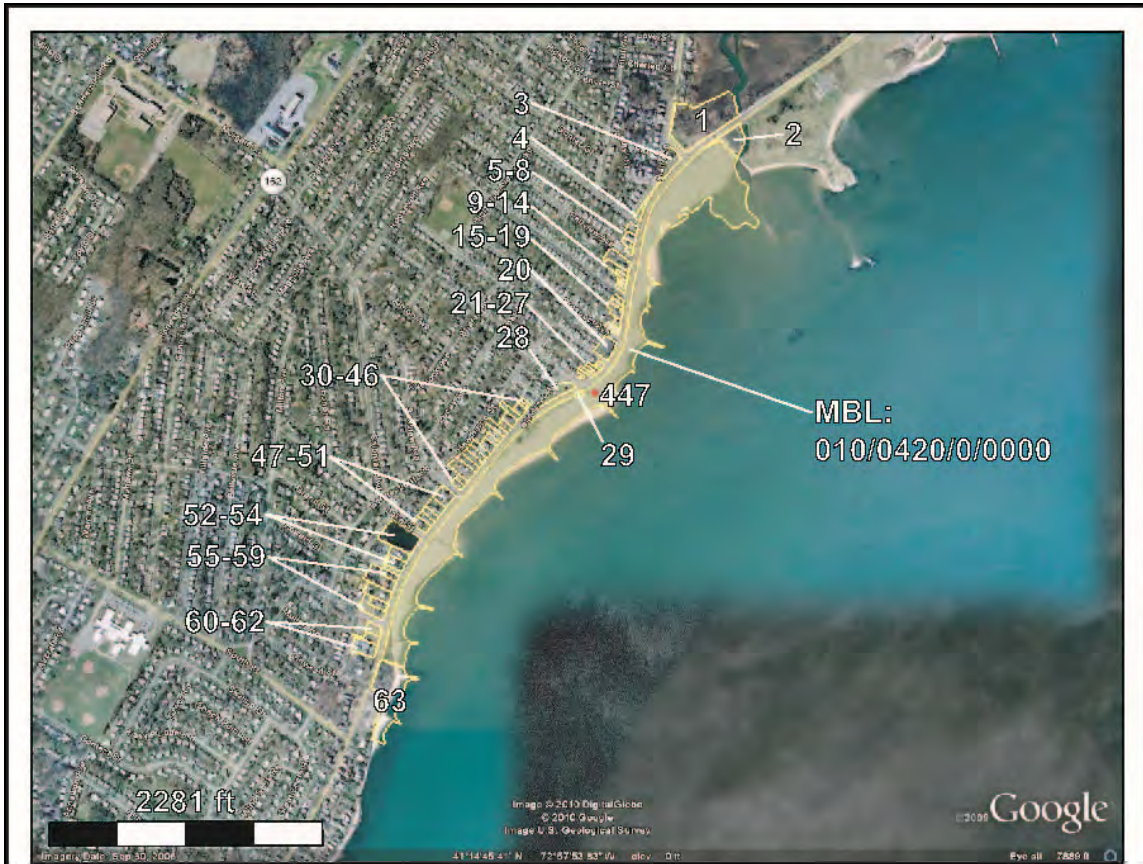


**Date:** June 23, 2010

**Direction:** North

**Description:**

Possible staging in parking area behind beach.




Parcel	MBL	Parcel	MBL	Parcel	MBL
1	015/0137/0/0000	22	010/0295/0/0000	43	010/0424/0/0000
2	015/0143/0/0000	23	010/0296/0/0000	44	010/0423/0/0000
3	015/0144/0/0000	24	010/0294/0/0000	45	010/0422/0/0000
4	015/0145/0/0000	25	010/0293/0/0000	46	010/0421/0/0000
5	015/0012/0/0000	26	010/0292/0/0000	47	007/0176/0/0000
6	015/0009/0/0000	27	010/0291/0/0000	48	007/0175/0/0000
7	015/0008/0/0000	28	010/0599/0/0000	49	007/0174/0/0000
8	015/0007/0/0000	29	010/0420/A/0000	50	007/0173/0/0000
9	011/0023/0/0000	30	010/0437/0/0000	51	007/0172/0/0000
10	011/0022/0/0000	31	010/0436/0/0000	52	007/0164/0/0000
11	011/0021/0/0000	32	010/0434/0/0000	53	007/0163/0/0000
12	011/0020/0/0000	33	010/0435/0/0000	54	007/0162/0/0000
13	011/0019/0/0000	34	010/0433/0/0000	55	007/0151/0/0000
14	011/0018/0/0000	35	010/0431/0/0000	56	007/0152/0/0000
15	011/0012/0/0000	36	010/0432/0/0000	57	007/0150/0/0000
16	011/0011/0/0000	37	010/0430/0/0000	58	007/0148/0/0000
17	011/0009/0/0000	38	010/0429/0/0000	59	007/0149/0/0000
18	011/0005/0/0000	39	010/0428/0/0000	60	007/0067/0/0002
19	011/0004/0/0000	40	010/0427/0/0000	61	007/0067/0/0001
20	011/0001/0/0000	41	010/0426/0/0000	62	007/0066/0/0000
21	010/0297/0/0000	42	010/0425/0/0000	63	007/0177/0/0000

**Site 447 West Haven, CT  
Prospect Beach**

# Site 438 Burial Hill Beach Westport, CT








<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0      250      500      750</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google ©2009 Image Date: October 1, 2006 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10 File: TO-0024_LIS_438-2.ai</p>

# Site 438 Burial Hill Beach Westport, CT



Long Island  
Sound

<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0      127      254      381</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_438-3.ai</p>

**Site 438 Burial Hill Beach**  
**Westport, CT**

<b>Site Address</b>	Beachside Ave., Westport, CT
<b>General Description</b>	This is Federal Shore Protection area on Long Island Sound, just east of Sherwood Island State Park.
<b>Ownership/POC</b>	City of Westport, CT Janis Collins, Parks and Recreation (203) 222-9712
<b>Zoning</b>	Park
<b>Surrounding Land Use</b>	Residential to north and east; wetland and estuary on north side of parcel; open space to west.
<b>Wetlands</b>	Yes. Mapped wetland throughout northwest side of parcel. But not on beach itself.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	420 ft
<b>Design Berm Width</b>	75 ft
<b>Capacity</b>	2,800 cy
<b>Site Access</b>	Land – Burying Hill Rd.; paved road. Water – LIS
<b>Staging Area</b>	Potential staging area in parking lot at west side of parcel. Lot is on the shore, but has a timber retaining wall on the west side; concrete retaining wall on south and east sides.
<b>Additional Considerations</b>	Beach faces LIS but has a salt marsh that runs from west to north of parcel. The inlet to the marsh is on the west side of the beach, and is bounded by stone jetties. Beach has a stone seawall approximately 2.5 ft above the berm. This transitions into a double recurve concrete wall at the east end of the beach. West end of beach has rocky intertidal area.

## Site 438 Burial Hill Beach Westport, CT

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**Date:** June 22, 2010

**Direction:** East

**Description:**

Beach profile from west side.



**Date:** June 22, 2010

**Direction:** Southwest

**Description:**

Rocky intertidal and inlet to salt marsh at west side of beach.



## Site 438 Burial Hill Beach Westport, CT

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**Date:** June 22, 2010

**Direction:** North

**Description:**

Beach berm with concrete seawall and parking lot behind.

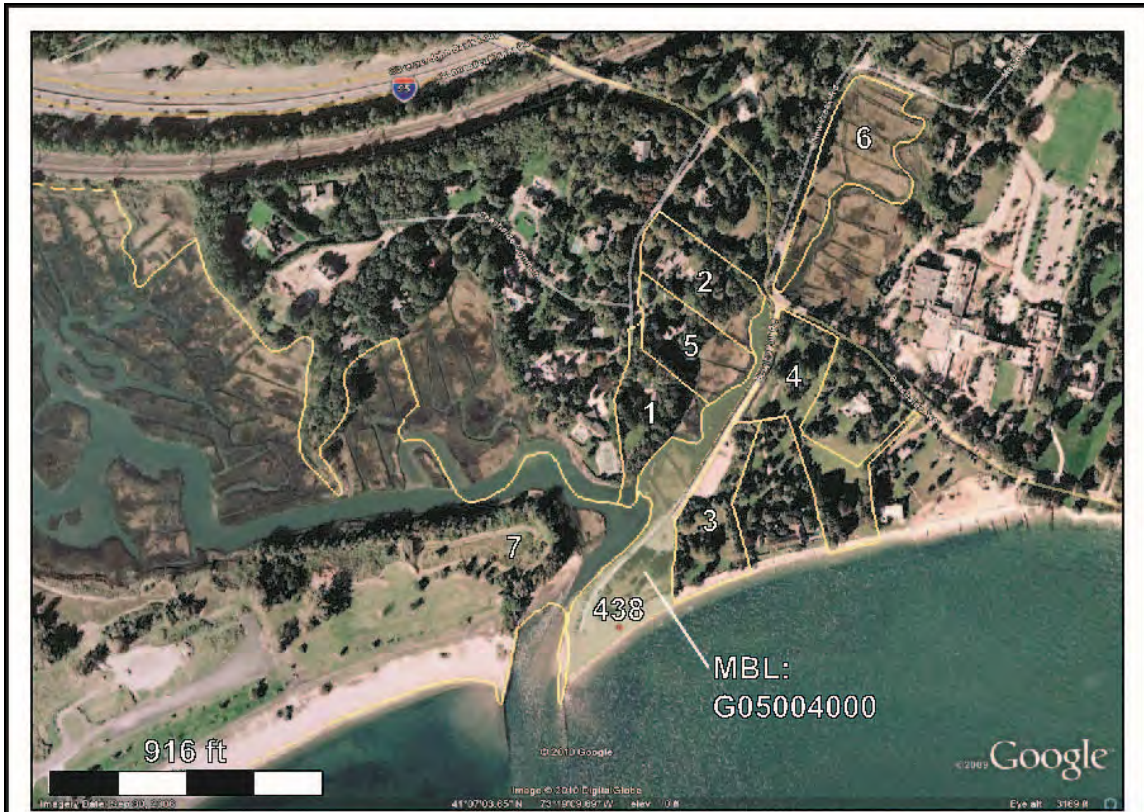


**Date:** June 22, 2010

**Direction:** South

**Description:**

Potential staging area in paved lot at back of beach.




Parcel	MBL
1	G05008000
2	G05006000
3	G05003000
4	G05001000
5	G05007000
6	H06042000
7	F05001000

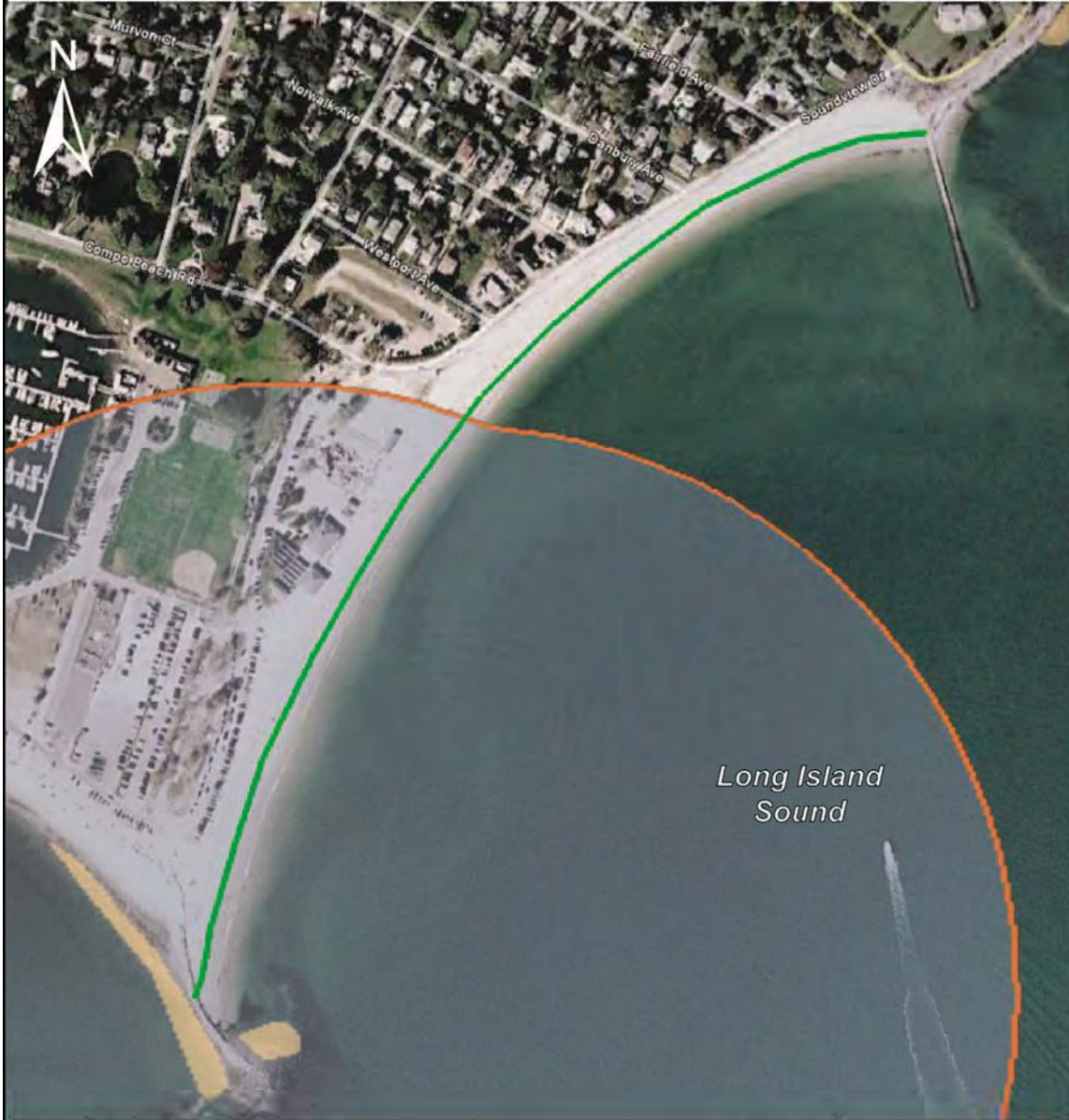
**Site 438    Westport, CT**  
**Burial Hill Beach**






# Site 440 Compo Beach Westport, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0                      500                      1000                      1500</p> <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's              (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database              Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10              File: TO-0024_LIS_440-2.ai</p>
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# Site 440 Compo Beach Westport, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p> <p> Nourishment Area</p>	<p>0  974                  Feet</p> <p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>                  US Army Corps                  of Engineers</p> <p>Date: 8-28-10                  File: TO-0024_LIS_440-3.ai</p>
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**Site 440 Compo Beach**  
**Westport, CT**

<b>Site Address</b>	Beachside Ave., Westport, CT
<b>General Description</b>	This is Federal Shore Protection area on Long Island Sound. Parcel has two long beaches; one faces east and the other faces southwest.
<b>Ownership/POC</b>	City of Westport, CT Janis Collins, Parks and Recreation (203) 222-9712
<b>Zoning</b>	A Single Family Residential
<b>Surrounding Land Use</b>	Residential to northeast and northwest; wetland and estuary on north side of parcel. Marina facility on northwest portion of parcel.
<b>Wetlands</b>	Yes. Mapped wetland on south end of parcel.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand on east-facing beach. Cobble and gravel on southwest-facing beach
<b>Nourishment Length</b>	2,800 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	65,800 cy
<b>Site Access</b>	Land – Compo Beach Rd. to secondary, paved roads on parcel. Water – LIS
<b>Staging Area</b>	Potential staging area in large paved lot behind the beaches.
<b>Additional Considerations</b>	Stone groins at north, south, and west ends of parcel. East-facing beach has capacity for sand. Southwest-facing beach would not be recommended for nourishment because of proximity to wetland and rocky intertidal habitat. Municipal park on parcel. yacht basin just behind on northwest side. Cultural resources present.

## Site 440 Compo Beach Westport, CT

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**Date:** June 21, 2010

**Direction:** North

**Description:**

Profile of east-facing beach.



**Date:** June 21, 2010

**Direction:** South

**Description:**

Beach profile looking south, showing stone groin at southern end of parcel.

## Site 440 Compo Beach Westport, CT

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**Date:** June 21, 2010

**Direction:** North

**Description:**

Beach berm with concrete seawall.  
Parking lot behind seawall.



**Date:** June 21, 2010

**Direction:** South

**Description:**

Potential staging area in paved lot at  
back of beach.







Parcel	MBL	Parcel	MBL
1	D03143000	17	D03093000
2	D03144000	18	D03119000
3	D03161000	19	D03034000
4	D03095000	20	D03033000
5	D03035000	21	E03001000
6	D03032000	22	OID:29979
7	E03004000	23	D03053000
8	D03165000	23	D03092000
9	D03054000	25	D03120000
10	D03031000	26	D03141000
11	D03159000	27	E03002000
12	D03160000	28	E03005000
13	D03142000	29	D03005000
14	D03016000	30	D03015000
15	D03163000	31	D03006000
16	D03094000		

**Site 440 Westport, CT  
Compo Beach**

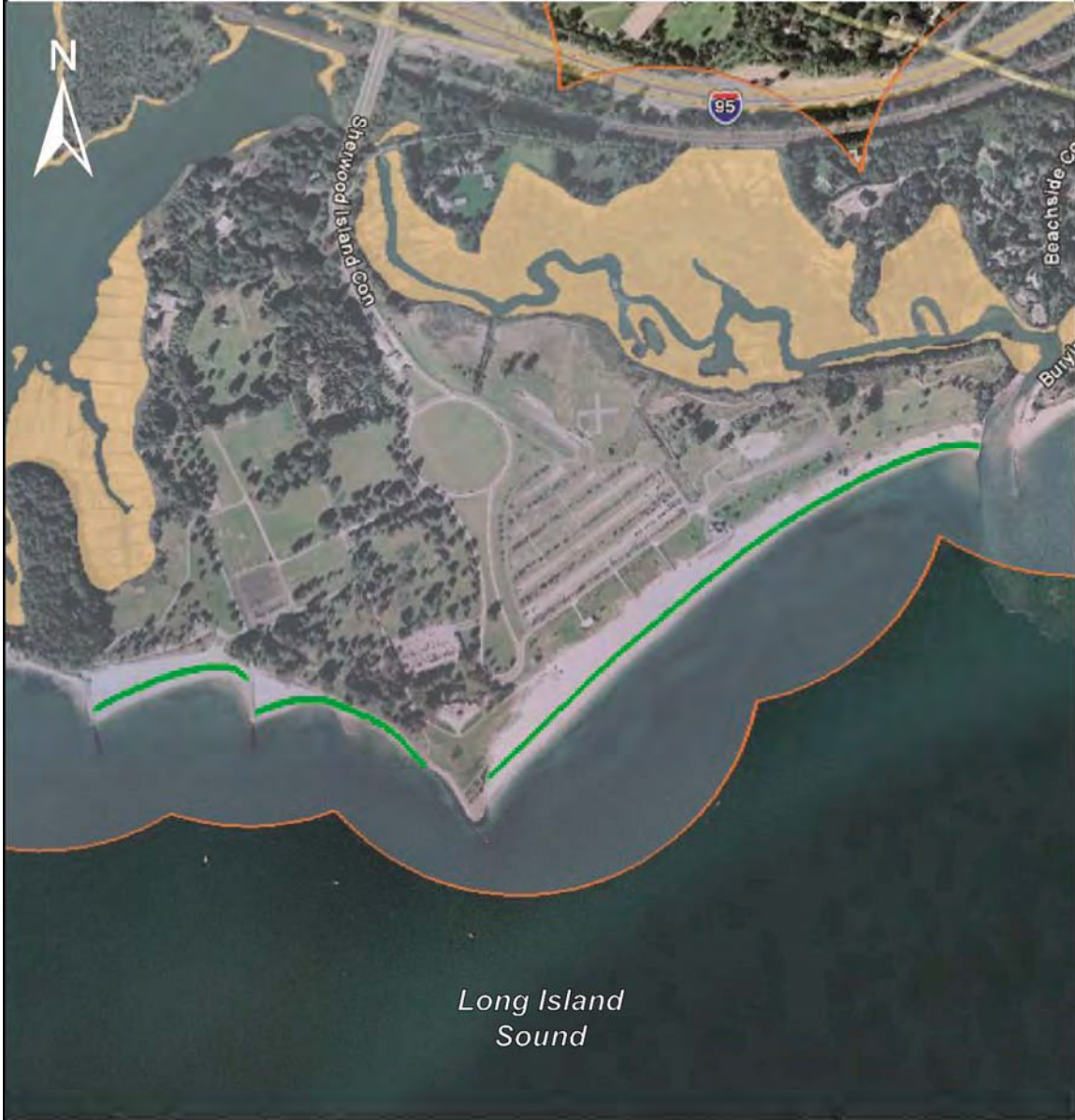




# Site 449 Sherwood Island State Park Westport, CT



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <p> Tidal Wetland</p> <p><b>Mapped Habitat</b></p> <p> Federal/State Listed Species Habitat *(Covers Entire Site)</p>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009 Image Date: October 1, 2006 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-24-10 File: TO-0024_LIS_449-2.ai</p>
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# Site 449 Sherwood Island State Park Westport, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid green;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_449-3.ai</p>

**Site 449 Sherwood Island State Park  
Westport, CT**

<b>Site Address</b>	Sherwood Island, Westport, CT
<b>General Description</b>	This is Federal Shore Protection area on Long Island Sound. Parcel has two beaches; one with wider berm facing southeast; the other is smaller, has less of a berm and more rocky intertidal, and faces southwest. Parcel also includes park/open space area at back of beaches.
<b>Ownership/POC</b>	City of Westport, CT Jon Cimochowaki, Bureau of Outdoor Recreation State Parks and Public Outreach (860) 424-3200 ext. 3204
<b>Zoning</b>	AAA Single Family Residential
<b>Surrounding Land Use</b>	Residential; wetlands on north and west sides of parcel.
<b>Wetlands</b>	Yes. Mapped wetlands on northern portion of parcel. Unmapped fringing wetlands noted on south facing beaches during site visit.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand on east-facing beach, becoming coarser with pebbles and debris toward northern end of this beach. Cobble and gravel on southwest-facing beach.
<b>Nourishment Length</b>	Three separate areas: 3,310 ft on southeast facing beach 1,060 ft on southwest facing beach, east of central groin 910 ft on southwest facing beach west of central groin
<b>Design Berm Width</b>	Three separate areas: 100 ft on southeast facing beach 64 ft on southwest facing beach, east of central groin 115 ft on southwest facing beach, west of central groin
<b>Capacity</b>	71,400 cy
<b>Site Access</b>	Land – Sherwood Island Connector; paved road through park. Water – LIS
<b>Staging Area</b>	Potential staging area in large paved lot behind the southeast facing beach.
<b>Additional Considerations</b>	Stone groins enclose beaches on both sides of parcel. Dune at east side of parcel. Municipal park on site. Rocky intertidal area and fringing marsh on south facing beach. Nourishment not calculated in vicinity of fringing marsh/wetland area. Cultural resources present.

## Site 449 Sherwood Island State Park Westport, CT

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**Date:** June 21, 2010

**Direction:** West

**Description:**

Profile of southeast-facing beach.



**Date:** June 21, 2010

**Direction:** North

**Description:**

Profile of southwest facing beach.

## Site 449 Sherwood Island State Park Westport, CT

---



**Date:** June 21, 2010

**Direction:** West

**Description:**

Profile of southwest-facing beach.  
Rocky intertidal in foreground.



**Date:** June 21, 2010

**Direction:** North

**Description:**

Potential staging in paved lot at back  
of beach.





Parcel	MBL
1	G05017000
2	F05002000
3	E04077000
4	E04076000
5	G05015000
6	G05016000
7	G05011000
8	G05010000
9	G05014000
10	G05012000
11	G05013000
12	G05009000
13	G05008000
14	G05004000

**Site 449      Westport, CT**  
**Sherwood Island State Park**

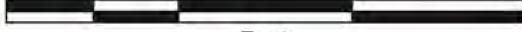

# Site 181 Orchard Beach Bronx, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">8000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-30-10                  File: TO-0024_LIS_181-2.ai</p>	

# Site 181 Orchard Beach Bronx, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FF69B4; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #008000; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">2328</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 9-3-10                  File: TO-0024_LIS_181-3.ai</p>	



## Site 181 Orchard Beach

### Bronx, NY

<b>Site Address</b>	Orchard Beach Rd., Bronx, NY
<b>General Description</b>	Federal Shore Protection project located in the Bronx at the western end of Long Island Sound. The site contains a beach and associated recreational facilities. The beach was originally constructed by the City of New York between 1935 and 1937. Erosion has reduced the size of the recreational beach, causing severe overcrowding. The NY Dist USACE recommended plan of improvement includes initial beach nourishment, groin rehabilitation and periodic nourishment.
<b>Ownership/POC</b>	City of New York NY City Dept. of Parks and Recreation Frank Verga, Project Manager USACE NY District (917) 790-8212
<b>Zoning</b>	Not zoned
<b>Surrounding Land Use</b>	Residential properties to the north and south; commercial/industrial use to the west.
<b>Wetlands</b>	Yes. Mapped wetlands are present on the site but not in the beach area.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted fine-grained sand
<b>Nourishment Length</b>	5,400 ft (per USACE design)
<b>Design Berm Width</b>	n/a
<b>Capacity</b>	Currently in construction phase; 33,800 cy every 5 years (per USACE design)
<b>Site Access</b>	Land – Orchard Beach Rd. to paved beach parking lot Water – LIS to Pelham Bay
<b>Staging Area</b>	Potential staging area in paved parking lot landward of the beach; access for equipment from parking area, across roads through the recreational facilities, and down ramps to the beach.
<b>Additional Considerations</b>	Concrete seawall with boardwalk lines the landward edge of the entire beach; boardwalk is approx. 3 feet above the level of the beach. Beach is narrowest at the northern end; large ridge and runnel system at the southern end of the beach. Extensive recreational area between parking lot and boardwalk, with courts, playground, concessions, etc. Cultural resources present.

## Site 181 Orchard Beach Bronx, NY

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**Date:** August 3, 2010

**Direction:** Northeast

**Description:**

Beach profile showing wide gently sloping beach and boardwalk.



**Date:** August 3, 2010

**Direction:** Southwest

**Description:**

Beach profile showing wide gently sloping beach.

## Site 181 Orchard Beach Bronx, NY

---



**Date:** August 3, 2010

**Direction:** Northeast

**Description:**

Paved boardwalk along the landward edge of the beach.



**Date:** August 3, 2010

**Direction:** West

**Description:**

Access for foot traffic and recreational areas between parking lot and boardwalk.





Parcel  
1

BBL  
Bronx 5650 002

**Site 181    Bronx, NY**  
**Orchard Beach**

# Site 453 Lake Montauk Harbor East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #9ACD32; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> Federal/State Listed Species Habitat* (Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 9-10-10                  File: TO-0024_LIS_453-2.ai</p>

# Site 453 Lake Montauk Harbor East Hampton, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Dredged Spoil
	Formerly Connected Tidal Wetlands
	Fresh Marsh
	High Marsh
	Interoastal Marsh
	Coastal Shoals, Bars and Mudflats
Mapped Habitat	
	Federal/State Listed Species Habitat *(Covers Entire Site)
	Nourishment Area

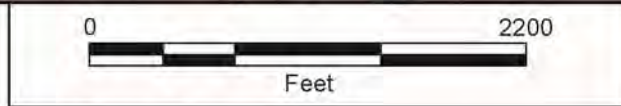



Image Source: Google © 2009  
 Image Date: March 1, 2007  
 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)  
 NYS Freshwater Wetlands (NYSDEC, 2010)  
 Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities



US Army Corps of Engineers

Date: 8-30-10  
 File: TO-0024\_LIS\_453-3.ai

**Site 453 Lake Montauk Harbor  
East Hampton, NY**

<b>Site Address</b>	West Lake Dr./Soundview Dr., Montauk, NY
<b>General Description</b>	Federal Shore Protection project located on the south fork of Long Island on the west side of Lake Montauk Harbor. The USACE NY District has initiated a feasibility study to evaluate concerns over inadequate channel depths in Lake Montauk Harbor as well as erosion problems west of the inlet entrance. The site contains private properties and a municipal beach that are threatened by erosion.
<b>Ownership/POC</b>	Town of East Hampton, NY (Gosman's Beach); private properties. John Beldin-Quinones, Project Manager USACE NY District (917) 790-8242
<b>Zoning</b>	WF Waterfront
<b>Surrounding Land Use</b>	Commercial marinas and restaurants/residential properties to the west and south of the site; County park to the east.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Moderately well sorted medium to fine-grained sand
<b>Nourishment Length</b>	5,100 ft (per USACE design)
<b>Design Berm Width</b>	n/a
<b>Capacity</b>	400,000 cy initial construction; 20,000 cy every year (per USACE design)
<b>Site Access</b>	Land – West Lake Dr./Gosman's Beach parking lot Water – Block Island Sound or Lake Montauk Harbor
<b>Staging Area</b>	Potential staging area in paved parking lot landward of Gosman's Beach; potential access for equipment directly from parking lot to the beach. Other potential access across dunes on two undeveloped properties located along Soundview Dr.
<b>Additional Considerations</b>	Gosman's Beach (immediately west of Lake Montauk Harbor inlet) is badly eroded; beach elevation is approx. 5-10 ft below the level of the beach parking lot and contains concrete rubble and asphalt. Beach erosion currently threatens portions of West Lake Dr. Private properties further to the west are protected by a combination of revetments and bulkheads; erosion along this stretch of beach is also significant. Cultural resources present.

## Site 453 Lake Montauk Harbor East Hampton, NY

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile showing narrow beach with eroded dunes.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile showing cobble beach and coastal dune erosion.



## Site 453 Lake Montauk Harbor East Hampton, NY

---



**Date:** July 13, 2010

**Direction:** Northeast

**Description:**

Eastern end of beach showing significant erosion abutting the Lake Montauk Harbor jetties.



**Date:** July 13, 2010

**Direction:** South

**Description:**

Eroded beach and dune fronting the public beach parking lot at Gosman's Beach.



\*Parcel numbers on next page

**Site 453      East Hampton, NY**  
**Lake Montauk Harbor**


Parcel	DSBL	Parcel	DSBL
1	0300004000100015000	46	0300006000100027001
2	0300004000100016000	47	0300003000100001005
3	0300004000100017000	48	0300004000100011000
4	0300004000100020000	49	0300004000100012000
5	0300004000100021000	50	0300004000100013000
6	0300004000200001000	51	0300004000100014000
7	0300004000200002000	52	0300004000100023000
8	0300004000200003000	53	0300004000100024000
9	0300004000200004000	54	0300004000100025000
10	0300004000200005000	55	0300004000300007000
11	0300004000200007000	56	0300004000300008000
12	0300004000200008000	57	0300004000300009000
13	0300004000200010000	58	0300004000300010000
14	0300004000200011000	59	0300004000300011000
15	0300004000200012000	60	0300004000300012000
16	0300004000200013000	61	0300004000500015001
17	0300004000200014000	62	0300004000600001000
18	0300004000200015000	63	0300004000700003000
19	0300004000200016000	64	0300005000200001000
20	0300004000200017000	65	0300005000200003000
21	0300005000100001000	66	0300005000200004000
22	0300005000100002000	67	0300005000300001000
23	0300005000100003000	68	0300005000300002000
24	0300005000100005000	69	0300005000300003000
25	0300005000100007000	70	0300005000400001000
26	0300005000100008000	71	0300005000400002000
27	0300005000100010000	72	0300006000100012000
28	0300005000100011000	73	0300006000100013000
29	0300005000100012000	74	0300006000100014000
30	0300005000100015001	75	0300006000100016000
31	0300006000100001000	76	0300006000100017000
32	0300006000100002000	77	0300004000400001000
33	0300006000100004000	78	0300004000400017000
34	0300006000100006000	79	0300005000400003000
35	0300004000100019000	80	0300006000100015000
36	0300004000200006000	81	0300004000100002000
37	0300004000200009000	82	0300004000100010000
38	0300006000100005000	83	0300004000600017000
39	0300004000100022000	84	0300004000700001000
40	0300005000100006000	85	0300004000700002000
41	0300005000100009000	86	0300005000200002000
42	0300004000100018000	87	0300005000300004000
43	0300005000100004000		
44	0300006000100003000		
45	0300006000100008000		

**Site 453 East Hampton, NY  
Lake Montauk Harbor**

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# Site 63 Asharoken Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 80px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 110px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 125px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 140px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 155px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 170px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 185px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 200px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 215px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 230px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 245px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 260px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 275px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 290px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 305px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 320px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 335px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 350px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 365px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 380px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 395px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 4000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-31-10                  File: TO-0024_LIS_63-2.ai</p>

# Site 63 Asharoken Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #008000; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #FF4500; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #008000; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; 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width: 10px;"></span> <span style="position: absolute; left: 140px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 155px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 170px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 185px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 200px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 215px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 230px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 245px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 260px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 275px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 290px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 305px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 320px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 335px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 350px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 365px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 380px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 395px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 410px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 425px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 440px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 455px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 470px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 485px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 500px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 515px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 530px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 545px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 560px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 575px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 590px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 605px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 620px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 635px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 650px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 665px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 680px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 695px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 4000 Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-31-10                  File: TO-0024_LIS_63-3.ai</p>

## Site 63 Asharoken Beach Huntington, NY

<b>Site Address</b>	Asharoken Ave., Northport, NY
<b>General Description</b>	Federal Shore Protection project located on the north shore of Long Island. The USACE NY District is conducting a feasibility study to evaluate potential coastal storm damage risk reduction measures for Asharoken Beach and Asharoken Ave., which provides the only vehicular access to Eaton's Neck. Recent coastal storms have accelerated shoreline erosion and inundated heavily developed areas. Major losses due to coastal erosion and flooding have occurred.
<b>Ownership/POC</b>	Multiple private properties Ronald Pinzon, Project Manager USACE NY District (917) 790-8627
<b>Zoning</b>	R-20 Residential; R-40 Residential
<b>Surrounding Land Use</b>	Residential properties to the south of the site; National Grid power generating plant to the east.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats offshore of the beach; additional mapped wetlands along the estuary side of the barrier beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat along the western end of the beach; no mapped habitat elsewhere.
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	12,400 ft (per USACE design)
<b>Design Berm Width</b>	n/a
<b>Capacity</b>	600,000 cy initial construction; 124,000 cy every 5 years (per USACE design)
<b>Site Access</b>	Land – Asharoken Ave.; potential beach access across the dunes on undeveloped properties along Asharoken Ave. Water – Long Island Sound
<b>Staging Area</b>	Limited; potential staging on adjacent Town of Huntington property (NY 5A) east of Asharoken Beach.
<b>Additional Considerations</b>	Most of the developed properties along the beach are protected by bulkheads or revetments; the undeveloped properties are in a natural condition; one stone groin is present near the western end of the beach. Dominant direction of sediment transport is from east to west. Eastern most end of beach, which is protected with a sheet pile bulkhead and rip rap, has experienced significant erosion and the road is threatened. Narrow dunes are present along much of the beach where the shoreline has been left in a natural condition. Cultural resources present.

## Site 63 Asharoken Beach Huntington, NY

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**Date:** August 2, 2010

**Direction:** East

**Description:**

Beach profile near eastern end of the beach with National Grid power generating plant in the background.



**Date:** August 2, 2010

**Direction:** West

**Description:**

Beach and dune profile near the center of the beach showing undeveloped shoreline properties.



## Site 63 Asharoken Beach Huntington, NY

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**Date:** August 2, 2010

**Direction:** East

**Description:**

Western end of Asharoken Ave. threatened by erosion and ongoing repair work on the shore protection structures.



**Date:** August 2, 2010

**Direction:** East

**Description:**

Shoreline at western end of the beach showing damage of existing shore protection structures.



\*Parcel numbers on next page

**Site 63      Huntington, NY**  
**Asharoken Beach**

Parcel	DSBL	Parcel	DSBL
1	0401007000100024000	61	0401007000100037000
2	0401007000100026000	62	0401004000100006000
3	0401007000100029000	63	0401004000100010000
4	0401007000100031000	64	0401004000100022000
5	0401007000100032000	65	0401004000100036000
6	0401007000100033000	66	0401004000100057000
7	0401007000100035000	67	0401004000100058000
8	0401007000100036000	68	0401004000100076000
9	0401008000100001000	69	0401006000100002002
10	0401008000100002001	70	0401006000100015000
11	0401008000100002002	71	0401006000100020000
12	0401008000100003000	72	0401006000100023000
13	0401008000100004000	73	0401007000100021000
14	0401008000100005000	74	0401008000100008000
15	0401008000100006000	75	0401008000100025000
16	0401008000100007002	76	0401008000100027000
17	0401008000100007003	77	0401003000100014000
18	0401008000100007004	78	0401004000100001000
19	0401008000100009000	79	0401004000100015000
20	0401008000100010000	80	0401004000100027000
21	0401008000100011000	81	0401004000100039000
22	0401008000100012000	82	0401004000100080000
23	0401008000100013000	83	0401004000100087000
24	0401008000100014000	84	0401004000100088000
25	0401008000100015000	85	0401004000100090000
26	0401008000100016000	86	0401006000100033000
27	0401008000100017000	87	0401006000100037000
28	0401008000100018000	88	0401006000100046001
29	0401008000100019000	89	0401007000100001000
30	0401008000100020000	90	0401007000100002000
31	0401008000100021000	91	0401003000100015000
32	0401008000100022000	92	0401003000100018000
33	0401008000100026000	93	0401003000100019000
34	0401008000100031000	94	0401004000100002000
35	0401003000100016000	95	0401004000100003000
36	0401003000100017000	96	0401004000100004000
37	0401004000100017004	97	0401004000100005000
38	0401004000100023000	98	0401004000100008001
39	0401004000100033000	99	0401004000100009000
40	0401004000100045000	100	0401004000100011000
41	0401004000100048000	101	0401004000100012000
42	0401004000100061000	102	0401004000100013000
43	0401004000100074000	103	0401004000100014000
44	0401004000100091000	104	0401008000100024000
45	0401006000100002001	105	0401008000100023000
46	0401006000100027000	106	0401007000100027000
47	0401007000100013000	107	0401007000100008000
48	0401007000100015000	108	0401004000100016001
49	0401007000100018003	109	0401004000100016002
50	0401007000100025000	110	0401004000100017003
51	0401007000100028000	111	0401004000100018000
52	0401007000100034000	112	0401004000100019000
53	0401004000100021000	113	0401004000100020000
54	0401004000100051000	114	0401004000100024000
55	0401004000100063000	115	0401004000100025000
56	0401004000100069000	116	0401004000100026000
57	0401006000100010000	117	0401004000100028000
58	0401007000100011000	118	0401004000100029000
59	0401007000100016000	119	0401004000100030000
60	0401007000100030000	120	0401004000100031000

**Site 63      Huntington, NY**  
**Asharoken Beach**

Parcel	DSBL	Parcel	DSBL
121	0401004000100032000	181	0401006000100017000
122	0401004000100034000	182	0401006000100018000
123	0401004000100035000	183	0401006000100019000
124	0401004000100037000	184	0401006000100021000
125	0401004000100038000	185	0401006000100022000
126	0401004000100040000	186	0401006000100024000
127	0401004000100041000	187	0401006000100025000
128	0401004000100042000	188	0401006000100026000
129	0401004000100043000	189	0401006000100028000
130	0401004000100044000	190	0401006000100029000
131	0401004000100046000	191	0401006000100030000
132	0401004000100049000	192	0401006000100031000
133	0401004000100050000	193	0401006000100032000
134	0401004000100052000	194	0401006000100034000
135	0401004000100053002	195	0401006000100035000
136	0401004000100053003	196	0401006000100036000
137	0401004000100053005	197	0401006000100038000
138	0401004000100053006	198	0401006000100039000
139	0401004000100053007	199	0401006000100040000
140	0401004000100054000	200	0401006000100041000
141	0401004000100055000	201	0401006000100042000
142	0401004000100056000	202	0401006000100043000
143	0401004000100059000	203	0401006000100044000
144	0401004000100060000	204	0401006000100045000
145	0401004000100062000	205	0401006000100046002
146	0401004000100064000	206	0401007000100003000
147	0401004000100065000	207	0401007000100004000
148	0401004000100066000	208	0401007000100005000
149	0401004000100067000	209	0401007000100006000
150	0401004000100068000	210	0401007000100007000
151	0401004000100070000	211	0401007000100009000
152	0401004000100071000	212	0401007000100010000
153	0401004000100072000	213	0401007000100012000
154	0401004000100073000	214	0401007000100014000
155	0401004000100075000	215	0401007000100017001
156	0401004000100077000	216	0401007000100017002
157	0401004000100078000	217	0401007000100018002
158	0401004000100079000	218	0401007000100018004
159	0401004000100081000	219	0401007000100019001
160	0401004000100082001	220	0401007000100019002
161	0401004000100082002	221	0401007000100020000
162	0401004000100083001	222	0401007000100022000
163	0401004000100083002	223	0401007000100023000
164	0401004000100084000	224	0401008000200018000
165	0401004000100085000	225	0401008000200021000
166	0401004000100086000	226	0401008000200022000
167	0401004000100089000	227	0401008000200023000
168	0401006000100001000	228	0401008000200024003
169	0401006000100003000	229	0401008000200025000
170	0401006000100004000	230	0401008000200028000
171	0401006000100005000	231	0401008000200029000
172	0401006000100006000	232	0401004000200035000
173	0401006000100007000	233	0401004000200037003
174	0401006000100008000	234	0401004000200051000
175	0401006000100009000	235	0401004000200066001
176	0401006000100011000	236	0401004000200072000
177	0401006000100012000	237	0401004000200074000
178	0401006000100013000	238	0401006000200009000
179	0401006000100014000	239	0401006000200035000
180	0401006000100016000	240	0401006000200038000

**Site 63      Huntington, NY**  
**Asharoken Beach**

Parcel	DSBL	Parcel	DSBL
241	0401007000200001002	301	0401004000200027000
242	0401007000200013001	302	0401004000200028000
243	0401008000200006000	303	0401004000200029000
244	0401008000200009000	304	0401004000200030000
245	0401008000200024002	305	0401004000200031000
246	0401008000200027001	306	0401004000200032000
247	0401004000200006000	307	0401004000200034000
248	0401004000200022000	308	0401004000200036000
249	0401004000200023000	309	0401004000200037002
250	0401004000200025000	310	0401004000200037005
251	0401004000200033000	311	0401004000200037006
252	0401004000200044000	312	0401004000200038000
253	0401004000200057000	313	0401004000200039000
254	0401004000200060000	314	0401004000200040000
255	0401006000200001000	315	0401004000200041000
256	0401006000200030000	316	0401004000200042000
257	0401006000200033000	317	0401004000200043000
258	0401007000200027000	318	0401004000200045000
259	0401008000200020000	319	0401004000200046000
260	0401004000200001000	320	0401004000200047000
261	0401004000200007000	321	0401004000200048000
262	0401004000200012000	322	0401004000200049000
263	0401004000200013000	323	0401004000200050000
264	0401004000200037007	324	0401004000200052000
265	0401006000200005000	325	0401004000200053000
266	0401006000200032000	326	0401004000200054000
267	0401006000200046001	327	0401004000200055000
268	0401007000200004000	328	0401004000200056000
269	0401007000200006000	329	0401004000200058000
270	0401007000200009000	330	0401004000200059000
271	0401008000200016000	331	0401004000200061000
272	0401008000200019000	332	0401004000200062000
273	0401004000200010000	333	0401004000200063000
274	0401006000200002001	334	0401004000200064000
275	0401006000200013000	335	0401004000200065000
276	0401006000200027000	336	0401004000200066002
277	0401006000200037000	337	0401004000200067001
278	0401006000200041000	338	0401004000200067002
279	0401006000200042000	339	0401004000200068000
280	0401007000200029000	340	0401004000200069000
281	0401008000200005000	341	0401004000200070000
282	0401008000200024004	342	0401004000200071000
283	0401004000200002000	343	0401004000200073000
284	0401004000200003003	344	0401004000200076000
285	0401004000200003004	345	0401006000200002002
286	0401004000200004000	346	0401006000200003000
287	0401004000200005000	347	0401006000200004000
288	0401004000200008000	348	0401006000200006000
289	0401004000200009000	349	0401006000200008000
290	0401004000200011000	350	0401006000200010000
291	0401004000200014000	351	0401006000200011000
292	0401004000200015000	352	0401006000200012000
293	0401004000200016000	353	0401006000200014000
294	0401004000200017000	354	0401006000200015000
295	0401004000200018000	355	0401006000200016000
296	0401004000200019000	356	0401006000200017000
297	0401004000200020000	357	0401006000200018000
298	0401004000200021000	358	0401006000200019000
299	0401004000200024000	359	0401006000200020000
300	0401004000200026000	360	0401006000200021000



**Site 63      Huntington, NY**  
**Asharoken Beach**

Parcel	DSBL
361	0401006000200022000
362	0401006000200023000
363	0401006000200024000
364	0401006000200025000
365	0401006000200026000
366	0401006000200028000
367	0401006000200029000
368	0401006000200031000
369	0401006000200034000
370	0401006000200036000
371	0401006000200039000
372	0401006000200040000
373	0401006000200044000
374	0401007000200001001
375	0401007000200002000
376	0401007000200003000
377	0401007000200005000
378	0401007000200007000
379	0401007000200008000
380	0401007000200010000
381	0401007000200012001
382	0401007000200013002
383	0401007000200014001
384	0401007000200014002
385	0401007000200015000
386	0401007000200016000
387	0401007000200017000
388	0401007000200018000
389	0401007000200019001
390	0401007000200019002
391	0401007000200020000
392	0401007000200024007
393	0401007000200026000
394	0401007000200030000
395	0401008000200002001
396	0401008000200002002
397	0401008000200004002
398	0401008000200004003
399	0401008000200007000
400	0401008000200008000
401	0401008000200010000
402	0401008000200011000
403	0401008000200012001
404	0401008000200012002
405	0401008000200013000
406	0401008000200014000
407	0401008000200015000
408	0401008000200017000
409	0401003000200001000

**Site 63****Huntington, NY****Asharoken Beach**


# Site 456 Bayville Oyster Bay, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-31-10                  File: TO-0024_LIS_456-2.ai</p>	

# Site 456 Bayville Oyster Bay, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 80px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 1926</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-31-10                  File: TO-0024_LIS_456-3.ai</p>



**Site 456 Bayville**  
**Oyster Bay, NY**

<b>Site Address</b>	Bayville Ave./Centre Island Rd., Oyster Bay, NY
<b>General Description</b>	Federal Shore Protection project located on the north shore of Long Island. Private properties and the municipal beach property in Bayville have experienced severe erosion during recent storms, causing major losses due to erosion and flooding. The USACE NY District is currently evaluating the economic benefits of alternative structural and non-structural risk reduction plans, while coordinating with NYSDEC and the Village of Bayville to determine whether such alternatives are locally acceptable.
<b>Ownership/POC</b>	Multiple private properties; Municipal Beaches (Soundside Beach Park and Centre Island Village Beach Park) Ronald Pinzon, Project Manager USACE NY District (917) 790-8627
<b>Zoning</b>	Residential
<b>Surrounding Land Use</b>	Commercial (hotel) west of project area; open space south of project area on eastern half; Residential surrounding other areas.
<b>Wetlands</b>	Yes. Mapped wetlands along the estuary side of the barrier beach; no mapped wetlands along the beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Entire site is mapped habitat.
<b>Sediment Type</b>	Poorly sorted medium-grained sand with gravel
<b>Nourishment Length</b>	4,690 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	77,200 cy
<b>Site Access</b>	Land – Bayville Ave./Centre Island Rd. to Soundside Beach Park; access directly from parking lot to beach Water – LIS
<b>Staging Area</b>	Potential staging area in paved parking lot at Soundside Beach Park located at the western end of the site; additional room for staging at Centre Island Village Beach Park on the south side of the barrier beach.
<b>Additional Considerations</b>	Beach has experienced significant erosion and the roadway at the eastern end of the site is currently threatened; concession/pavilion facilities at eastern end of the beach have been destroyed by recent storms. Most private properties near the western end of the site are protected with wooden bulkheads; fronting beaches are very narrow. Cultural resources present.

## Site 456 Bayville Oyster Bay, NY

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**Date:** August 2, 2010

**Direction:** East

**Description:**

Beach profile along eastern end of Centre Island Village public beach with coastal dunes and shore protection adjacent to roadway.



**Date:** August 2, 2010

**Direction:** West

**Description:**

Beach profile along western end of Centre Island Village public beach.

**Site 456 Bayville  
Oyster Bay, NY**

---



**Date:** August 2, 2010

**Direction:** East

**Description:**

Beach and shore protection alongside roadway at eastern end of beach.



**Date:** August 2, 2010

**Direction:** West

**Description:**

Bayville Ave./Center Island Rd. at eastern end of beach showing shore protection and eroding beach.



\*Parcel numbers on next page

# Site 456 Oyster Bay, NY Bayville

Parcel	SBL	Parcel	SBL
1	28-013-37	49	28-015-25
2	28-013-38	50	28-015-27
3	28-013-39	51	28-015-28
4	28-013-40	52	28-015-29
5	28-013-41	53	28-015-30
6	28-015-48	54	28-015-31
7	28-017-1	55	28-015-32
8	28-018-9	56	28-015-33
9	28-018-7	57	28-015-44
10	28-018-6	58	28-015-35
11	28-018-5	59	28-015-36
12	18-018-4	60	28-015-37
13	28-018-3	61	28-015-38
14	28-018-2	62	28-015-39
15	28-018-1	63	28-015-40
16	28-018-111	64	28-014-60
17	28-B-100	65	28-014-59
18	28-013-35	66	28-014-58
19	28-013-36	67	28-013-34
20	28-013-27	68	28-013-33
21	28-B-2033	69	28-013-32
22	28-C-41	70	28-013-31
23	28-C-40	71	28-038-128
24	28-G-33A	72	28-037-98
25	28-042-25	73	28-037-97
26	28-042-24	74	28-037-96
27	28-042-23	75	28-037-95
28	28-042-22	76	28-037-94
29	28-042-21	77	28-037-93
30	28-042-20	78	28-037-92
31	28-042-19	79	28-037-91
32	28-042-18	80	28-036-91
33	28-042-17	81	28-036-76
34	28-042-16	82	28-036-75
35	28-017-13	83	28-036-74
36	28-017-14	84	28-036-73
37	28-017-15	85	28-013-1
38	28-017-16	86	28-013-10
39	28-017-17	87	28-013-12
40	28-017-18	88	28-013-14
41	28-017-19	89	28-013-16
42	28-017-20	90	28-013-18
43	28-017-21	91	28-013-20
44	28-017-223	92	28-013-22
45	28-017-312	93	28-013-24
46	28-017-313	94	28-013-26
47	28-017-211	95	28-B-2034
48	28-017-111		

**Site 456 Oyster Bay, NY  
Bayville**

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**Site 454 East Hashamomuck Cove**  
**Southold, NY**

<b>Site Address</b>	County Rd. 48, Southold, NY
<b>General Description</b>	Federal Shore Protection project located on the north fork of Long Island. The USACE NY District has recommended a feasibility-level investigation and is currently seeking a local county level sponsor. The site contains private/commercial properties and a county highway that are threatened by erosion.
<b>Ownership/POC</b>	Multiple private properties; Sound View Motel Nathanael Wales, Project Manager USACE NY District (917) 790-8731
<b>Zoning</b>	R-40 Residential low density AA RR Resort/Residential
<b>Surrounding Land Use</b>	Residential properties and commercial motel/restaurant property within the project area; residential/open space properties directly about the project area and are located across County Rd. 48 to the south.
<b>Wetlands</b>	No. Mapped wetlands off site to the south across County Rd. 48.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand with gravel
<b>Nourishment Length</b>	6,260 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	162,800 cy
<b>Site Access</b>	Land – Access via County Rd. 48 to Town Beach located at south end of the project area Water – LIS
<b>Staging Area</b>	Staging areas are limited to the Town Beach parking lot at the south end of the project area; potential staging on two undeveloped parcels without bulkheads located within the project boundaries.
<b>Additional Considerations</b>	Bulkheads/revetments in front of the motel, restaurant, and private properties are vulnerable to storm damage, and the beach fronting these properties has been subject to substantial erosion over the past 4 decades. County Rd. 48 is also threatened by the ongoing erosion. The dominant direction of sediment transport is from west to east, although sediment supply to the site from the west is limited due to coastal armoring.

**Site 454 East Hashamomuck Cove  
Southold, NY**

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**Date:** July 15, 2010

**Direction:** East

**Description:**

Seaward facing side of motel and restaurant property showing poorly organized shore protection and severe beach erosion.



**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach profile and bulkheads in front of private properties at eastern end of project area.

**Site 454 East Hashamomuck Cove  
Southold, NY**

---



**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach profile and bulkheads in front of private properties near western end of project area.



**Date:** July 15, 2010

**Direction:** East

**Description:**

Beach profile with narrow dunes and bulkheads in front of private properties at western end of project area.



\*Parcel numbers on next page

**Site 454 East Southold, NY  
Hashamomuck Cove**

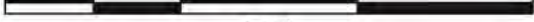

Parcel	DSBL	Parcel	DSBL
1	1000051000500001000	43	1000044000200001000
2	1000044000200021000	44	1000044000200003000
3	1000044000200022000	45	1000044000200004000
4	1000044000400005001	46	1000044000200005000
5	1000044000200023000	47	1000044000200007000
6	1000052000100001000	48	1000044000200008000
7	1000052000200019000	49	1000044000200010000
8	1000044000300001000	50	1000044000200011000
9	1000044000300002000	51	1000044000200012000
10	1000044000300003000	52	1000044000200013000
11	1000044000300004002	53	1000044000200016000
12	1000052000200020003	54	1000044000200017000
13	1000052000300001000	55	1000044000200018000
14	1000052000300021000	56	1000044000200020000
15	1000052000300022000	57	1000052000100002000
16	1000052000300024000	58	1000052000100003000
17	1000052000300025000	59	1000052000100004000
18	1000052000300026000	60	1000052000100006000
19	1000044000400001000	61	1000052000100009000
20	1000044000300004003	62	1000052000100010000
21	1000052000200020001	63	1000044000100028000
22	1000052000300023000	64	1000052000100005000
23	1000044000400004000	65	1000052000100007000
24	1000044000400003001	66	1000044000100005000
25	1000044000100001000	67	1000044000100010000
26	1000044000100003000	68	1000044000100013000
27	1000044000100006000	69	1000044000100017000
28	1000044000100007000	70	1000044000100024000
29	1000044000100008000	71	1000044000200006000
30	1000044000100009000	72	1000044000200009000
31	1000044000100011000	73	1000044000200019000
32	1000044000100014000	74	1000052000100008000
33	1000044000100015000	75	1000044000100002000
34	1000044000100016000	76	1000044000100012000
35	1000044000100018000	77	1000044000100029000
36	1000044000100019000	78	1000044000200002000
37	1000044000100020000	79	1000044000100004000
38	1000044000100021000	80	1000044000100027000
39	1000044000100022000	81	1000044000200014000
40	1000044000100023000	82	1000044000200015000
41	1000044000100025000	83	1000045000100009001
42	1000044000100026000		

**Site 454 East Southold, NY**  
**Hashamomuck Cove**

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# Site 454 West Hashamomuck Cove Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FFD700; margin-right: 5px;"></span> Federal/State Listed Species Habitat* (Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_454 West-2.ai</p>	

# Site 454 West Hashamomuck Cove Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">1247</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_454 West-3.ai</p>	



**Site 454 West Hashamomuck Cove  
Southold, NY**

<b>Site Address</b>	Leeton Dr., Southold, NY
<b>General Description</b>	Federal Shore Protection project located on the north fork of Long Island. The USACE NY District has recommended a feasibility-level investigation and is currently seeking a local county level sponsor. The site contains private properties and a municipal beach that are threatened by erosion.
<b>Ownership/POC</b>	Multiple private properties, Municipal Beach (Kenneys Beach) Nathanael Wales, Project Manager USACE NY District (917) 790-8731
<b>Zoning</b>	R-40 Residential low density AA
<b>Surrounding Land Use</b>	Residential properties and a municipal beach property are located within the project area; additional residential properties directly abut the project area.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Entire site is mapped habitat.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand with gravel
<b>Nourishment Length</b>	2,160 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	50,700 cy
<b>Site Access</b>	Land – Access via Kenneys Rd. and Leeton Dr Water – LIS
<b>Staging Area</b>	Staging areas are limited to the parking lot at Kenneys Beach located at the north end of the project area; access for equipment across footpaths through the dunes.
<b>Additional Considerations</b>	Private properties along the south end of the project area are protected with wooden bulkheads and a series of aluminum groins. The dominant direction of sediment transport is from west to east. Restored dune area with beach grass between parking lot and beach at Kenneys Beach.

**Site 454 West Hashamomuck Cove  
Southold, NY**

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**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile at Kenneys Beach showing steeply sloping foreshore and restored coastal dunes with beach grass.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile at south end of Kenneys Beach showing deteriorating seawall and aluminum groin on abutting private property.

**Site 454 West Hashamomuck Cove  
Southold, NY**

---



**Date:** July 12, 2010

**Direction:** East

**Description:**

Beach profile with aluminum groins and bulkheads in front of private properties near southern end of the project area.



**Date:** July 12, 2010

**Direction:** East

**Description:**

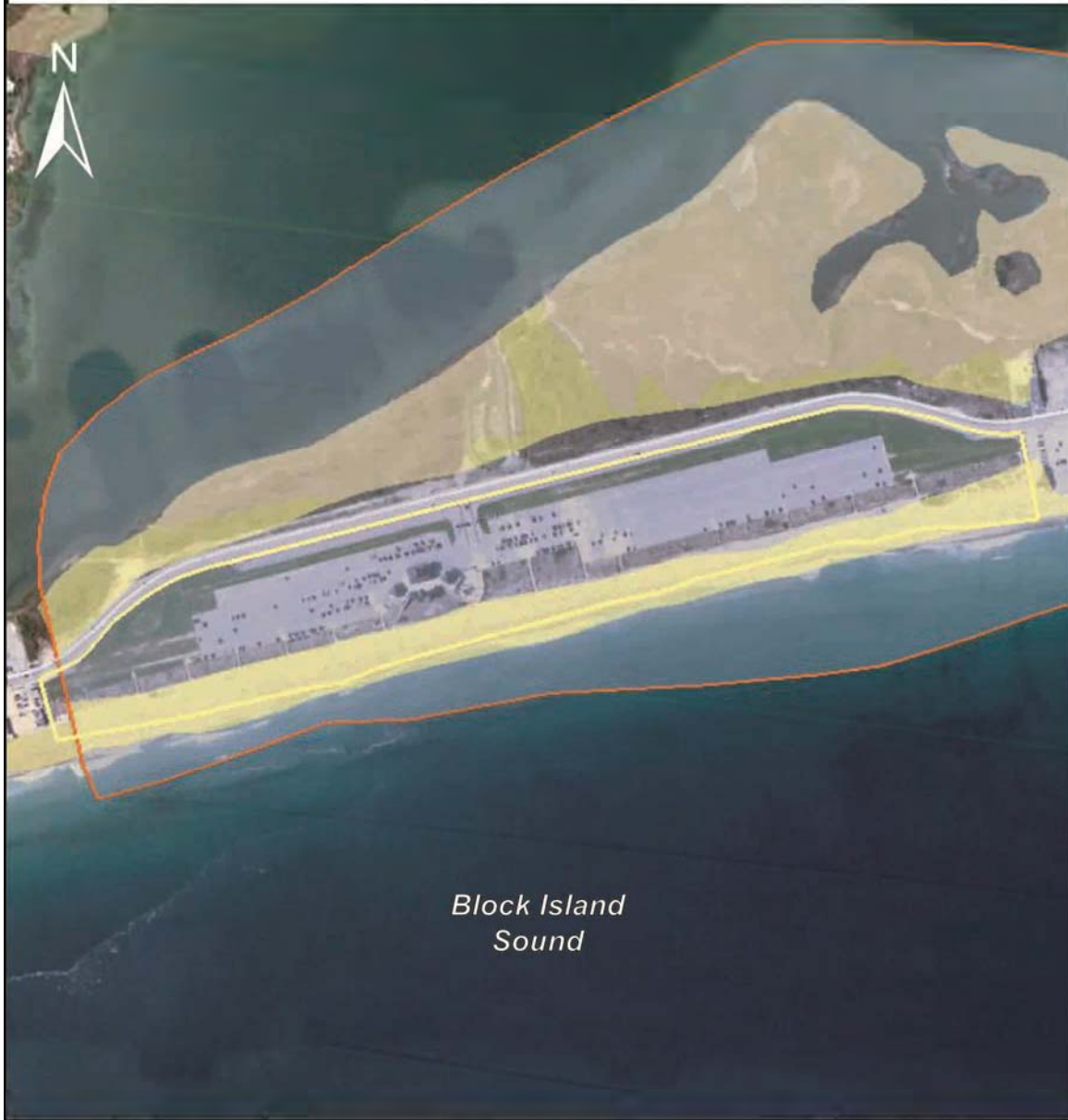
Potential staging for trucks and grading equipment in parking lot at Kenneys beach.




Parcel	DSBL	Parcel	DSBL
1	1000058000200002000	22	1000054000400003000
2	1000058000200003000	23	1000054000400037000
3	1000058000200004000	24	1000058000200009000
4	1000059000100016000	25	1000058000200010000
5	1000054000400001000	26	1000058000200016000
6	1000058000200005000	27	1000059000100008000
7	1000058000200006000	28	1000059000100009000
8	1000058000200007000	29	1000059000100010000
9	1000058000200011000	30	1000059000100012000
10	1000058000200013000	31	1000059000100013000
11	1000058000200015002	32	1000059000100014000
12	1000059000100001000	33	1000059000100015000
13	1000059000100003001	34	1000059000100017000
14	1000059000100004000	35	1000059000100018000
15	1000059000100005000	36	1000059000100024000
16	1000059000100006000	37	1000059000500001001
17	1000059000100007000	38	1000058000200008000
18	1000058000200020001	39	1000059000100011000
19	1000058000200001000		
20	1000058000200012000		
21	1000054000400002000		

**Site 454 West Southold, NY**  
**Hashamomuck Cove**

# Site 384 Misquamicut Beach Westerly, RI




Block Island  
Sound

<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fce4d6; border: 1px solid black; margin-right: 5px;"></span> Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff2cc; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0      500      1000      1500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_384-2.ai</p>

# Site 384 Misquamicut Beach Westerly, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: darkgreen; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 3px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0                      500                      1000                      1500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_384-3.ai</p>

**Site 384 Misquamicut State Beach**  
**Westerly, RI**

<b>Site Address</b>	257 Atlantic Ave., Westerly, RI
<b>General Description</b>	Federal Shore Protection area and State Beach on Block Island Sound. Site has a large public beach and recreation area.
<b>Ownership/POC</b>	State of Rhode Island Steve Wright, Physical Operations/Systems Mgr. RI Parks and Recreation Division (401) 596-9097
<b>Zoning</b>	OSR Open Space/Residential
<b>Surrounding Land Use</b>	Commercial (hotels and restaurants) east and west of parcel, open space north of beach, residential in other surrounding areas.
<b>Wetlands</b>	Yes. Mapped wetlands on site are unconsolidated sandy shoreline along entire beach. Mapped wetlands are adjacent to parcel north of the barrier beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	3,240 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	32,000 cy
<b>Site Access</b>	Land – Atlantic Ave. Water – Block Island Sound
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Erosion evident on beach and dunes, and sand fencing has been placed along toe of dune on west side of parcel. Surf zone is a high-energy area with 1-2 foot waves during site visit. Nearby restaurants reportedly truck in sand when needed. Vegetated dunes along most of the length of the beach. Winnapaug Pond and wetland runs along entire length of beach on opposite side of the road, behind the beach and parking lot. A culvert crosses under the road approximately ½ mile from site, providing saltwater flow to the wetland. Access for construction vehicles possible in breaks between dunes; may require widening gap or access from adjacent properties. Cultural resources present.

## Site 384 Misquamicut State Beach Westerly, RI

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**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 15, 2010

**Direction:** East

**Description:**

Beach profile looking east.



## Site 384 Misquamicut State Beach Westerly, RI

---



**Date:** July 15, 2010

**Direction:** North

**Description:**

Dune at back of beach. Lifeguard chair is placed in dunes because high tide almost reaches toe of dune.



**Date:** July 15, 2010

**Direction:** Southeast

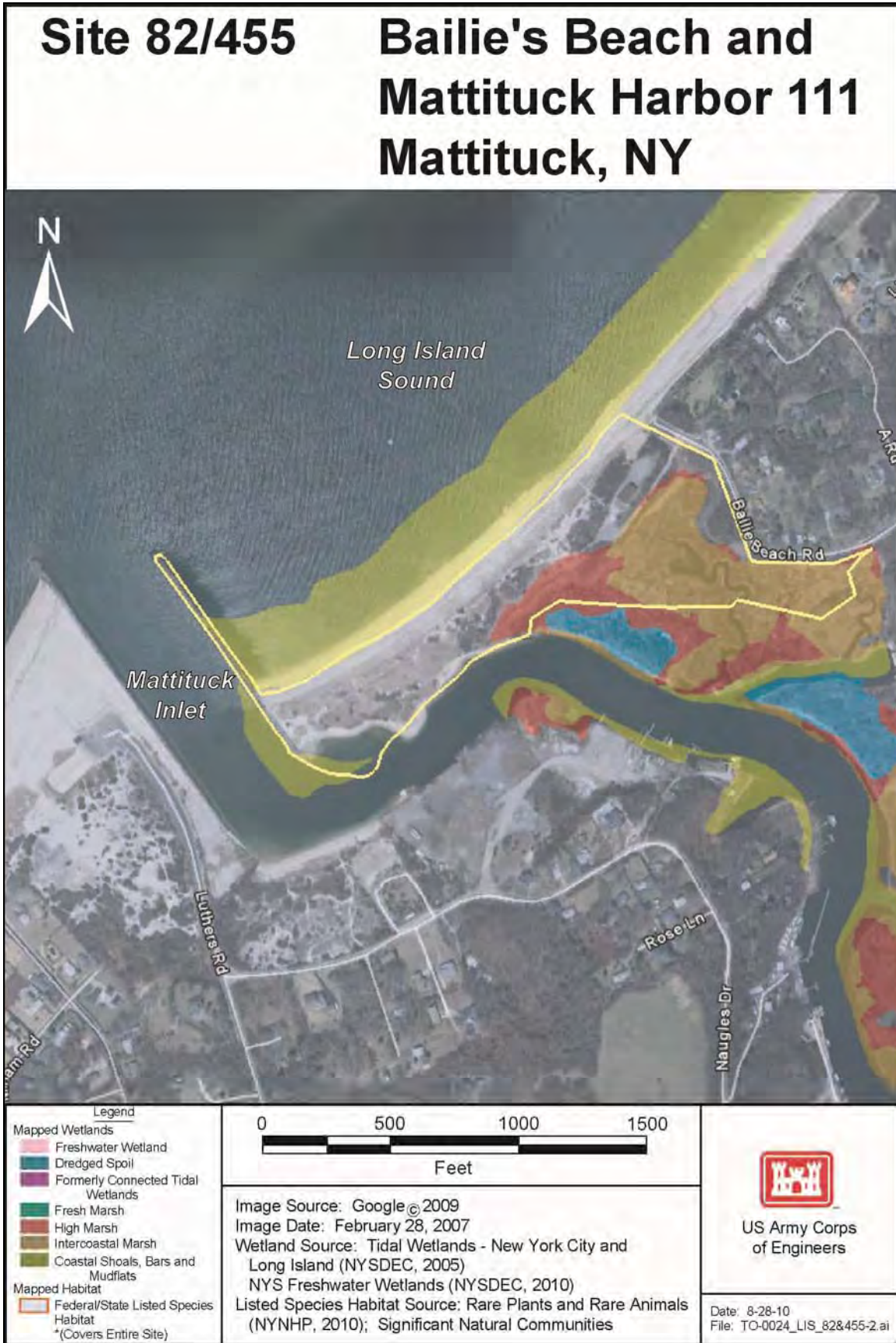
**Description:**

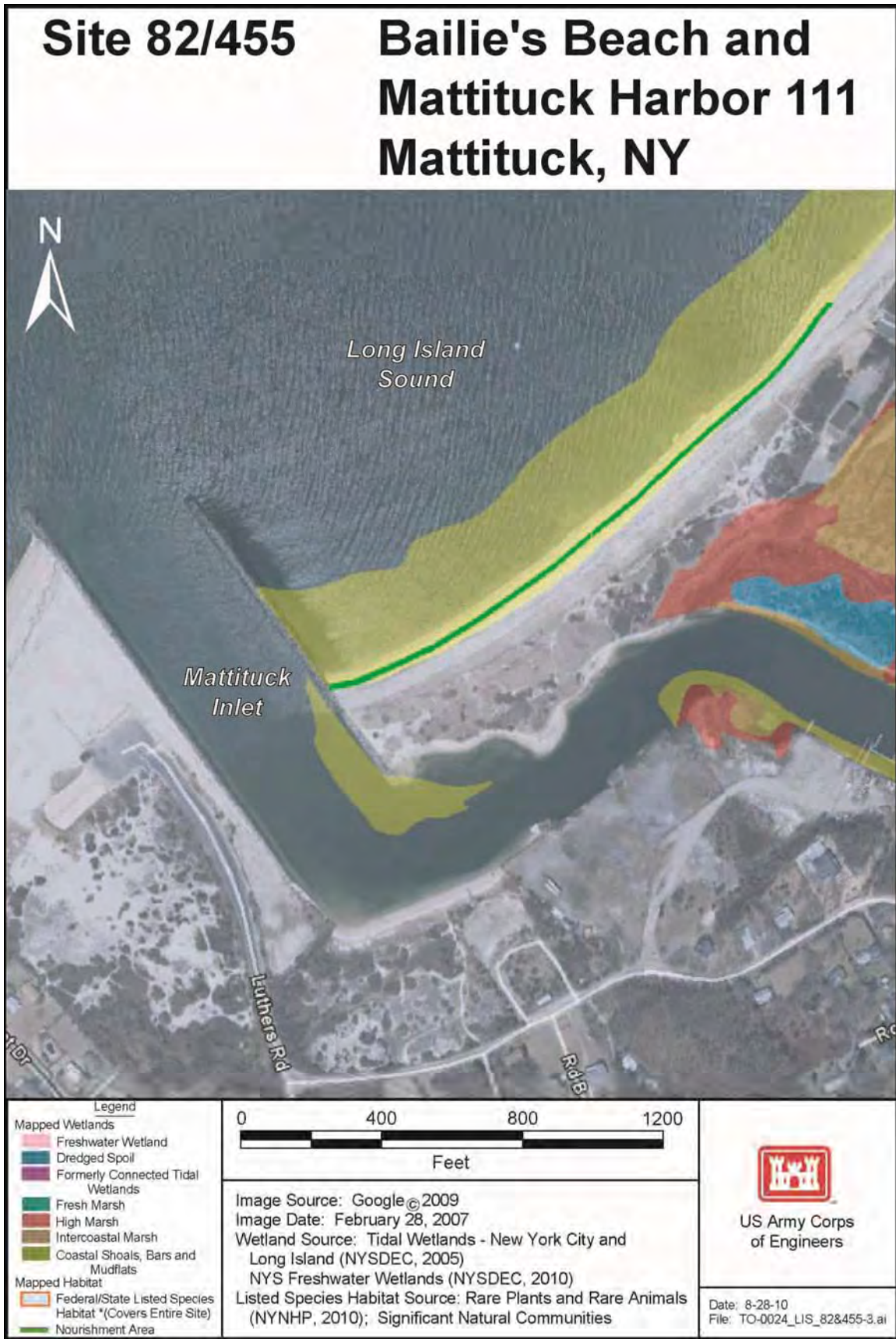
Potential staging area in paved lot behind beach.



Parcel	MBL
1	165-279
2	165-278
3	166-009
4	166-010
5	166-007

**Site 384 Westerly, RI  
Misquamicut State Beach**





**Sites 82 & 455 Bailie's Beach and Mattituck Harbor 111****Mattituck, NY**

<b>Site Address</b>	Bailie's Beach Rd., Mattituck, NY
<b>General Description</b>	Federal Shore Protection site and Municipal Beach (Mattituck Park District - neighborhood association beach) on the east side of Mattituck Inlet. This site forms the sandy barrier between Long Island Sound and Mattituck Inlet. The area has narrowed and could be breached by coastal storms. A breach would render the stabilized inlet inoperative and would create navigational and economic dislocations.
<b>Ownership/POC</b>	Town of Southold, NY Jim McMahon, Director of Public Works (631) 298-9103 USACE Contact Diane Rahoy (917) 790-8263
<b>Zoning</b>	R80 Residential Low Density
<b>Surrounding Land Use</b>	Residential; open space/wetland behind beach; Mattituck Inlet to west and south.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of beach; additional mapped wetlands in vegetated area between beach berm and Mattituck Creek.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium sand with some pebbles
<b>Nourishment Length</b>	4,000 ft (per USACE design)
<b>Design Berm Width</b>	n/a
<b>Capacity</b>	100,000 cy initial construction; 92,000 cy every 9 years (per USACE design)
<b>Site Access</b>	Land – Bailie's Beach Rd. Water – LIS just east of Mattituck Inlet
<b>Staging Area</b>	Potential staging area in small paved area at end of Bailie's Beach Rd. Access to beach is for pedestrians only, through break in guardrail. Equipment may need to be moved to beach via other access route.
<b>Additional Considerations</b>	Erosion evident on site visit. Town used dredged material to renourish the beach in 2008 but sand is now gone. Beach is recessed relative to jetty at Mattituck Inlet, and erosion is evident at the toe of dune. Dune and wetland adjacent to beach, but not in area of proposed nourishment.

**Sites 82 & 455 Bailie's Beach and Mattituck Harbor 111  
Mattituck, NY**

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**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile showing jetty at Mattituck Inlet.



**Date:** July 12, 2010

**Direction:** North

**Description:**

Jetty at east side of Mattituck Inlet, showing sand offset.

**Sites 82 & 455 Bailie's Beach and Mattituck Harbor 111  
Mattituck, NY**

---



**Date:** July 12, 2010

**Direction:** West

**Description:**

Bluff and dune at back of beach.



**Date:** July 12, 2010

**Direction:** North

**Description:**

Potential staging in small paved parking area behind beach.



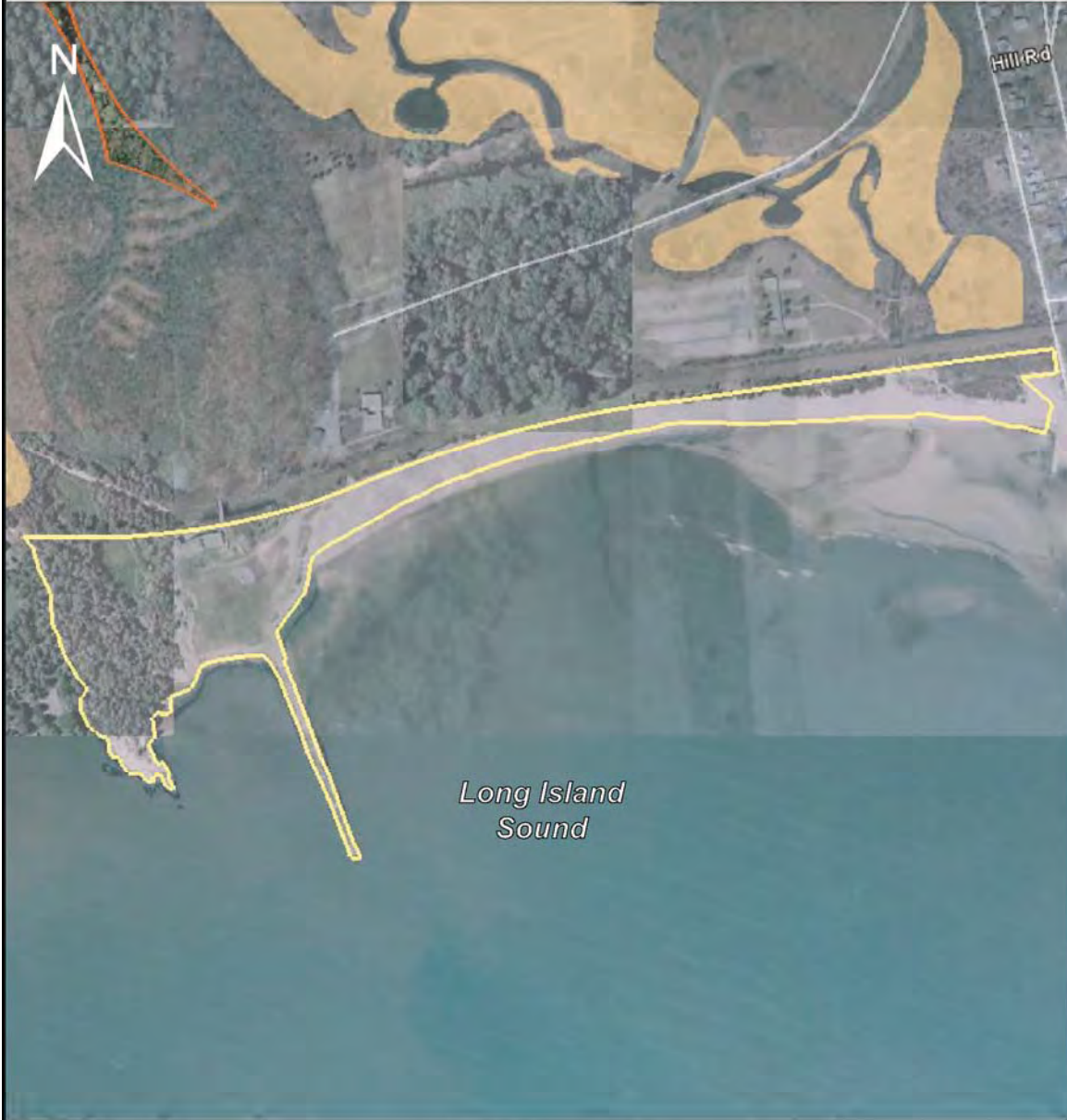
Parcel	DSBL
1	1000099000300009004
2	1000099000300009005
3	1000099000300010000
4	1000099000300011005
5	1000099000300011009
6	1000099000300011011
7	1000099000300011014
8	1000099000300011015
9	1000099000300011017
10	1000099000300011018
11	1000099000300011019
12	1000099000300012000
13	1000099000300013000
14	1000099000300015001
15	1000099000300023001
16	1000099000300009002
17	1000099000300011003





**Site 82/455 Mattituck, NY**

**Bailie's Beach/Mattituck Harbor 111**

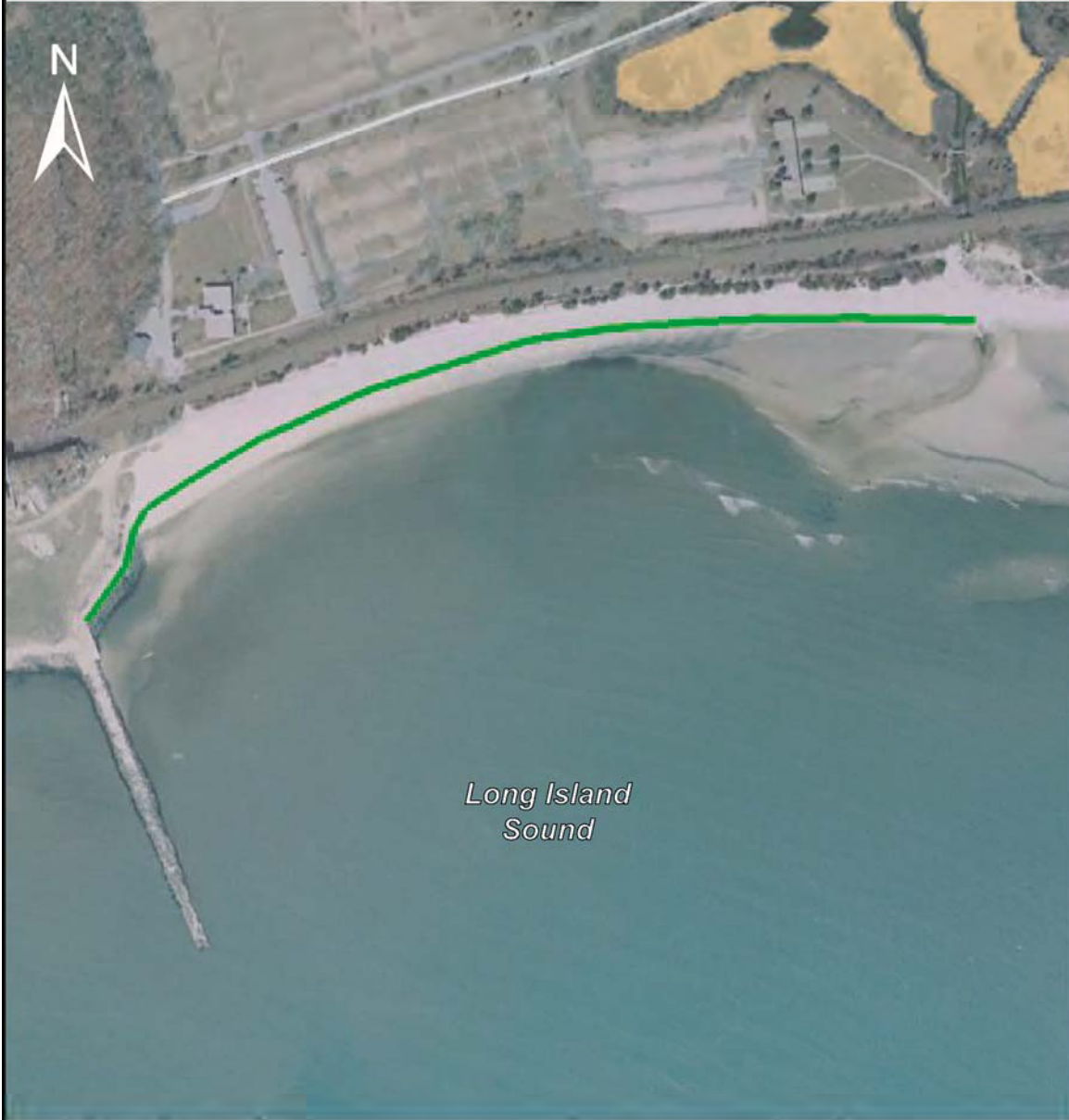




# Site 367 Rocky Neck State Park East Lyme, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 500 1000 1500                    Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_367-2.ai</p>

# Site 367 Rocky Neck State Park East Lyme, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid black;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid black;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">1175</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10                  File: TO-0024_LIS_367-3.ai</p>

**Site 367 Rocky Neck State Park  
East Lyme, CT**

<b>Site Address</b>	244 West Main St., East Lyme, CT
<b>General Description</b>	State Beach with park, camping and recreation area. Situated on Long Island Sound just west of Niantic Bay.
<b>Ownership/POC</b>	State of Connecticut Jon Cimochowaki, Bureau of Outdoor Recreation State Parks and Public Outreach (860) 424-3200 ext. 3204
<b>Zoning</b>	RU 40 Rural
<b>Surrounding Land Use</b>	Residential to west and east; open space to north.
<b>Wetlands</b>	No. Mapped wetland north of site connected by recently constructed culvert through eastern end of beach.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Well sorted fine sand
<b>Nourishment Length</b>	2,330 ft
<b>Design Berm Width</b>	150 ft
<b>Capacity</b>	10,400 cy
<b>Site Access</b>	Land – a narrow, paved road runs through park, under railroad trestle at west end of the beach. Road becomes dirt at the trestle. Water – LIS
<b>Staging Area</b>	Potential staging area in large dirt/gravel parking lot behind beach.
<b>Additional Considerations</b>	Beach berm is narrow; vegetated dunes run along much of the beach. Small stone groin at east end near culvert (barely extends beyond tide line). Extensive groin at west end, bordered by a rock revetment with grassy picnic area and rocky outcrops on upland side. Access to trucks and machinery possible but may be tight under the railroad trestle. Railroad runs through site just behind the beach. Cultural resources present.

**Site 367 Rocky Neck State Park  
East Lyme, CT**

---



**Date:** July 16, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** July 16, 2010

**Direction:** West

**Description:**

Beach profile looking west.

## Site 367 Rocky Neck State Park East Lyme, CT

---



**Date:** July 16, 2010

**Direction:** East

**Description:**

Rock revetment at west side of parcel, with view of beach to the east.

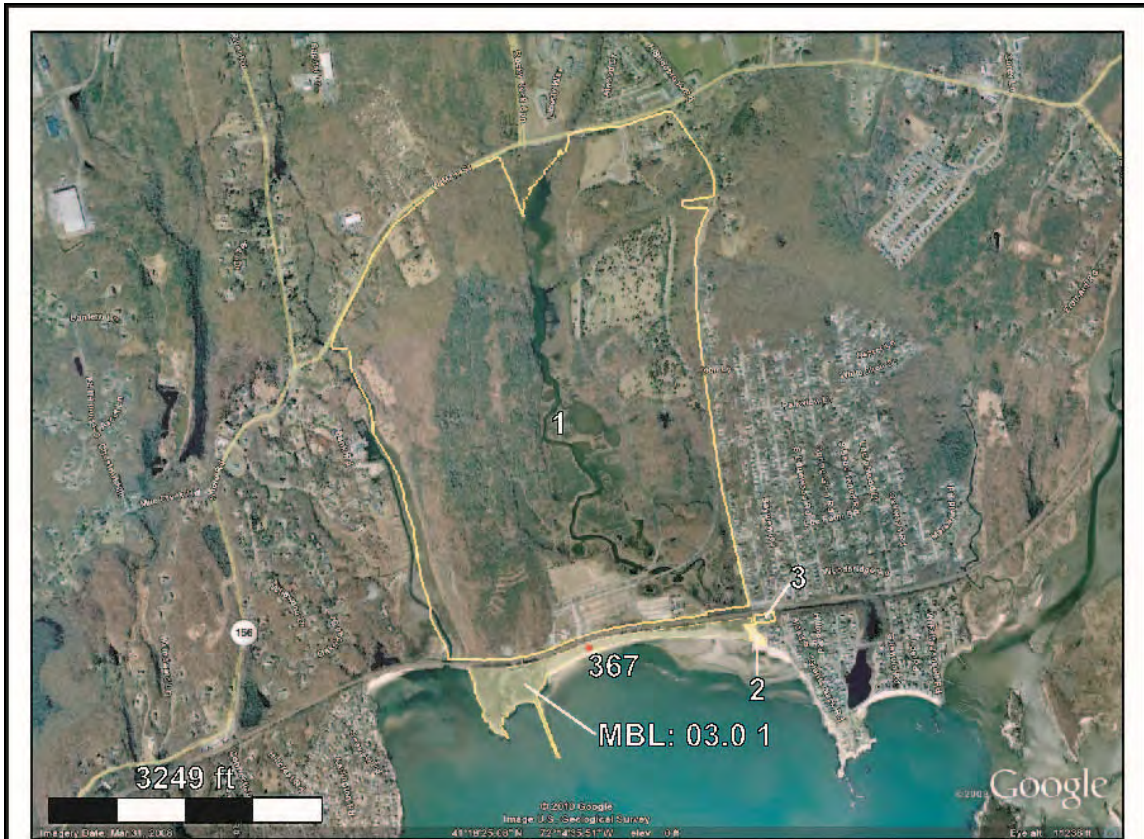


**Date:** July 16, 2010

**Direction:** North

**Description:**

Access to site via unpaved road under railroad trestle at west end. Potential staging area in parking lot behind beach and trestle.





Parcel	MBL
1	09.0 38
2	04.9 3
3	04.9 6

**Site 367      East Lyme, CT**  
**Rocky Neck State Park**






# Site 368 Bluff Point State Park Groton, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">3500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_368-2.ai</p>

# Site 368 Bluff Point State Park Groton, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0      644      1288      1932</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10                  File: TO-0024_LIS_368-3.ai</p>



**Site 368 Bluff Point State Park  
Groton, CT**

<b>Site Address</b>	0 Depot Rd., Groton, CT
<b>General Description</b>	State Park with barrier beach running east-west; Long Island Sound on the south side and the Poquonnock River on the north. East side of beach has a large bluff; west side is Bushy Point.
<b>Ownership/POC</b>	State of Connecticut Jon Cimochowaki, Bureau of Outdoor Recreation State Parks and Public Outreach (860) 424-3200 ext. 3204
<b>Zoning</b>	RS 20 Residential
<b>Surrounding Land Use</b>	Forested open space to the northeast, open space/wetland behind barrier beach; residential to the west and north; Groton/New London airport to the northwest.
<b>Wetlands</b>	Yes. Mapped wetlands north of barrier beach along Poquonnock River.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Mostly pebbles and some gravel at east end Coarse sand and gravel with pebbles at west end
<b>Nourishment Length</b>	4,260 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	131,200 cy
<b>Site Access</b>	Land – 1.5 mile access path restricted to pedestrians and bicycles only. No vehicular traffic is allowed. Water – LIS
<b>Staging Area</b>	No staging area near beach; see above text on site access.
<b>Additional Considerations</b>	Site is a Coastal Reserve, created by a special legislative act in 1975 with the goal of “preserving its native ecological associations, unique faunal and floral characteristics, geological features and scenic qualities in a condition of undisturbed integrity”. As such the site is accessible only by foot or non-motorized vehicles. The long, narrow beach is a remnant of the continental glaciers and subsequent erosion, which is ongoing. Sediment transport is east-west, with material accreting at the west end. Cultural resources present.

**Site 368 Bluff Point State Park  
Groton, CT**

---



**Date:** July 16, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 16, 2010

**Direction:** West

**Description:**

West side of beach, showing gravel and pebble sediments.

**Site 368 Bluff Point State Park  
Groton, CT**

---



**Date:** July 16, 2010

**Direction:** North

**Description:**

Vegetated dune at east end of beach, behind the berm.



**Date:** July 16, 2010

**Direction:** South

**Description:**

Access to beach via 1.5 mile unpaved path. Access to pedestrians and non-vehicular traffic only.



Parcel	MBL
1	169815744740
2	169815646225
3	169820813126

**Site 368 Groton, CT  
Bluff Point State Park**

# Site 171 Wildwood State Park Wading River, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Formerly Connected Tidal Wetlands
	Fresh Marsh
	High Marsh
	Intercoastal Marsh
	Coastal Shoals, Bars and Mudflats
Mapped Habitat	
	Federal/State Listed Species Habitat

0 3500  
Feet

Image Source: Google©2009  
 Image Date: March 1, 2007  
 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)  
 NYS Freshwater Wetlands (NYSDEC, 2010)  
 Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities

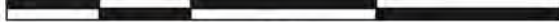



US Army Corps of Engineers

Date: 8-24-10  
 File: TO-0024\_LIS\_171-2.ai

# Site 171 Wildwood State Park Wading River, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">4321</span></p>  <p style="text-align: center;">Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 9-3-10                  File: TO-0024_LIS_171-3.ai</p>

**Site 171 Wildwood State Park**  
**Wading River, NY**

<b>Site Address</b>	North Wading River Rd., Wading River, NY
<b>General Description</b>	State Park located on the north shore of Long Island. The park is a large parcel that contains a beach, concession stand, bathing facilities, campground, recreational fields, picnic areas, and walking trails.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	Not zoned
<b>Surrounding Land Use</b>	Residential properties to the east and west; agricultural land to the south; additional open space to the west.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats offshore of the beach at the eastern end of the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat throughout upland portions of the site; coastal bluffs and beach are not in mapped habitat.
<b>Sediment Type</b>	Poorly sorted coarse to medium-grained sand with gravel
<b>Nourishment Length</b>	7,930 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	164,100 cy
<b>Site Access</b>	Land – North Wading River Rd. to access path off parking lot; possible beach access via Hulse Landing Rd. located off site to the west. Water – LIS
<b>Staging Area</b>	Potential staging area in paved parking lot landward of beach and bluff; access for equipment from parking area to beach via one lane paved road down coastal bluff; road changes to dirt access ramp at base of coastal bluff.
<b>Additional Considerations</b>	Concession building is elevated approx. 12 ft above the level of the beach with building infrastructure exposed underneath. Coastal bluffs landward of the beach are approx. 60 ft high and show signs of erosion; base of bluff around concession is armored with rip rap and a concrete retaining wall. Storm drain outfall through the rip rap east of the concession building causing erosion of the beach. Access road from parking lot to beach is steep and not suitable for large trucks. Cultural resources present.

## Site 171 Wildwood State Park Wading River, NY

---



**Date:** July 14, 2010

**Direction:** East

**Description:**

Beach profile showing eroding coastal bluff.



**Date:** July 14, 2010

**Direction:** West

**Description:**

Beach profile showing concession building and eroding coastal bluffs in the background.



## Site 171 Wildwood State Park Wading River, NY

---



**Date:** July 14, 2010

**Direction:** West

**Description:**

Access ramp at base of bluff with rip rap on seaward side.



**Date:** July 14, 2010

**Direction:** South

**Description:**

Access road and footpath between parking lot and beach.



\*Parcel numbers on next page

**Site 171 Wading River, NY  
Wildwood State Park**



Parcel	DSBL	Parcel	DSBL
1	0600034000100024000	48	0600058000200010018
2	0600034000100039000	49	0600058000200010019
3	0600034000100040000	50	0600058000200010020
4	0600034000100052001	51	0600058000200010022
5	0600034000100054001	52	0600058000200010023
6	0600034000100054003	53	0600058000200010024
7	0600037000100001000	54	0600058000200010027
8	0600037000100002002	55	0600058000200010028
9	0600037000100003002	56	0600058000200010029
10	0600037000100003003	57	0600058000200010031
11	0600037000200001000	58	0600058000200010033
12	0600037000200002000	59	0600058000500001000
13	0600037000200003000	60	0600059000100001001
14	0600037000200004000	61	0600059000100001002
15	0600037000200007000	62	0600059000100003003
16	0600037000200008002	63	0600059000100004000
17	0600037000200009000	64	0600059000200001000
18	0600037000200017000	65	0600059000200003001
19	0600037000200018000	66	0600059000200003006
20	0600038000100002001	67	0600059000200003010
21	0600038000200005000	68	0600059000200003011
22	0600038000200006000	69	0600059000200003013
23	0600038000200007000	70	0600059000200005001
24	0600038000200008000	71	0600037000200005000
25	0600038000200009000	72	0600037000200008001
26	0600038000200023000	73	0600038000200044000
27	0600038000200024001	74	0600038000200051000
28	0600038000200025002	75	0600058000200005000
29	0600038000200027000	76	0600058000200010026
30	0600038000200034000	77	0600059000200007000
31	0600038000200036000	78	0600034000100015000
32	0600038000200041000	79	0600038000200010001
33	0600038000200043001	80	0600038000200011001
34	0600038000200049002	81	0600058000200004001
35	0600038000200049003	82	0600059000200003002
36	0600053000100021001	83	0600038000200040000
37	0600053000100022000	84	0600058000200006000
38	0600053000100040001	85	0600058000200010025
39	0600053000100041000	86	0600059000100003002
40	0600053000200029000	87	0600037000200006000
41	0600058000200002001	88	0600037000200008003
42	0600058000200004002	89	0600037000300001000
43	0600058000200007000	90	0600053000200011001
44	0600058000200008000	91	0600059000200003008
45	0600058000200009000	92	0600059000200003012
46	0600058000200010016	93	0600038000200035000
47	0600058000200010017		

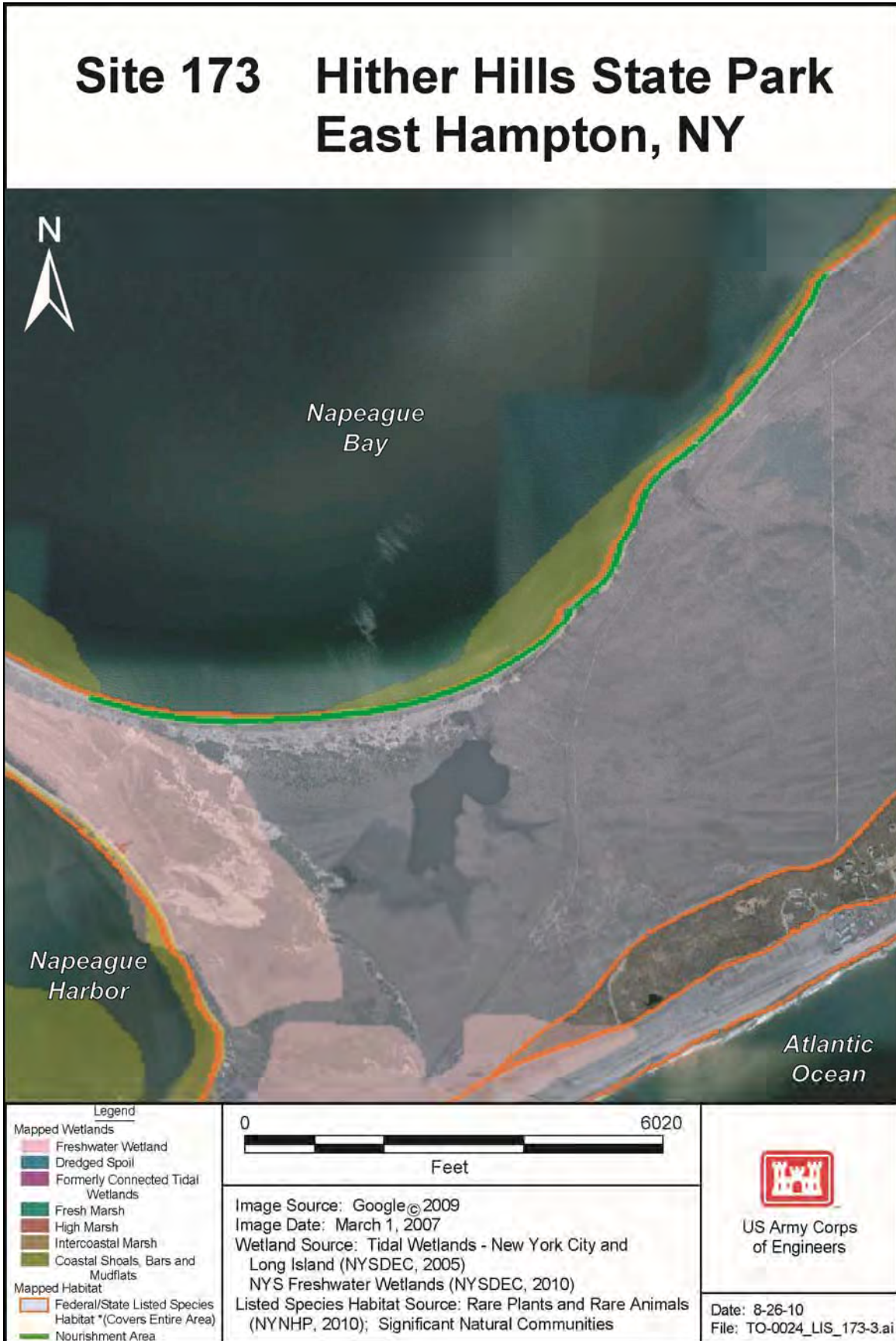
**Site 171 Wading River, NY  
Wildwood State Park**

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# Site 173 Hither Hills State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f08080; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682b4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3cb371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6aa84f; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">7000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-24-10                  File: TO-0024_LIS_173-2.ai</p>	



**Site 173 Hither Hills State Park  
East Hampton, NY**

<b>Site Address</b>	Old Montauk Hwy., Montauk, NY
<b>General Description</b>	State Park located on the south fork of Long Island. The park has property on both sides of Montauk Hwy. The beach front property facing the Atlantic Ocean is run as a campground; the property north of the hwy has frontage on Napeague Bay and Napeague Harbor. The north facing property is extensive and is maintained as natural dunes, beaches, and woodlands for recreational purposes. Inventory only considers north facing property.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	PC – Parks and conservation
<b>Surrounding Land Use</b>	Residential properties surround the park to the southwest and south. Open space surrounds the park to the east.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the site; additional freshwater wetlands mapped in the western part of the site north of Old Montauk Hwy.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	13,580 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	319,600 cy
<b>Site Access</b>	Land – Montauk Hwy to gravel access road to Napeague Bay Water – Napeague Bay
<b>Staging Area</b>	Staging areas for equipment not currently available; access to beaches along Napeague Bay via a one-lane natural surface road. Additional staging would need to be developed for equipment.
<b>Additional Considerations</b>	Shoreline along Napeague Harbor not considered for beach nourishment due to concerns with navigation. Extensive coastal dunes and narrow beach along the Napeague Harbor shoreline; dunes are vegetated with beach grass and woody species. Eastern end of the Napeague Harbor shoreline transitions into an eroding coastal bluff. Land access to the nourishment area on the north side of the site is via a long and narrow natural surface road. Possible fish/shellfish grants offshore of the beach.

**Site 173 Hither Hills State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** Northeast

**Description:**

Beach profile facing Napeague Bay showing wide coastal dunes and eroding coastal bluffs in the background.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile facing Napeague Bay showing wide coastal dunes vegetated with beach grass.



## Site 173 Hither Hills State Park East Hampton, NY

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**Date:** July 13, 2010

**Direction:** South

**Description:**

Coastal dunes landward of the beach vegetated with beach grass (Napeague Bay side).



**Date:** July 13, 2010

**Direction:** South

**Description:**

Napeague Harbor shoreline showing eroding dunes and narrow coastal beach.




Parcel	DSBL
1	0300026000100003000
2	0300043000100001000
3	0300086000200002000
4	0300086000200003000
5	0300110000100003001
6	0300110000100003002
7	0300110000100005002
8	0300110000100008000
9	0300110000200001000
10	0300026000100001002
11	0300110000100001000
12	0300110000100011000

**Site 173      East Hampton, NY**  
**Hither Hills State Park**


# Site 177 Shadmoor State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 80px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 1000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-24-10                  File: TO-0024_LIS_177-2.ai</p>

# Site 177 Shadmoor State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">838</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_177-3.ai</p>	

**Site 177 Shadmoor State Park  
East Hampton, NY**

<b>Site Address</b>	Montauk Hwy., Montauk, NY
<b>General Description</b>	State Park located on the south fork of Long Island. The site faces south to the Atlantic Ocean and contains steeply sloping/eroding coastal bluffs fronted by a gently sloping beach.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	PC Parks and conservation
<b>Surrounding Land Use</b>	Residential properties surround the property.
<b>Wetlands</b>	Yes. Mapped freshwater wetlands in upland areas of the site landward of the coastal bluff.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat in upland and coastal bluff areas; beach is not mapped habitat.
<b>Sediment Type</b>	Well sorted medium-grained sand
<b>Nourishment Length</b>	1,400 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	20,100 cy
<b>Site Access</b>	Land – Montauk Hwy. to park access road Water – Atlantic Ocean
<b>Staging Area</b>	Staging areas for equipment not currently available; access to upland areas of the park is via a one-lane natural surface road. Additional staging would need to be developed for equipment.
<b>Additional Considerations</b>	Unstable eroding coastal bluffs, approximately 60 ft high along entire ocean shoreline. Eroding bluffs indicate a high energy setting not optimum for beach nourishment. Cultural resources present.

**Site 177 Shadmoor State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Eroding coastal bluff and gently sloping beach.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Eroding coastal bluff with adjacent beach, showing storm damage to access stairway.

**Site 177 Shadmoor State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Upland area along top of coastal bluff.



**Date:** July 13, 2010

**Direction:** North

**Description:**

Upland topography and vegetation landward of the coastal bluff.




Parcel	DSBL
1	0300028000900002000
2	0300029000100018003
3	0300029000100018005
4	0300029000100018007
5	0300051000300001000
6	0300051000300005000
7	0300051000300006000
8	0300051000300009000
9	0300053000100006001
10	0300029000100018013
11	0300051000400019000
12	0300051000300007000
13	0300029000100018006
14	0300029000100018008
15	0300051000300008000
16	0300029000100018011

**Site 177      East Hampton, NY**  
**Shadmoor State Park**





# Site 178 Camp Hero State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B6914; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #FFD700; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #FFD700; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0      1000      2000      3000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_178-2.ai</p>

# Site 178 Camp Hero State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #FFA500; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #3CB371; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">1686</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_178-3.ai</p>

**Site 178 Camp Hero State Park  
East Hampton, NY**

<b>Site Address</b>	Old Montauk Hwy., Montauk, NY
<b>General Description</b>	State Park located at the southeastern end of the south fork of Long Island. The site faces south to the Atlantic Ocean and contains steeply sloping/eroding coastal bluffs fronted by cobble beaches.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	PC Parks and conservation
<b>Surrounding Land Use</b>	The site is surrounded by park lands and open space with walking trails.
<b>Wetlands</b>	Yes. Mapped wetlands are located in the upland landward of the bluff crest.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Cobbles
<b>Nourishment Length</b>	1,330 ft (eastern); 1,170 ft (western)
<b>Design Berm Width</b>	100 ft (eastern and western)
<b>Capacity</b>	76,900 cy
<b>Site Access</b>	Land – Montauk Point State Parkway to Old Montauk Hwy. Water – Atlantic Ocean
<b>Staging Area</b>	Potential staging area is limited to the natural surface parking lot at the bluff overview site. Potential access to the beach via a one lane road west of the parking lot.
<b>Additional Considerations</b>	Unstable eroding coastal bluffs, approximately 60 ft high along most of the shoreline. Bluff elevation lowers to the west where beach access may be possible. Eroding bluffs and cobble beach indicate a high energy setting not optimum for beach nourishment. Cultural resources present.

**Site 178 Camp Hero State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Eroding coastal bluffs and hoodoos along the south facing shoreline.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Cobble beaches and eroding coastal bluffs along the western shoreline.

**Site 178 Camp Hero State Park  
East Hampton, NY**

---



**Date:** July 13, 2010

**Direction:** North

**Description:**

Eroding coastal bluffs and cobble beach near western end of park showing potential beach access route for equipment.



**Date:** July 13, 2010

**Direction:** East

**Description:**

Potential staging for trucks and grading equipment in parking lot at bluff overview site.




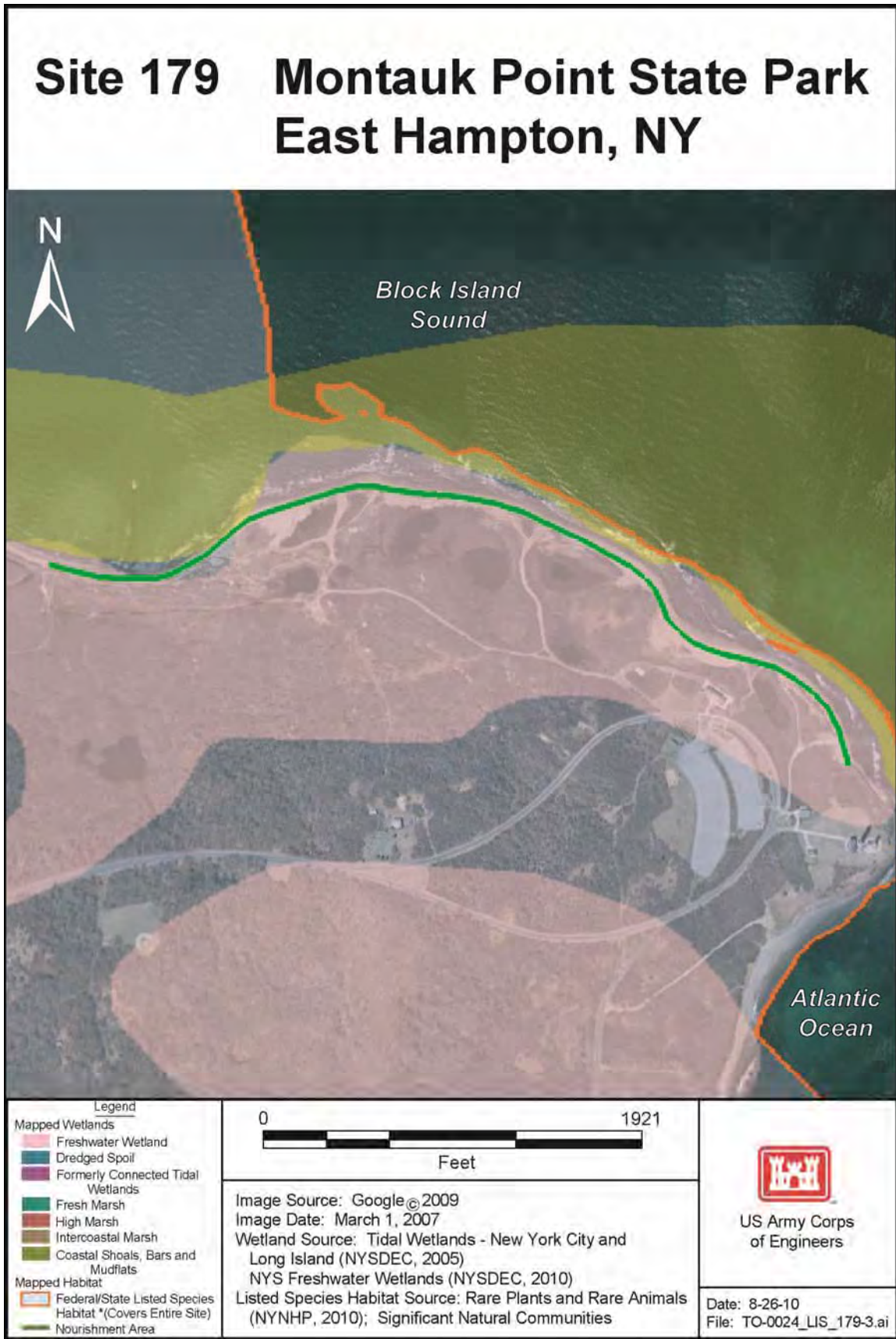
Parcel	DSBL
1	0300015000100012000
2	0300015000100013010
3	0300015000100013011
4	0300015000100014000
5	0300022000100001001
6	0300022000100001002
7	0300022000100001003
8	0300015000100011000
9	0300015010100029000
10	0300015000100004000
11	0300015010100007000
12	0300015010100028000
13	0300015010100030000
14	0300015010100006000

**Site 178      East Hampton, NY**  
**Camp Hero State Park**

# Site 179 Montauk Point State Park East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffee58; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffee58; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffee58; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #007bff; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #007bff; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">2000</span></p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_179-2.ai</p>





**Site 179 Montauk Point State Park  
East Hampton, NY**

<b>Site Address</b>	Montauk Point State Pkwy., Montauk, NY
<b>General Description</b>	State Park located at the northeastern end of the south fork of Long Island. The site faces north to Block Island Sound and contains steeply sloping/eroding coastal bluffs fronted by cobble beaches.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	PC Parks and conservation
<b>Surrounding Land Use</b>	The site is surrounded by park lands and open space with walking trails.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of beach; additional mapped wetlands are located in the upland landward of the beach and on the dune surrounding the bluff crest.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Cobbles with intermixed sand
<b>Nourishment Length</b>	4,780 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	147,300 cy
<b>Site Access</b>	Land – Montauk Point State Parkway to N Rd. Water – Block Island Sound
<b>Staging Area</b>	Potential staging area is limited to the asphalt parking lot west of the lighthouse and visitor center. Staging area has catch basins, but is set back significantly from the bluff top and beach. Potential access to the beach via one lane sandy paths north of the gravelly N Road and other park maintenance roads.
<b>Additional Considerations</b>	Partially vegetated but mostly eroding coastal bluffs, approximately 60 ft high along most of the shoreline. Bluff elevation lowers to the northwest of lighthouse, in Scott's Hole, where pocket beach is wider (20 ft to 50 ft) than other beaches in vicinity. Terracing and rip rap around Montauk Point Lighthouse indicate a high energy setting not optimum for beach nourishment. Cultural resources present.

**Site 179 Montauk Point State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Cobble beach and eroding coastal dune along the north facing shoreline.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Cobble beach and eroding coastal bluffs along the northern shoreline.

**Site 179 Montauk Point State Park  
East Hampton, NY**

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**Date:** July 13, 2010

**Direction:** South

**Description:**

Dune with adjacent wetlands near Rush Pond in north-central portion of park showing potential beach access route for equipment.



**Date:** July 13, 2010

**Direction:** South

**Description:**

Sea wall, toe wall and terracing at Montauk Point Lighthouse. This is a high energy area not suitable for beach nourishment.




Parcel	DSBL
1	0300015000100013009
2	0300015000100007000
3	0300015000100008000
4	0300015000100006000
5	0300015000100009000
6	0300015000100005000
7	0300015000100010000
8	0300015000100012000
9	0300015000100013010
10	0300015000100013011
11	0300015000100011000
12	0300015000100004000

**Site 179      East Hampton, NY**  
**Montauk Point State Park**



# Site 170 Sunken Meadow State Park Kings Park, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #228B22; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0      1640      3280      4920</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_170-3.ai</p>	

**Site 170 Sunken Meadow State Park  
Kings Park, NY**

<b>Site Address</b>	Sunken Meadow Pkwy., Kings Park, NY
<b>General Description</b>	State Park located on the north shore of Long Island just west of Stony Brook. The park is a large parcel that contains a beach, boardwalk, golf course, recreational fields, picnic areas, and walking trails.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	R-43 Residential 1-acre
<b>Surrounding Land Use</b>	Residential properties and some open space surround the park on all sides.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the beach; additional wetlands mapped around the pond near the center of the site and at the east end of the beach adjacent to the Nissequogue River.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat around the pond near the center of the site and at the east end of the beach adjacent to the Nissequogue River.
<b>Sediment Type</b>	Moderately well sorted medium to coarse-grained sand
<b>Nourishment Length</b>	9,760 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	160,600 cy
<b>Site Access</b>	Land – Sunken Meadow Pkwy to beach parking lot Water – LIS (Smithtown Bay)
<b>Staging Area</b>	Potential staging area in paved parking lot landward of beach; access for equipment directly from parking area to beach beyond eastern end of the boardwalk; potential access through dunes at western end of boardwalk.
<b>Additional Considerations</b>	A single stone groin is located on the beach near the western end of the boardwalk; dominant sediment transport is likely from west to east. Elevated boardwalk located between the beach and dune/parking area; the boardwalk is approx. 6 feet above the level of the beach; wooden ramps provide access down to the beach. Natural dune areas are located at the east and west ends of the beach beyond the boardwalk; to the west the dunes transition into an eroding coastal bluff. The eastern end of the beach terminates in a barrier beach which forms the entrance to the Nissequogue River. No nourishment calculated for this area. Cultural resources present.

## Site 170 Sunken Meadow State Park Kings Park, NY

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**Date:** July 15, 2010

**Direction:** Southeast

**Description:**

Beach profile showing wide gently sloping beach with elevated boardwalk at landward edge of beach.



**Date:** July 15, 2010

**Direction:** Northwest

**Description:**

Beach profile showing stone groin with eroding coastal bluff in the background.



## Site 170 Sunken Meadow State Park Kings Park, NY

---



**Date:** July 15, 2010

**Direction:** South

**Description:**

Elevated boardwalk at the landward edge of the beach showing typical beach access ramp.



**Date:** July 15, 2010

**Direction:** South

**Description:**


Possible access path for equipment from parking area, across boardwalk, to beach.



**Site 170 Kings Park, NY  
Sunken Meadow State Park**


# Site 180 Orient Beach State Park Orient, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B6914; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 7000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_180-2.ai</p>

# Site 180 Orient Beach State Park Orient, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #CD5C5C; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A08080; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">4188</span></p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-26-10                  File: TO-0024_LIS_180-3.ai</p>

**Site 180 Orient Beach State Park**  
**Orient, NY**

<b>Site Address</b>	State Parkway, Orient, NY
<b>General Description</b>	State Park located on Gardiner's Bay at the eastern end of the north fork of Long Island.
<b>Ownership/POC</b>	State of New York Scott Fish, NY Office of Parks, Recreation, and Historic Preservation (518)-474-0456
<b>Zoning</b>	R-400 Residential low density
<b>Surrounding Land Use</b>	Agricultural/residential/wetlands on parcels north of Long Beach Bay; commercial marina/ferry service on abutting parcels to northeast.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of beach; additional mapped wetlands along north side of barrier beach facing Long Beach Bay.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site; shorebird enclosures in dunes at east end of main beach.
<b>Sediment Type</b>	Moderately sorted medium-grained sand with some gravel and shells
<b>Nourishment Length</b>	8,360 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	119,900 cy
<b>Site Access</b>	Land – State Parkway Water – Gardiners Bay (south side); Long Beach Bay (north side)
<b>Staging Area</b>	Potential staging area in paved parking lot landward of main beach; access for equipment across paved walking path and low lying dunes; large trees present in certain places between walking path and beach. Access for equipment to northern beach across causeway and low lying dunes vegetated with shrubs.
<b>Additional Considerations</b>	Northern section of beach between entrance gate and main bathing beach contains a stone revetment and a series of short stone groins; this area has recently experienced significant erosion which threatens the access road; nourishment sand has been trucked to this area historically. Sediment transport is from northeast to southwest; sediment supply to the site from the northeast is limited. Cultural resources present.

## Site 180 Orient Beach State Park Orient, NY

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**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile showing primary bathing beach area.



**Date:** July 12, 2010

**Direction:** Southwest

**Description:**

Beach profile showing northern beach area along entrance road with piles of sand trucked in for erosion control.

## Site 180 Orient Beach State Park Orient, NY

---



**Date:** July 12, 2010

**Direction:** East

**Description:**

Area of low lying coastal dunes east of the main bathing beach showing enclosures for nesting shorebirds.



**Date:** July 12, 2010

**Direction:** South

**Description:**

Potential staging for trucks and grading equipment in parking lot at back of main bathing beach.




Parcel	DSBL
1	1000015000800014002
2	1000015000900008001
3	1000015000800026007
4	1000020000300011007
5	1000020000300014004
6	1000015000800014003
7	1000015000500024030
8	1000015000800026008
9	1000020000300012002
10	1000015000800024000

**Site 180      Orient, NY**  
**Orient Beach State Park**





# Site 445 Jamesport State Park Riverhead, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #9ACD32; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> Significant Natural Communities</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 2px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 100%; height: 10px;"></span> </span> 2500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_445-2.ai</p>

# Site 445 Jamesport State Park Riverhead, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">2665</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_445-3.ai</p>	

**Site 445 Jamesport State Park  
Riverhead, NY**

<b>Site Address</b>	Sound Ave., Riverhead, NY
<b>General Description</b>	State Park with steep bluff. The parcel includes a large upland area currently not accessible to the public, but scheduled for development into a park and recreation area (Hallock State Park Preserve).
<b>Ownership/POC</b>	State of New York John Sadonno, NY Office of Parks, Recreation, and Historic Preservation (631) 321-3540
<b>Zoning</b>	RA-80 Residential
<b>Surrounding Land Use</b>	Park/open space on larger parcel behind beach; agricultural, residential on abutting parcels.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat on beach and upland area of parcel.
<b>Sediment Type</b>	Medium to coarse-grained sand
<b>Nourishment Length</b>	5,800 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	120,000 cy
<b>Site Access</b>	Land – Sound Ave. Water – LIS just west of Mattituck Inlet
<b>Staging Area</b>	None at present. Would likely require barge access as upland bluff is approximately 200 ft high and there is no direct access to beach at present.
<b>Additional Considerations</b>	The New York Parks, Recreation, and Historic Preservation program has a Master Plan (in review) for Jamesport State Park (proposed name for the site is “Hallock State Park”). The goal for the park is to strike a balance between recreation and the protection and interpretation of the natural and cultural resources within the park. The Draft Master Plan includes providing public access to the ocean beach at LIS. However, the Plan indicates bluffs will be managed ‘naturally’ to allow erosion and natural restoration of sand, so beach nourishment may not be permitted at this site. Cultural resources present.

## Site 445 Jamesport State Park Riverhead, NY

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**Date:** July 12, 2010

**Direction:** Northwest

**Description:**

Jamesport State Park beach area from atop the bluff.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Access to site currently restricted. Plans are in place to create a public park with access to the beach.




Parcel	DSBL
1	0600002000200003001
2	0600003000100002010
3	0600003000100002011
4	0600003000100002013
5	0600009000100010000
6	0600009000100011007
7	0600009000100017001
8	0600009000200009000
9	0600009000300001000
10	0600009000300003000
11	0600009000300004000
12	0600009000300005000
13	0600003000100002014
14	0600009000200010002
15	1000120000100001003
16	0600009000200011000
17	1000112000100007004
18	1000112000100007005

**Site 445 Riverhead, NY  
Jamesport State Park**

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# Site 446 Theodore Roosevelt County Park East Hampton, NY




<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: pink; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 50%; transform: translate(-50%, -50%); border-left: 1px dashed black; border-right: 1px dashed black; width: 100%;"></span> </span> 5000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_446-2.ai</p>

# Site 446 Theodore Roosevelt County Park East Hampton, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Dredged Spoil
	Formerly Connected Tidal Wetlands
	Fresh Marsh
	High Marsh
	Interoceanic Marsh
	Coastal Shoals, Bars and Mudflats
Mapped Habitat	
	Federal/State Listed Species Habitat *(Covers Entire Site)
	Nourishment Area

<p>0 4640 Feet</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>



US Army Corps  
of Engineers

Date: 8-27-10  
File: TO-0024\_LIS\_446-3.ai



**Site 446 Theodore Roosevelt County Park  
East Hampton, NY**

<b>Site Address</b>	East Lake Dr. (beach access)/Montauk Hwy., Montauk, NY
<b>General Description</b>	County Beach located on the south fork of Long Island, east of Lake Montauk Harbor inlet. The beach has two primary shoreline areas: the eastern beach is contiguous with Gin Beach (municipal) and is used for self contained camping; the western beach is a natural area not accessible by vehicles.
<b>Ownership/POC</b>	Suffolk County Government, NY Dept. of Parks, Recreation & Conservation
<b>Zoning</b>	PC Parks and conservation
<b>Surrounding Land Use</b>	Commercial marinas and restaurants/residential properties to the west; State park to the south.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the site; additional wetlands mapped near the interior of the property.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	Two separate areas for beach nourishment: Eastern side – 2,830 ft Western side – 9,040 ft
<b>Design Berm Width</b>	Two separate areas for beach nourishment: Eastern side – 100 ft Western side – 200 ft
<b>Capacity</b>	427,400 cy
<b>Site Access</b>	Land – East Lake Dr. to park entrance Water – Block Island Sound
<b>Staging Area</b>	Staging areas for equipment not currently available; access road to western beach and campground area is an ORV trail; all other areas of the park adjacent to the beaches are in a natural condition.
<b>Additional Considerations</b>	Western beach area is used by self contained campers and other ORVs; the beach is backed by a wide coastal dune system (primary and secondary) vegetated with beach grass and woody species. The Eastern beach is remote; it contains a narrow, cobble beach with an eroding costal bluff. Both beaches have experienced erosion in recent years. Cultural resources present.

## Site 446 Theodore Roosevelt County Park East Hampton, NY

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Beach profile looking to the east showing the campground area (western beach).



**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile looking to the west showing the wide coastal dune vegetated with beach grass (western beach).

**Site 446 Theodore Roosevelt County Park  
East Hampton, NY**

---



**Date:** July 13, 2010

**Direction:** Southeast

**Description:**

Upper beach face and extensive coastal dune vegetated with beach grass (western beach).



**Date:** July 13, 2010

**Direction:** Southwest





**Description:**

Extensive coastal dune vegetated with beach grass (western beach).





# Site 343 Clinton Town Beach Clinton, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_343-2.ai</p>
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# Site 343 Clinton Town Beach Clinton, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid green;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">584</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google ©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_343-3.ai</p>

**Site 343 Clinton Town Beach**  
**Clinton, CT**

<b>Site Address</b>	Waterside Ln., Clinton, CT
<b>General Description</b>	Municipal Beach on a barrier beach with playground and recreational area located on Clinton Harbor.
<b>Ownership/POC</b>	Town of Clinton, CT R. Potter, Parks and Recreation (860) 669-6901
<b>Zoning</b>	R-10 Residential
<b>Surrounding Land Use</b>	Residential with small commercial marina to northwest and open space (Great Hammock Salt Marsh) to east.
<b>Wetlands</b>	Yes. Salt marshes mapped at northern end of park west of bridge, southeastern corner of park, and to the east along the adjacent Hammock River. Unmapped fringing marsh was observed along the western shore, except at the recreational beach area.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium to coarse-grained sand with gravel
<b>Nourishment Length</b>	490 ft
<b>Design Berm Width</b>	50 ft
<b>Capacity</b>	1,200 cy
<b>Site Access</b>	Land – Waterside Ln., with one-lane wooden bridge over tidal creek. Water – LIS; Clinton Harbor has navigation channel to marina opposite parcel.
<b>Staging Area</b>	Potential staging area in two asphalt parking lots landward of beach, separated by playground.
<b>Additional Considerations</b>	Recreational beach contains two groins. North of the northern groin, a fringing marsh fronts a narrow beach which transitions into a low-lying dune. Between the two groins, the beach has a 75 ft berm level with the parking lot and playground, and a gentle slope to the water. South of the southern groin, the beach narrows and slopes moderately to the water. South of the beach, a fringing marsh fronts a small dune and a grassy upland area with walking trails and a small pavilion. Eastern border of parcel has a tree lined bank overlooking the Hammock River tidal channel and salt marsh. No nourishment calculated for areas of fringing marsh.

## Site 343 Clinton Town Beach Clinton, CT

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**Date:** July 15, 2010

**Direction:** South

**Description:**

Beach and southern groin.



**Date:** July 15, 2010

**Direction:** North

**Description:**

Beach and northern groin.



## Site 343 Clinton Town Beach Clinton, CT

---



**Date:** July 15, 2010

**Direction:** North

**Description:**

Fringing marsh, beach and dune at northern end of park.

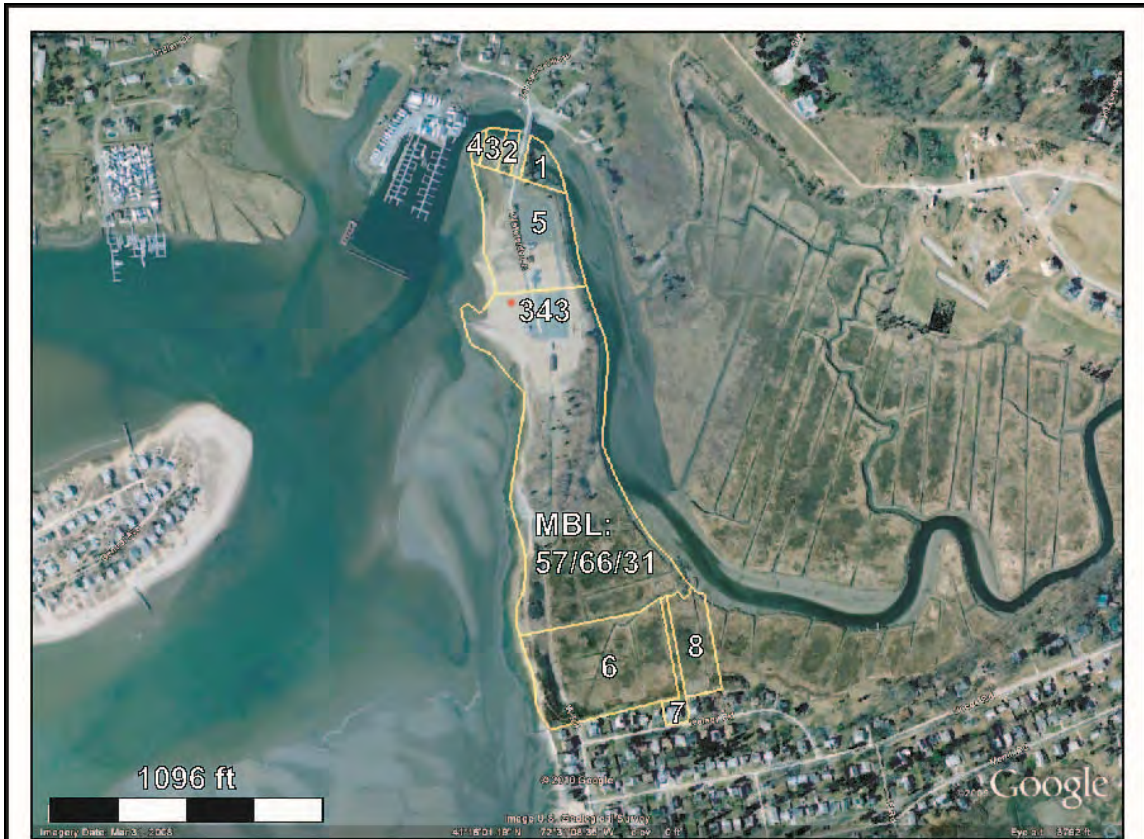


**Date:** July 15, 2010

**Direction:** South

**Description:**

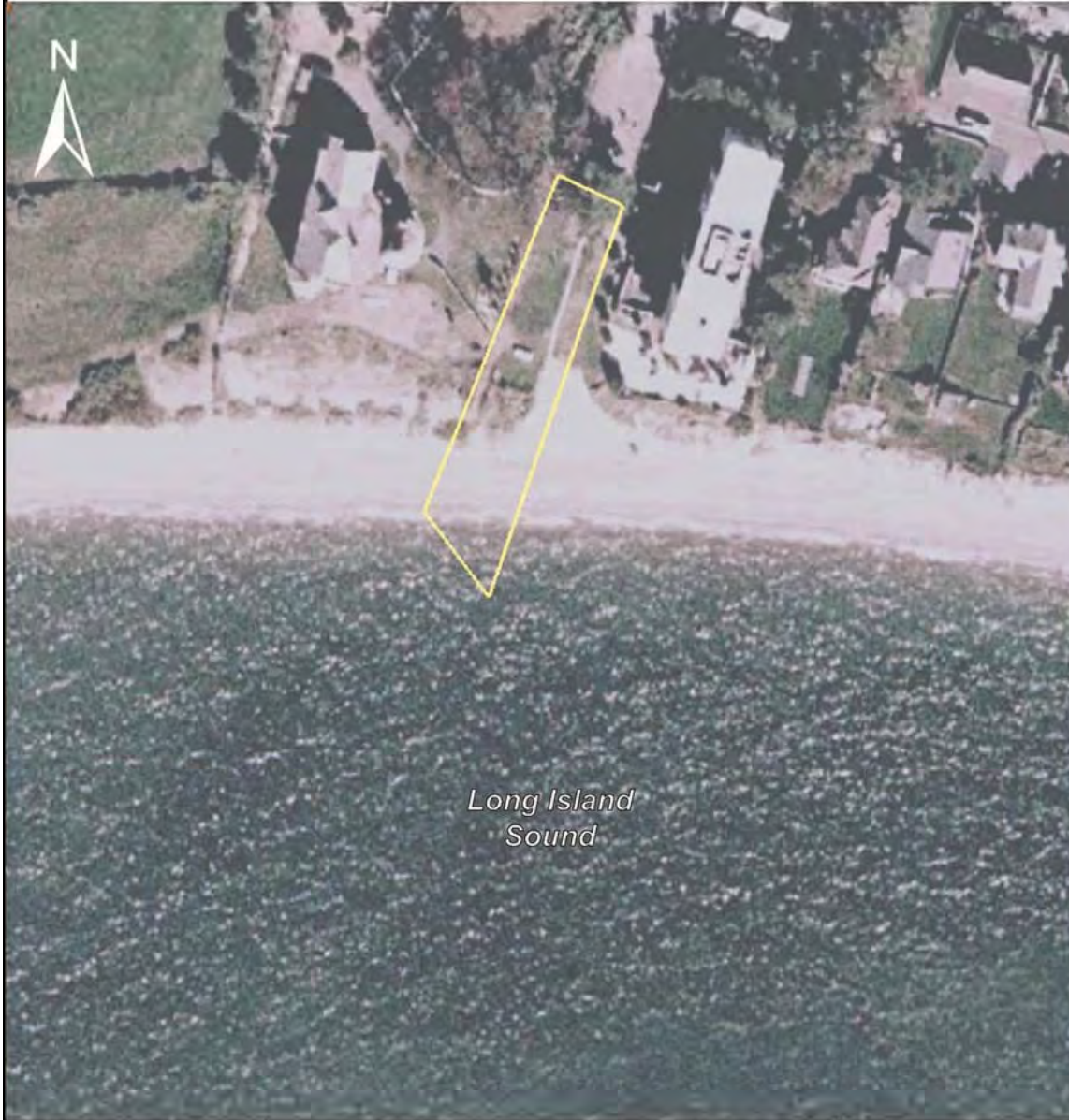
Bridge over outlet of Hammock River.







Parcel	MBL
1	57/66/33
2	57/66/34
3	57/66/35
4	57/66/36
5	57/66/32
6	57/66/30
7	69/66/25
8	69/66/21

**Site 343    Clinton, CT**  
**Clinton Town Beach**






# Site 474 South Pine Creek Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0  250 Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 9-10-10                  File: TO-0024_LIS_474-2.ai</p>

# Site 474 South Pine Creek Beach Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>0      38      76      114</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10                  File: TO-0024_LIS_474-3.ai</p>

**Site 474 South Pine Creek Beach  
Fairfield, CT**

<b>Site Address</b>	1424 South Pine Creek Rd., Fairfield, CT
<b>General Description</b>	Very small Municipal Beach at the end of a small road, just east of Southport Harbor entrance. Private beaches on either side of this small public beach.
<b>Ownership/POC</b>	Town of Fairfield, CT Richard White, Director of Public Works (203) 256-3010
<b>Zoning</b>	Beach District
<b>Surrounding Land Use</b>	Residential
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	80 ft
<b>Design Berm Width</b>	8 ft
<b>Capacity</b>	100 cy
<b>Site Access</b>	Land – South Pine Creek Rd. Water - LIS
<b>Staging Area</b>	Very small parking area (for 3-4 cars) behind beach at end of South Pine Creek Rd. Access to beach is via small path from road. Access for trucks and equipment is limited.
<b>Additional Considerations</b>	Berm slopes gradually to tidal flat exposed at low water. Private parcels on both sides of this small town beach. Tidal flat and vegetated dune on site. Access for trucks and equipment limited. Staging area is small and separated from beach.

**Site 474 South Pine Creek Beach  
Fairfield, CT**

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**Date:** June 22, 2010

**Direction:** West

**Description:**

Beach profile looking east.



**Date:** June 22, 2010

**Direction:** Northwest

**Description:**

Vegetated dune at west side of beach.

**Site 474 South Pine Creek Beach  
Fairfield, CT**

---



**Date:** June 22, 2010

**Direction:** North

**Description:**

Access to beach via walking path.



**Date:** June 22, 2010

**Direction:** South

**Description:**

Staging could be challenging in this small parking area at dead end of neighborhood road.







Parcel	MBL
1	2380500000
2	238103F0000
3	238103G0000

**Site 474    Fairfield, CT**  
**South Pine Creek Beach**








# Site 339 Jacobs Beach Guilford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0      250      500      750</p>  <p>Feet</p> <p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_339-2.ai</p>
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# Site 339 Jacobs Beach Guilford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0 110 220 330</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-26-10                  File: TO-0024_LIS_339-3.ai</p>

**Site 339 Jacobs Beach**  
**Guilford, CT**

<b>Site Address</b>	Seaside Ave., Guilford, CT
<b>General Description</b>	Municipal Beach, with playground and picnic facilities located north of Guilford Point in Guilford Harbor.
<b>Ownership/POC</b>	Town of Guilford, CT R. Maynard, Parks and Recreation (203) 453-8068
<b>Zoning</b>	R-3 Residential
<b>Surrounding Land Use</b>	Playground and playing fields landward of beach. Surrounding parcels are residential, with large wetland to the northeast.
<b>Wetlands</b>	Yes. None mapped on site; unmapped fringing marshes were noted at the southern and northeast corners of the parcel. Large salt marsh mapped north of parcel.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Moderately well-sorted medium-grained sand with crushed shells
<b>Nourishment Length</b>	450 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	6,400 cy
<b>Site Access</b>	Land – Seaside Ave. Water – LIS, Guilford Harbor
<b>Staging Area</b>	Potential staging area in dressed gravel parking lot landward of beach.
<b>Additional Considerations</b>	Recreational beach area is flanked by residential stone seawall to southwest and large sand-tight groin to northeast. Jacobs Beach existing berm extends 75 feet from parking lot and crests at the base of the groin. There is a large salt marsh rimmed with <i>Phragmites</i> north of the park. Fringing marsh and rocky intertidal area seaward of seawall. Beach, fringing marsh, and dunes north of groin. No nourishment calculated for areas of fringing marsh. Cultural resources present.

## Site 339 Jacobs Beach Guilford, CT

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**Date:** July 16, 2010

**Direction:** East

**Description:**

Groin at northeastern end of beach.



**Date:** July 16, 2010

**Direction:** Southwest

**Description:**

Beach and seawall.

## Site 339 Jacobs Beach Guilford, CT

---



**Date:** July 16, 2010

**Direction:** North

**Description:**

Potential staging area in parking lot landward of beach.



**Date:** July 16, 2010

**Direction:** North

**Description:**

Fringing wetland north of groin.




Parcel	MBL
1	029117
2	029120
3	029121
4	024001
5	024003
6	024004
7	024005
8	024010A
9	024009
10	0240081
11	0240087
12	024007

**Site 339    Guilford, CT**  
**Jacobs Beach**

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# Site 470 Chaffinch Island Park Guilford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; width: 10px; height: 10px; background-color: black;"></span> <span style="position: absolute; left: 20px; top: -5px; width: 10px; height: 10px; background-color: white;"></span> <span style="position: absolute; left: 35px; top: -5px; width: 10px; height: 10px; background-color: black;"></span> <span style="position: absolute; left: 50px; top: -5px; width: 10px; height: 10px; background-color: white;"></span> <span style="position: absolute; left: 65px; top: -5px; width: 10px; height: 10px; background-color: black;"></span> <span style="position: absolute; left: 80px; top: -5px; width: 10px; height: 10px; background-color: white;"></span> <span style="position: absolute; left: 95px; top: -5px; width: 10px; height: 10px; background-color: black;"></span> </span> 1000</p> <p style="text-align: center;">Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_470-2.ai</p>



**Site 470 Chaffinch Island Park**  
**Guilford, CT**

<b>Site Address</b>	Chaffinch Island Rd., Guilford, CT
<b>General Description</b>	Municipal Park located just south of the West River in Guilford Harbor.
<b>Ownership/POC</b>	Town of Guilford, CT R. Maynard, Parks and Recreation (203) 453-8068
<b>Zoning</b>	R-6 Residential
<b>Surrounding Land Use</b>	Marina on West River north of site; residential parcels adjacent to site to west and south.
<b>Wetlands</b>	Yes. Extensive salt marsh mapped landward of the dune; fringing marsh mapped along edges of the dune, point, and upland park.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Fines (tidal flats)
<b>Nourishment Length</b>	Not considered viable.
<b>Design Berm Width</b>	See above
<b>Capacity</b>	n/a
<b>Site Access</b>	Land – Chaffinch Island Rd. Water – LIS, Guilford Harbor
<b>Staging Area</b>	Gravel road and small parking area on cul-de-sac at end of Chaffinch Island Rd. Access from parking lot to shore is restricted by salt marsh and rocky outcroppings.
<b>Additional Considerations</b>	Eastern edge of upland park has been armored with loose rip rap near mouth of West River. A small, narrow beach is seaward of the dune, but is surrounded by fringing marsh and tidal flats. The remainder of the site consists of rocky outcroppings and tidal flats. Tidal flats south of the park are open to shell fishing.

**Site 470 Chaffinch Island Park  
Guilford, CT**

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**Date:** July 16, 2010

**Direction:** East

**Description:**

Salt marsh and rock outcroppings at point south of West River.



**Date:** July 16, 2010

**Direction:** Southwest

**Description:**

Tidal flat, salt marsh and dune.

## Site 470 Chaffinch Island Park Guilford, CT

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**Date:** July 16, 2010

**Direction:** Southwest

**Description:**

Dune and small barrier beach with fringing marsh.



**Date:** July 16, 2010

**Direction:** South

**Description:**

Rip rap along West River.







Parcel	MBL
1	023005
2	023006
3	023006A
4	017001
5	017003
6	017004
7	017005

**Site 470    Guilford, CT**  
**Chaffinch Island Park**

# Site 459 Fort Nathan Hale Park New Haven, CT








<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_459-2.ai</p>

# Site 459 Fort Nathan Hale Park New Haven, CT



Morris  
Cove

<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>0      117      234      351</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10                  File: TO-0024_LIS_459-3.ai</p>

**Site 459 Fort Nathan Hale Park  
New Haven, CT**

<b>Site Address</b>	408 Townsend Ave., New Haven, CT
<b>General Description</b>	State Beach and Park area on the east side of New Haven Harbor. Beach area runs northeast-southwest. Parcel is adjacent to the US Marine Corps Reserve Station and has a large park area upland of the beach.
<b>Ownership/POC</b>	City of New Haven, CT Robert Levine, Parks Department (203) 946-8027
<b>Zoning</b>	RS2 General Single Family
<b>Surrounding Land Use</b>	Residential; US Marine Corps Reserve Center and US Coast Guard Station to north.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium grained sand to coarse sediment with gravel
<b>Nourishment Length</b>	630 ft
<b>Design Berm Width</b>	63 ft
<b>Capacity</b>	5,300 cy
<b>Site Access</b>	Land – Rt. 337 to Woodward Ave, a paved 2-lane road that runs through commercial and residential areas. Water – West side of New Haven Harbor entrance
<b>Staging Area</b>	Potential staging area in paved lot landward of beach.
<b>Additional Considerations</b>	Pier at northwest end of beach, near parcel border with US Marine Corps property. Pier has loosely placed rip-rap at base. There is a short rip-rap groin at the southwest end of the property. Sediment varies from medium grained sand to large pebbles and boulders. Southwest end of the beach has a cobble layer and grades to a rocky bluff to the southwest. Upper beach is at grade with sidewalk and parking area. The New Haven Harbor entrance channel is just offshore. Cultural resources present.

**Site 459 Fort Nathan Hale Park  
New Haven, CT**

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**Date:** June 25, 2010

**Direction:** Northeast

**Description:**

Beach profile looking northeast.



**Date:** June 25, 2010

**Direction:** Southwest

**Description:**

Beach profile looking southwest.



## Site 459 Fort Nathan Hale Park New Haven, CT

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**Date:** June 25, 2010

**Direction:** Southwest

**Description:**

Small groin at southwest end of beach.

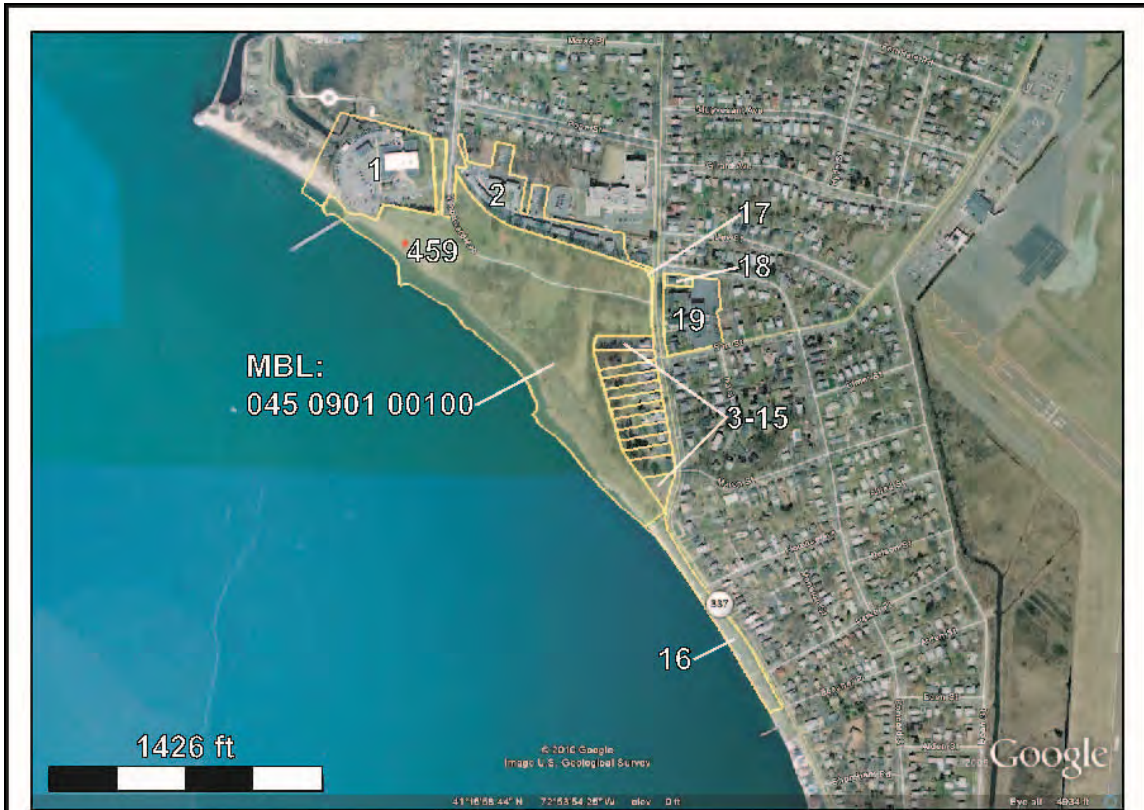


**Date:** June 25, 2010

**Direction:** South

**Description:**

Potential staging for trucks and grading equipment in lot at back of beach.







Parcel	MBL
1	046 0901 00200
2	044 0902 02301
3	045 0901 00200
4	045 0901 00300
5	045 0901 00400
6	045 0901 00500
7	045 0901 00600
8	045 0901 00700
9	045 0901 00800
10	045 0901 00900
11	045 0901 01000
12	045 0901 01100
13	045 0901 01200
14	045 0901 01300
15	045 0901 01400
16	030 0871 00200
17	044 0902 02100
18	028 0896 00100
19	028 0896 00200

**Site 459      New Haven, CT**  
**Fort Nathan Hale Park**

# Site 348 White Sands Beach Old Lyme, CT








<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 <span style="float: right;">500</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_348-2.ai</p>
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# Site 348 White Sands Beach Old Lyme, CT



Long Island  
Sound

<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p> <p> Nourishment Area</p>	<p>0 <span style="float: right;">233</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_348-3.ai</p>

**Site 348 White Sands Beach**  
**Old Lyme, CT**

<b>Site Address</b>	11 Seaside Ln., Old Lyme, CT
<b>General Description</b>	Municipal Beach on Long Island Sound, east of the mouth of the Connecticut River.
<b>Ownership/POC</b>	Town of Old Lyme, CT Don Bugbee, Director Parks and Recreation (860) 434-1605 ext. 235
<b>Zoning</b>	R10 Residential
<b>Surrounding Land Use</b>	Residential; recreational (association beaches on both sides)
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted fine sand
<b>Nourishment Length</b>	200 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	1,700 cy
<b>Site Access</b>	Land - White Sands Beach Rd. Water – LIS
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Beach berm is currently at or above parking lot so berm would not need to be raised, unless building dunes. There is one very small vegetated dune at west end of beach. Stone groins on both sides of beach extend from start of berm out about 60 ft. Groins are above grade of berm. Sediment offset on sides of groins indicates sediment transport is east to west. Cultural resources present.

## Site 348 White Sands Beach Old Lyme, CT

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**Date:** July 16, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 16, 2010

**Direction:** East

**Description:**

Beach profile looking east.

## Site 348 White Sands Beach Old Lyme, CT

---



**Date:** July 16, 2010

**Direction:** South

**Description:**

Stone groin at west side of beach showing sand offset.



**Date:** July 16, 2010

**Direction:** Southeast

**Description:**

Potential staging area in lot at back of beach.







Parcel	MBL
1	69-65
2	69-64
3	69-63
4	69-118
5	69-120

**Site 348 Old Lyme, CT  
White Sands Beach**








# Site 480 DuBois Beach Stonington, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0  500 Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_480-2.ai</p>

# Site 480 DuBois Beach Stonington, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">266</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_480-3.ai</p>

**Site 480 Dubois Beach**  
**Stonington, CT**

<b>Site Address</b>	2 Water St., Stonington, CT
<b>General Description</b>	Small Municipal Beach on Stonington Harbor.
<b>Ownership/POC</b>	Town of Stonington, CT Stonington Village Improvement Association (SVIA) owner, contracts beach management to Stonington Community Center (860) 535-2476
<b>Zoning</b>	Residential
<b>Surrounding Land Use</b>	Residential.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	180 ft
<b>Design Berm Width</b>	125 ft
<b>Capacity</b>	3,300 cy
<b>Site Access</b>	Land – Water St. (narrow road through residential neighborhood) Water – LIS
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Small neighborhood beach with stone groin at the southern end. Potential staging area in dirt/gravel lot behind beach. Beach was purchased and created in the 1950s by trucking in sand and building the groin. Storm-related erosion necessitates periodic beach nourishment. Access is through an iron gate approximately 10 ft wide (this would restrict access for trucks, heavy machinery). Cultural resources present.

## Site 480 Dubois Beach Stonington, CT

---



**Date:** July 15, 2010

**Direction:** North

**Description:**

Beach profile looking north.



**Date:** July 15, 2010

**Direction:** Southwest

**Description:**

View of beach and groin at south side from sidewalk/parking area.

## Site 480 Dubois Beach Stonington, CT

---



**Date:** July 15, 2010

**Direction:** West

**Description:**

Access to beach through gate.  
Restricted access for trucks and  
machinery.



**Date:** July 15, 2010

**Direction:** South

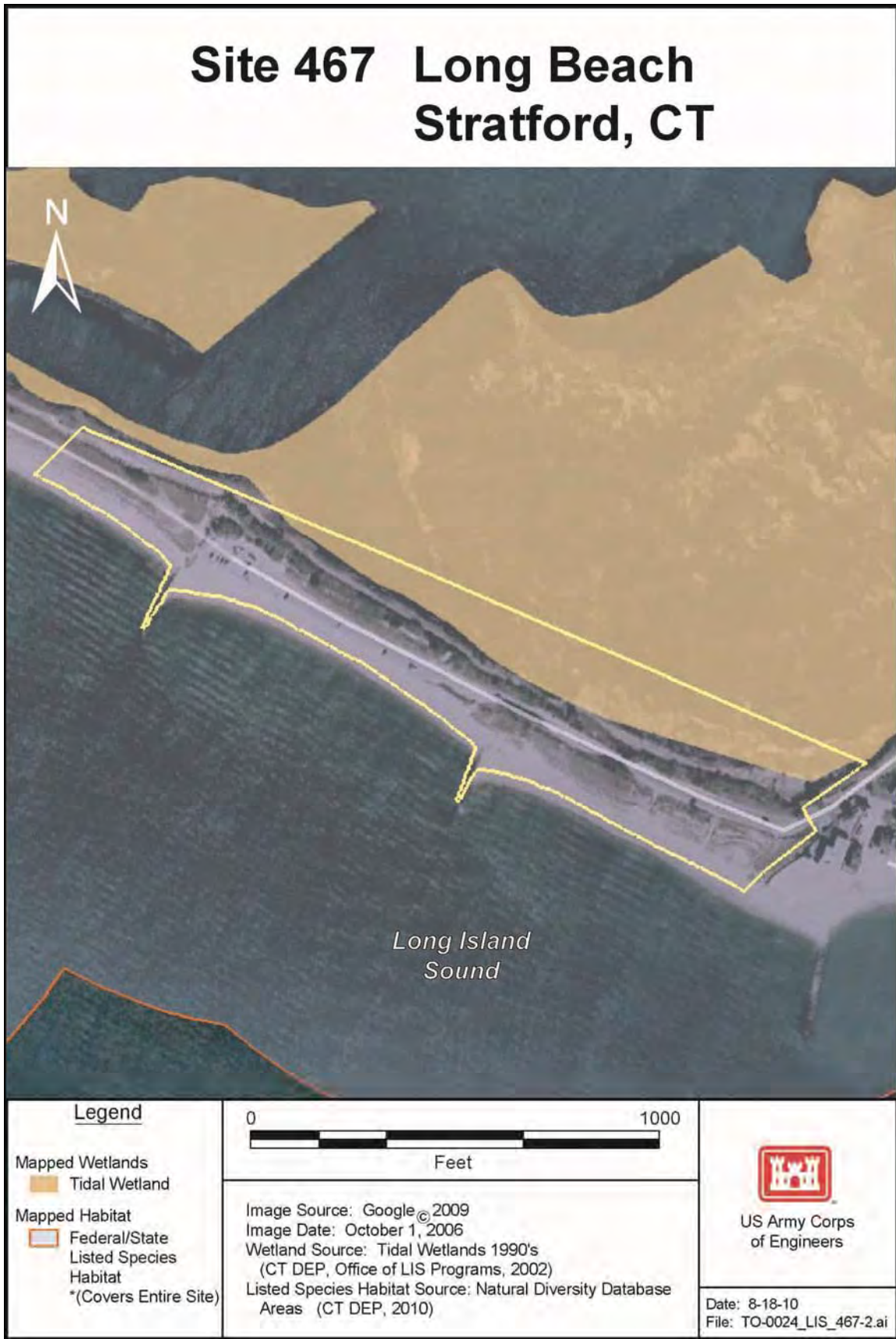
**Description:**

Potential staging area in lot behind  
beach in unpaved lot.

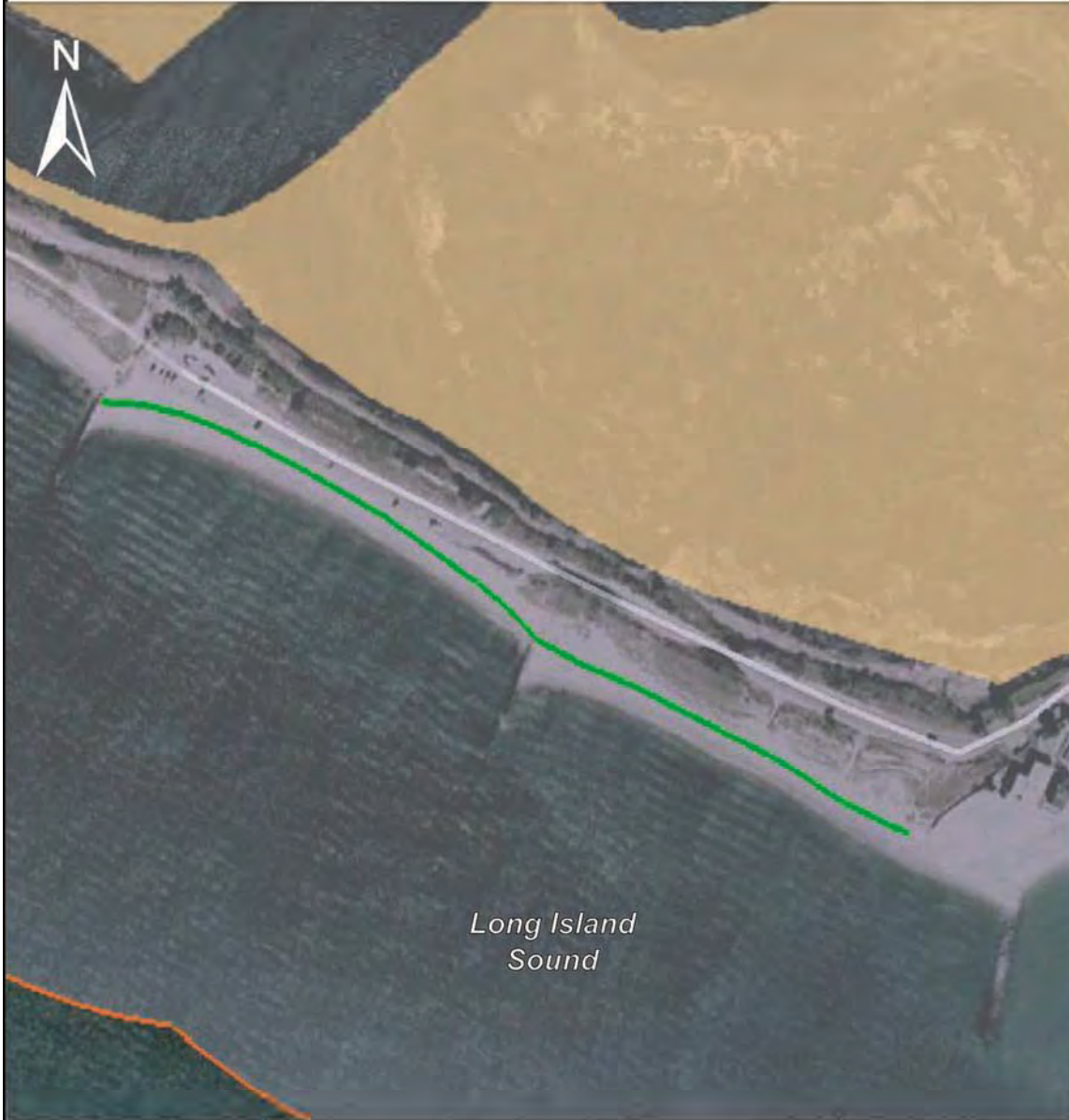




Parcel	MBL
1	102-6-3
2	102-5-14
3	102-5-15
4	102-5-16

**Site 480      Stonington, CT**  
**DuBoise Beach**



# Site 467 Long Beach Stratford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #00ff00; border: 1px solid black; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0      285      570      855</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-27-10                  File: TO-0024_LIS_467-3.ai</p>



**Site 467 Long Beach  
Stratford, CT**

<b>Site Address</b>	Lordship Blvd., Stratford, CT
<b>General Description</b>	Municipal Beach on the eastern end of a barrier beach between Long Island Sound and Lewis Gut, on the east side of Bridgeport Harbor.
<b>Ownership/POC</b>	Town of Stratford, CT Patricia Patusky, Recreation Department (203) 385-4052
<b>Zoning</b>	RC Resource Conservation District
<b>Surrounding Land Use</b>	Open space/wetland to north; park to west; industrial parcels on Bridgeport Harbor side; residential to east.
<b>Wetlands</b>	Yes. Mapped wetlands landward of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium-grained sand with shell hash
<b>Nourishment length</b>	1,620 ft
<b>Design berm width</b>	100 ft
<b>Capacity</b>	23,200 cy
<b>Site Access</b>	Land –Lordship Blvd. Water - LIS
<b>Staging Area</b>	Potential staging area in paved lot (approximately 30 ft wide), which runs the length of the beach.
<b>Additional Considerations</b>	Beach berm is narrower than other beaches in this area. Foreshore slopes down moderately steeply from berm. On east side of beach a wide dune lies between the beach and road. West end of the barrier beach is closed to the public, as USDOJ is working on a barrier beach habitat restoration project. Restoration plans for the 35 acre parcel include dune and estuarine enhancement, as well as endangered shorebird habitat enhancement. Nourishment would not be done in the DOI restoration area, as sand is accreting here and restoration work is underway. Cultural resources present.

**Site 467 Long Beach  
Stratford, CT**

---



**Date:** June 23, 2010

**Direction:** West

**Description:**

View of beach looking west.



**Date:** June 23, 2010

**Direction:** East

**Description:**

East end of beach with vegetated dune in background.

## Site 467 Long Beach Stratford, CT



**Date:** June 23, 2010

**Direction:** West

**Description:**

West end of parcel closed to public due to habitat restoration project.



**Date:** June 23, 2010

**Direction:** West

**Description:**

Staging area in paved lot at back of beach.



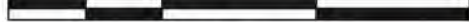



Parcel	MBL
1	1003010002
2	4003020001
3	4001050030

**Site 467    Stratford, CT  
Long Beach**






# Site 468 Russian Beach Stratford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0 250 500 750                    Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_468-2.ai</p>

# Site 468 Russian Beach Stratford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li> Nourishment Area</li> </ul>	<p>0      223      446      669</p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-27-10                  File: TO-0024_LIS_468-3.ai</p>

**Site 468 Russian Beach  
Stratford, CT**

<b>Site Address</b>	Beach Dr., Stratford, CT
<b>General Description</b>	Municipal Beach on Long Island Sound in Stratford, Connecticut.
<b>Ownership/POC</b>	Town of Stratford, CT Patricia Patusky, Recreation Department (203) 385-4052
<b>Zoning</b>	RC Resource Conservation District
<b>Surrounding Land Use</b>	Residential
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Cobble
<b>Nourishment Length</b>	1,350 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	31,700 cy
<b>Site Access</b>	Land –Beach Dr. to walking path in dune. Water - LIS
<b>Staging Area</b>	No lot adjacent to beach and no parking along road. Vegetated dune lies between road and beach. Staging could be a challenge in this area.
<b>Additional Considerations</b>	Beach runs along a road with small park in upland area. No parking at beach, and access is through a small walking path through a dune. Rocky intertidal habitat noted below tide line.

## Site 468 Russian Beach Stratford, CT

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**Date:** June 23, 2010

**Direction:** East

**Description:**

View of beach looking east.



**Date:** June 23, 2010

**Direction:** West

**Description:**

View of beach looking west.



## Site 468 Russian Beach Stratford, CT

---



**Date:** June 23, 2010

**Direction:** North

**Description:**

Vegetated dune at back of beach.



**Date:** June 23, 2010

**Direction:** South

**Description:**

Foreshore of beach showing rocky intertidal.







Parcel	MBL
1	5001070001
2	5001070005
3	5001070006
4	5001070011
5	5001070007
6	5001070012
7	5001070008
8	5001070014
9	5001070015
10	5001070017
11	5001070019
12	4001090006
13	5001060001
14	4001090005
15	4001090004
16	4001090003
17	4001090002

**Site 468     Stratford, CT**  
**Russian Beach**



# Site 325 Altschuler Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p>	<p>0  500 Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Mapped Habitat   Federal/State Listed Species Habitat</p>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_325-2.ai</p>

# Site 325 Altschuler Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0e0e0; border: 1px solid black;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid green;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">1082</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_325-3.ai</p>

**Site 325 Altschuler Beach**  
**West Haven, CT**

<b>Site Address</b>	1 Palace St., West Haven, CT
<b>General Description</b>	Municipal Beach on Long Island Sound in West Haven.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Recreational (bicycle/walking path along beach); mix of Commercial and Residential surrounding site.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Well sorted medium grained sand
<b>Nourishment Length</b>	2,540 ft
<b>Design Berm Width</b>	125 ft
<b>Capacity</b>	51,200 cy
<b>Site Access</b>	Land - Beach Blvd. Water - LIS
<b>Staging Area</b>	Potential staging areas at two large paved lots behind beach and bicycle/walking path. Vehicle access is restricted by a guardrail in some areas but it is possible to access the beach in certain places.
<b>Additional Considerations</b>	Solid fill piers at north and south ends and a stone groin in center. Piers are barriers to sediment transport. Beach covers the landward end of the center groin and this allows sand transport over the berm. Low-lying dunes occur between beach and road. Dune area at center of parcel is vegetated with trees and shrubs. Dune at north end is vegetated with dune grass. Nourishment area is longer than the parcel itself, but the City of West Haven has an easement agreement with private owners to manage beaches from Savin Rock to Washington St area, so nourishment could extend beyond the parcel boundaries.

## Site 325 Altschuler Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** June 23, 2010

**Direction:** East

**Description:**

Vegetated area at back of beach has trees and shrubs.

## Site 325 Altschuler Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** West

**Description:**

Solid fill pier at west end of parcel.



**Date:** June 23, 2010

**Direction:** North

**Description:**

Potential staging in lot in back of beach. Vehicle access is restricted in some areas by guardrail.





Parcel	MBL
1	021/0189/0/0000
2	021/0130/0/0000
3	021/0190/0/0000
4	021/0193/0/0000
5	021/0186/0/0000
6	021/0192/0/0000

**Site 325 West Haven, CT  
Altschuler Beach**



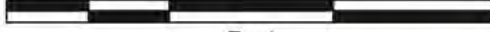

# Site 327 Bradley Point Park West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-18-10 File: TO-0024_LIS_327-2.ai</p>
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# Site 327 Bradley Point Park West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #f0f0f0; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">694</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-31-10                  File: TO-0024_LIS_327-3.ai</p>

**Site 327 Bradley Point Park  
West Haven, CT**

<b>Site Address</b>	Captain Thomas Blvd. (Ocean Ave.), West Haven, CT
<b>General Description</b>	Municipal Beach and recreation area on New Haven Harbor in West Haven, Connecticut. Parcel includes two sandy beach areas separated by a rocky headland.
<b>Ownership/POC</b>	City of West Haven Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Residential; open space/recreation areas on upland portion of parcel.
<b>Wetlands</b>	Yes. Mapped wetlands near rocky headland area on site.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Medium grained sand with shell hash
<b>Nourishment Length</b>	Two separate areas for beach nourishment: South facing beach - 400 ft East facing beach - 870 ft
<b>Design Berm Width</b>	Two separate areas for beach nourishment: South facing beach - 40 ft East facing beach - 87 ft
<b>Capacity</b>	11,600 cy
<b>Site Access</b>	Land – Captain Thomas Blvd. (also known as Ocean Ave). Water - LIS
<b>Staging Area</b>	Potential staging area in paved lot between grassy recreation area and road behind beach.
<b>Additional Considerations</b>	East facing beach (east side of rocky headland) has a low-lying dune between the beach and paved walking path. Stone seawalls on both sides of beach in this area. South facing beach (west of rocky headland) has a narrower berm, much of which is under water at high tide. Small section of beach with fringing marsh near rocky headland. Nourishment would not extend to fringing marsh or rocky headland areas.

**Site 327 Bradley Point Park  
West Haven, CT**

---



**Date:** June 23, 2010

**Direction:** South

**Description:**

North side beach looking south toward rocky headland.



**Date:** June 23, 2010

**Direction:** South

**Description:**

Fringing marsh at side of rocky headland area.

## Site 327 Bradley Point Park West Haven, CT

---



**Date:** June 23, 2010

**Direction:** West

**Description:**

Fringing marsh and sandy area on south side of rocky headland. Nourishment would not be done in this wetland area.



**Date:** June 23, 2010

**Direction:** South

**Description:**

Possible staging in parking area behind beach.







Parcel	MBL
1	015/0139/0/0000
2	015/0142/0/0000
3	015/0138/0/0000

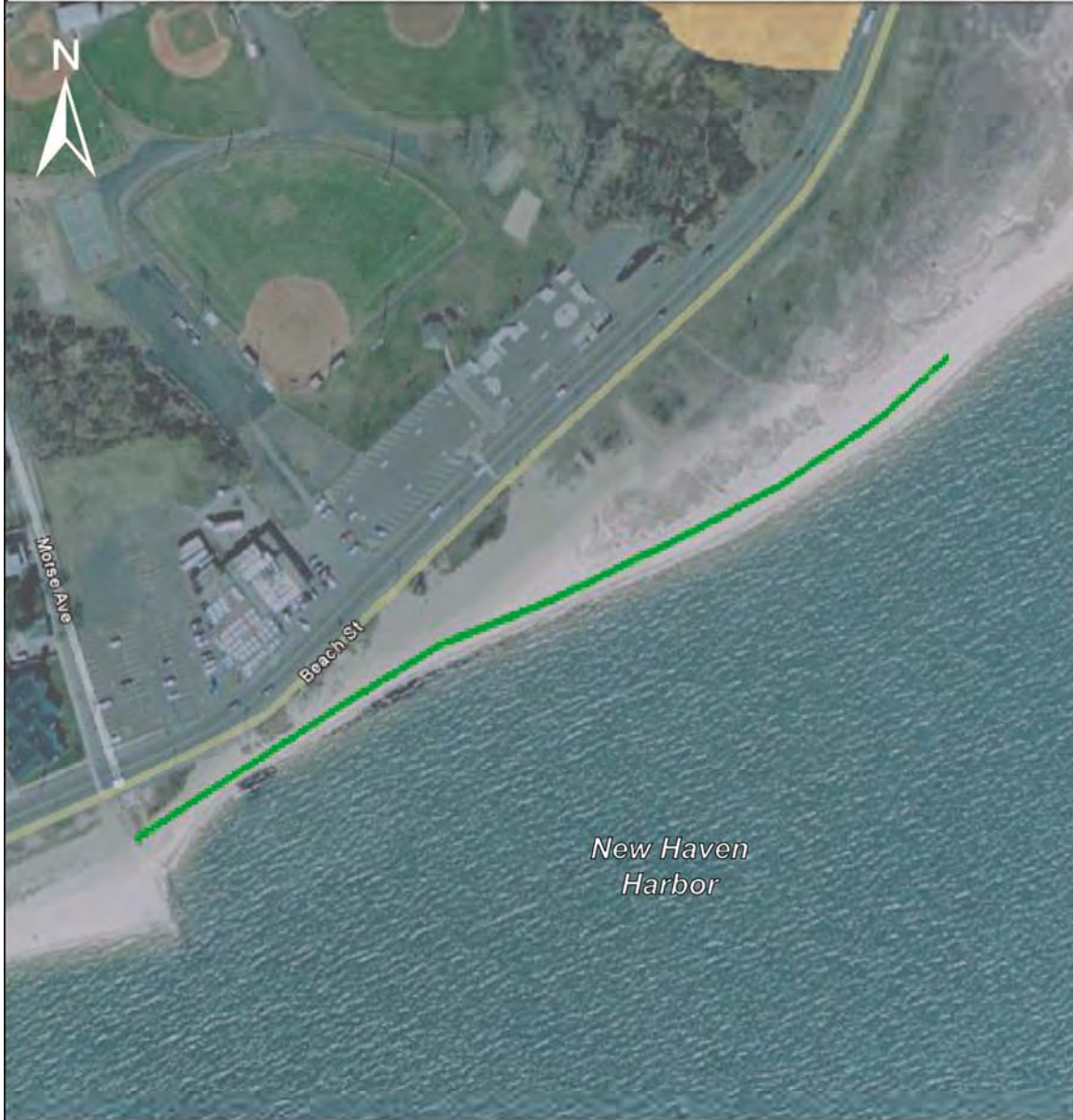
**Site 327    West Haven, CT**  
**Bradley Point Park**


# Site 329 Morse Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat                  *(Covers Entire Site)</p>	<p>0  500 Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_329-2.ai</p>

# Site 329 Morse Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e6e6fa; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">635</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-31-10                  File: TO-0024_LIS_329-3.ai</p>



**Site 329 Morse Beach**  
**West Haven, CT**

<b>Site Address</b>	101 Beach St., West Haven, CT
<b>General Description</b>	Municipal Beach on west side of New Haven Harbor with recreation area on upland side of road.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Residential; open space to north and along beach.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium-grained sand
<b>Nourishment Length</b>	1,240 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	17,700 cy
<b>Site Access</b>	Land - Beach St. Water - LIS
<b>Staging Area</b>	No staging directly adjacent to beach, but there is a large paved lot on opposite side of street.
<b>Additional Considerations</b>	<p>This parcel abuts site 332, Sandy Point. That parcel extends east to a sand spit on the west side of New Haven Harbor channel. Sediment transport is west-east in this area, so sand from Morse beach is moving toward the Sandy Point beach parcel, and out onto the spit. The sand spit has two forks – the southern fork is called Morse Beach Spit; the northern fork is called Sandy Point Spit.</p> <p>Beach at west end of parcel is badly eroded – almost to street. Needs sand to protect the road and associated public utilities that run along roadway. Stone groin and rip-rap at southwest end of beach where erosion is most extreme. Beach nourishment occurred in 1994. 14,000 tons of sand was brought by truck to the beach.</p> <p>Dune between beach and road along most of beach; wider at northeast end. Dune is approximately at grade with road (not elevated).</p>

## Site 329 Morse Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** East

**Description:**

View of beach from west side of parcel. Site 322, Sandy Point, can be seen in the distance.



**Date:** June 23, 2010

**Direction:** South

**Description:**

Stone groin and rip-rap at west end of beach.

## Site 329 Morse Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** North

**Description:**

Beach is eroded almost to road at west side of parcel.



**Date:** June 23, 2010

**Direction:** South

**Description:**

No staging area directly adjacent to beach. Paved lot is across street from beach.



Parcel	MBL
1	036/0158/0/0000
2	028/0222/0/0000
3	022/0145/0/0000
4	022/0148/0/0000

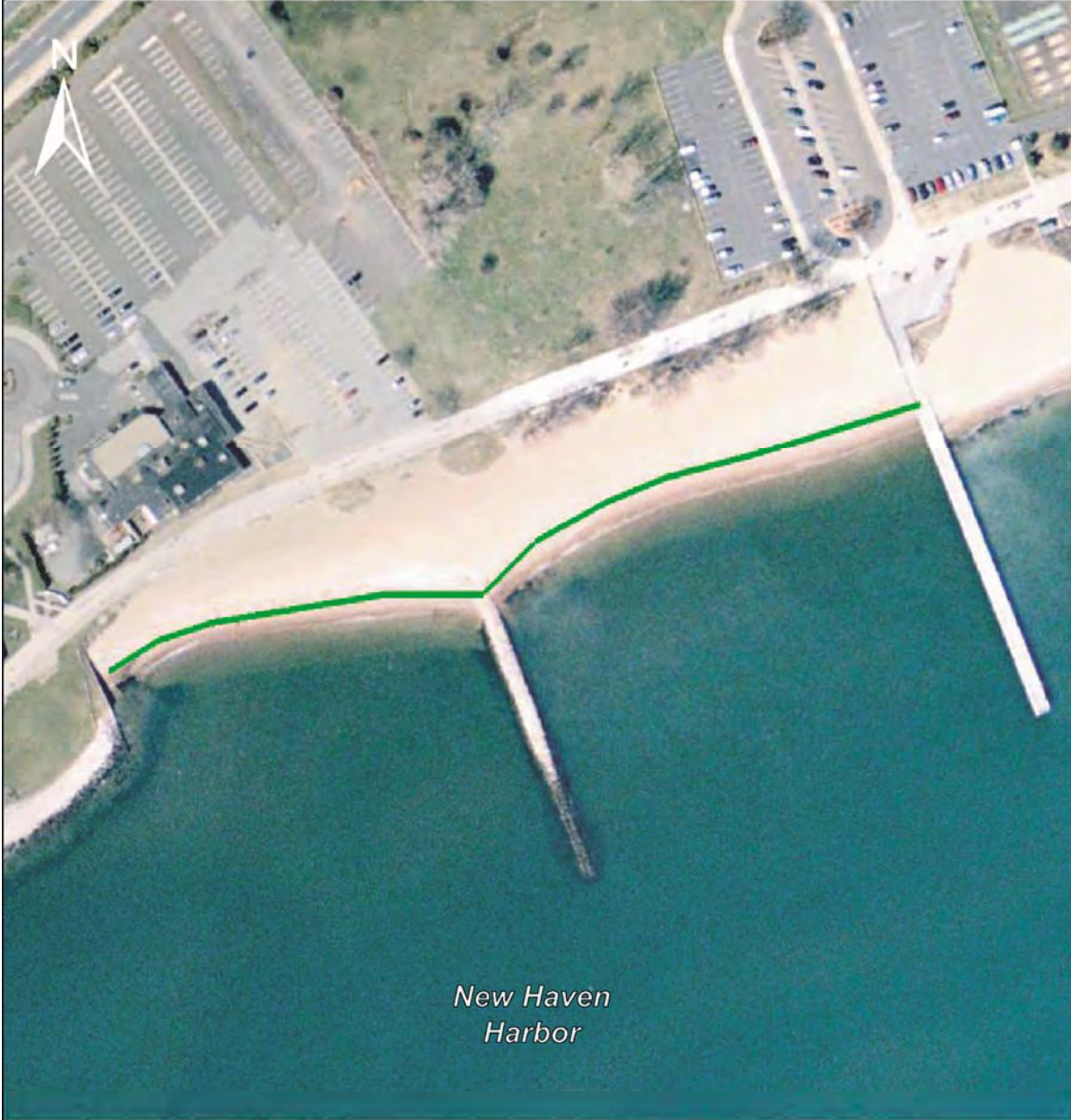
**Site 329 West Haven, CT  
Morse Beach**


# Site 330 Oak Street Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 500</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_330-2.ai</p>

# Site 330 Oak Street Beach West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands Tidal Wetland</p> <p>Mapped Habitat Federal/State Listed Species Habitat Nourishment Area</p>	<p>0 439 Feet</p> <p>Image Source: Google © 2009 Image Date: April 1, 2008 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-26-10 File: TO-0024_LIS_330-3.ai</p>
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**Site 330 Oak Street Beach**  
**West Haven, CT**

<b>Site Address</b>	Oak St., West Haven, CT
<b>General Description</b>	Municipal Beach on New Haven Harbor.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Recreational (bicycle/walking path along beach); mixed commercial and residential surrounding site.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Well sorted medium grained sand
<b>Nourishment Length</b>	880 ft
<b>Design Berm Width</b>	125 ft
<b>Capacity</b>	17,700 cy
<b>Site Access</b>	Land - Oak St. Water – New Haven Harbor
<b>Staging Area</b>	Potential staging area in paved lot behind beach and bicycle/walking path.
<b>Additional Considerations</b>	Small public beach in boardwalk/recreation area. Vegetated area with trees and grass in back of beach. Berm is very flat, nearshore area slopes gradually to water. Stone groin at west end; solid fill pier to east. Solid fill pier blocks sediment transport. Parcel itself is small, but City of West Haven has an easement agreement with private parcel owners to maintain beach. Therefore if material was available for this parcel, the areas east and west of the parcel lines, but within adjacent groins, could also be nourished.

## Site 330 Oak Street Beach West Haven, CT

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**Date:** June 23, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** June 23, 2010

**Direction:** Southeast

**Description:**

Vegetated area at back of beach;  
solid fill pier in background.



## Site 330 Oak Street Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** East

**Description:**

Stone groin at west end of parcel.



**Date:** June 23, 2010

**Direction:** East

**Description:**

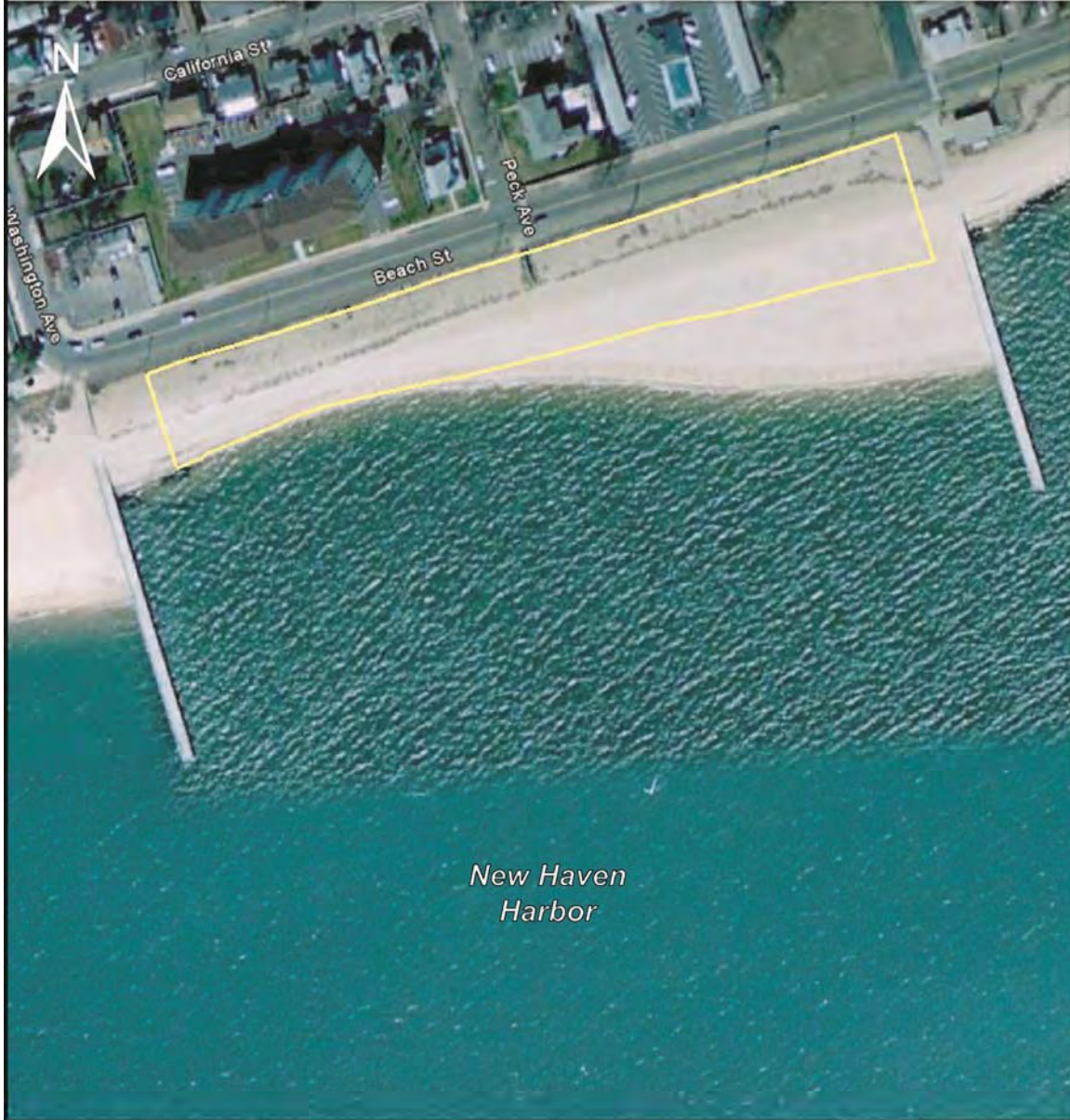
Walkway at back of beach;  
parking/staging area lies behind  
walkway (left side of photo).



Parcel	MBL
1	020/0218/0/0000
2	021/0193/0/0000
3	021/0195/0/0000

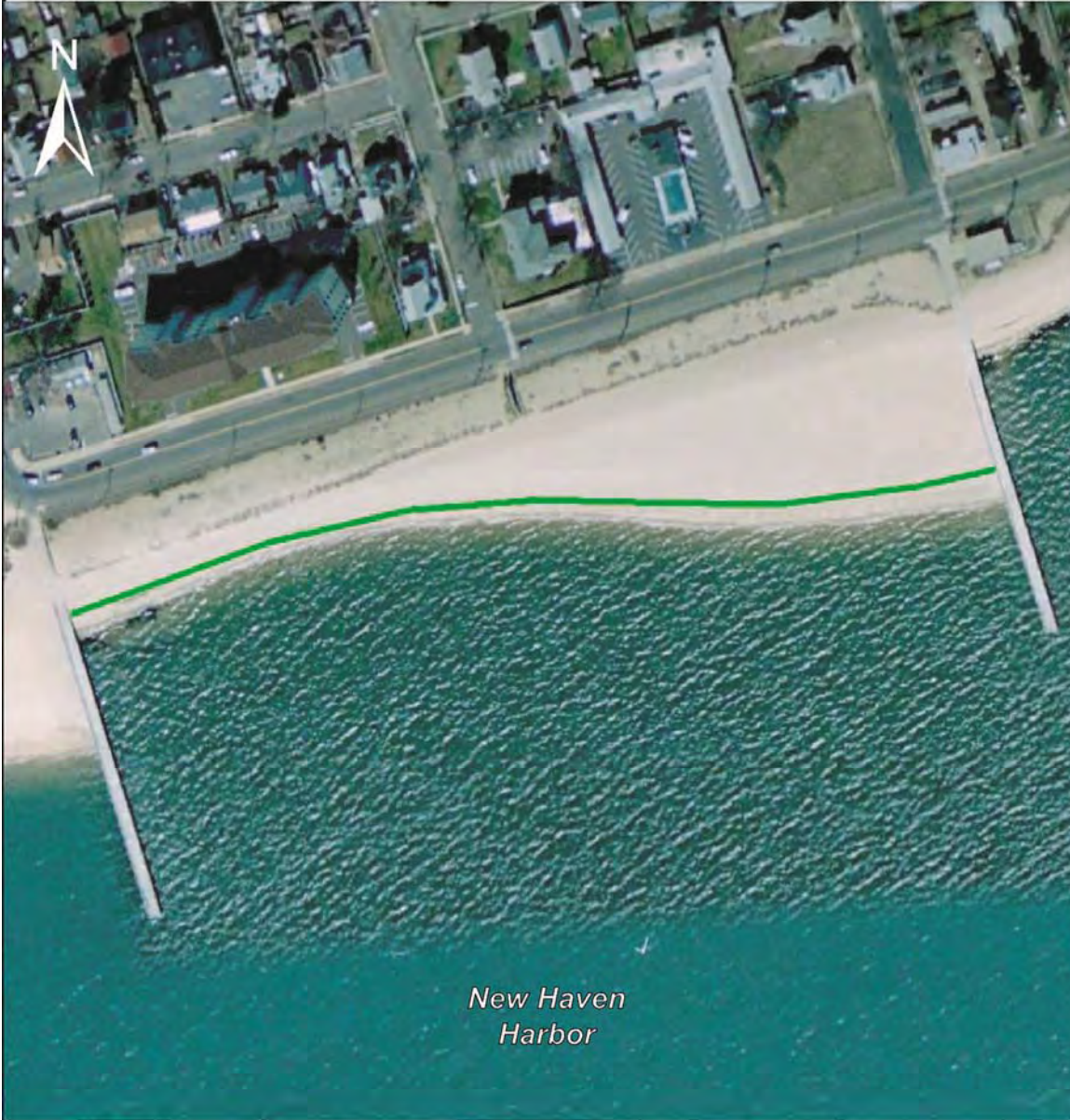
**Site 330 West Haven, CT  
Oak Street Beach**

# Site 331 Peck Beach West Haven, CT




<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 500</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-18-10                  File: TO-0024_LIS_331-2.ai</p>

# Site 331 Peck Beach West Haven, CT



*New Haven Harbor*

<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f0f0f0; border: 1px solid #ccc; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0      153      306      459</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-26-10                  File: TO-0024_LIS_331-3.ai</p>

**Site 331 Peck Beach**  
**West Haven, CT**

<b>Site Address</b>	322 Beach St., West Haven, CT
<b>General Description</b>	Municipal Beach on New Haven Harbor. Beach lies along roadway at Beach St.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Residential
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Coarse to medium-grained sand
<b>Nourishment Length</b>	1,040 ft
<b>Design Berm Width</b>	125 ft
<b>Capacity</b>	29,800 cy
<b>Site Access</b>	Land - Beach Blvd. Water – New Haven Harbor
<b>Staging Area</b>	No staging areas directly adjacent to beach. Road and sidewalk parallel the beach, running the entire length.
<b>Additional Considerations</b>	Solid fill piers at both ends of beach. Piers are connected to the roadway inland of the beach, and extend seaward approximately 300 ft. Dune between beach and sidewalk is elevated and vegetated. Beach access is via elevated cement walkway over dunes, or by top of pier.

## Site 331 Peck Beach West Haven, CT

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**Date:** June 23, 2010

**Direction:** Northeast

**Description:**

View of beach from pier at west side of parcel.



**Date:** June 23, 2010

**Direction:** Northeast

**Description:**

Access to beach via cement walkway.

## Site 331 Peck Beach West Haven, CT

---



**Date:** June 23, 2010

**Direction:** North

**Description:**

Solid fill pier at west end of parcel.



**Date:** June 23, 2010

**Direction:** East

**Description:**

No staging area directly adjacent to beach. Roadway and sidewalk with fence run the length of the beach.



Parcel	MBL
1	022/0055/0/0000
2	022/0056/0/0000
3	022/0054/0/0000
4	022/0002/0/0000
5	022/0005/0/0000
6	022/0004/0/0000
7	022/0003/0/0000
8	022/0165/0/0000
9	022/0001/0/0000
10	022/0175/0/0000

**Site 331 West Haven, CT  
Peck Beach**

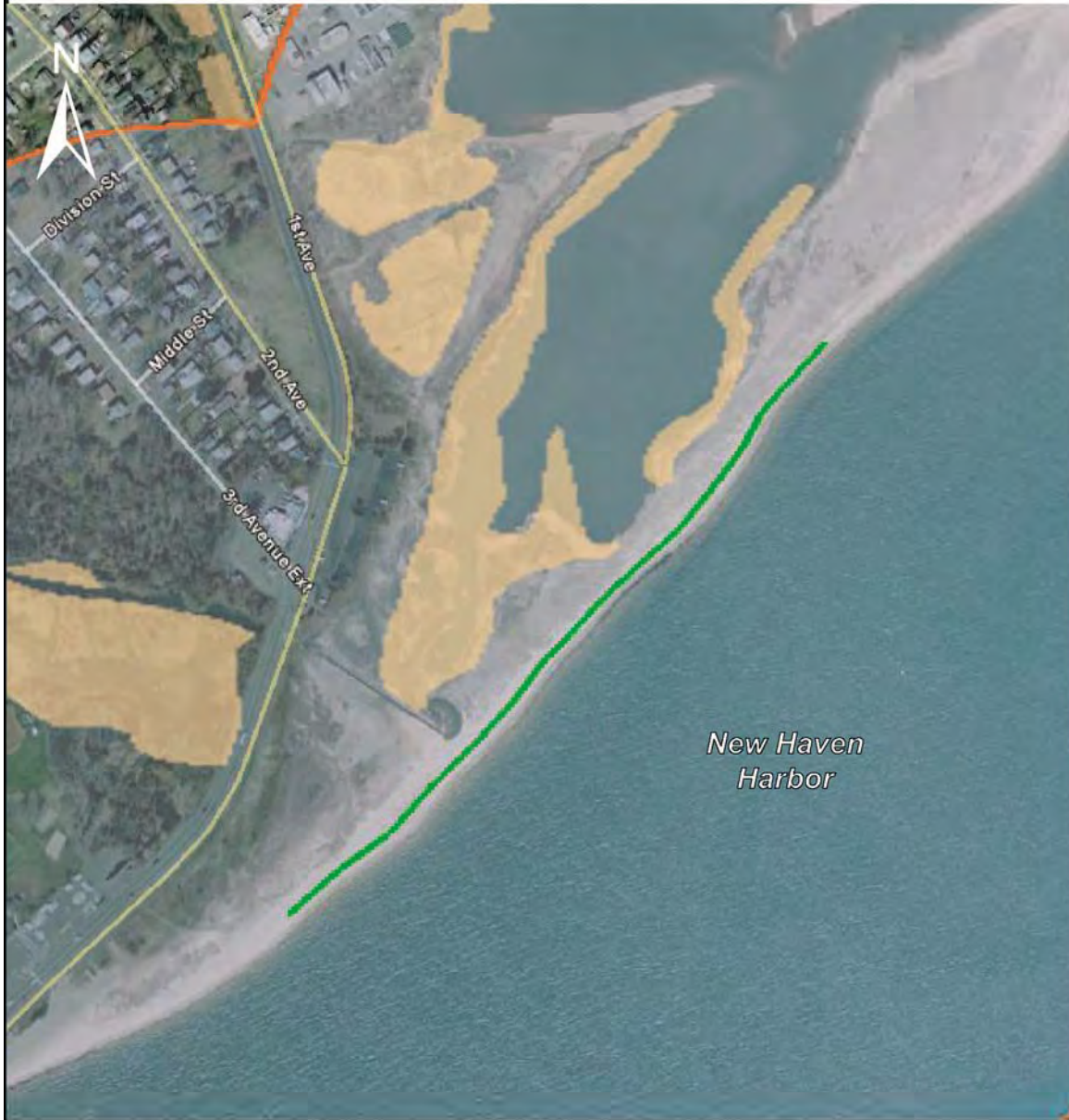







# Site 332 Sandy Point West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 2500</p> <p>Feet</p>	
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> </ul>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>US Army Corps of Engineers</p> <p>Date: 8-20-10 File: TO-0024_LIS_332-2.ai</p>

# Site 332 Sandy Point West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Nourishment Area</p>	<p>0 <span style="float: right;">1293</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google© 2009              Image Date: April 1, 2008              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-26-10              File: TO-0024_LIS_332-3.ai</p>
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**Site 332 Sandy Point**  
**West Haven, CT**

<b>Site Address</b>	101 Beach St., West Haven, CT
<b>General Description</b>	Municipal Beach just west of New Haven Harbor with sand spit forming on east side of parcel.
<b>Ownership/POC</b>	City of West Haven, CT Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Residential and commercial to northwest; open space to west.
<b>Wetlands</b>	Yes. Wetlands are mapped between the sand spits.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium-grained sand
<b>Nourishment Length</b>	1,930 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	27,700 cy
<b>Site Access</b>	Land - Beach St. Water – New Haven Harbor
<b>Staging Area</b>	Potential staging area in paved and gravel lot across street. No area directly adjacent to beach.
<b>Additional Considerations</b>	Two sand spits come together at the east end of the parcel; the Morse Beach Spit (south fork of the spit) and Sandy Point Spit (north fork of the spit). An extensive tidal wetland lies between them, with tide gates running under the roadway inland of beach. A wastewater outfall pipe runs out along the Sandy Point spit, then across the Morse Beach Spit, and finally extends south to discharge in open water. Pipe's housing is becoming exposed in certain areas due to sand movement. Vegetated dunes extend down the center of the Morse Beach Spit. Plover nesting areas and fringing marsh on Morse Beach Spit. Nourishment would stop short of the sand spit, as material from the beach parcels is accreting here. Cultural resources present.

**Site 332 Sandy Point  
West Haven, CT**

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**Date:** June 23, 2010

**Direction:** East

**Description:**

View of beach from west end of parcel.



**Date:** June 23, 2010

**Direction:** South

**Description:**

Wetland and tidal creek between the two sand spits.

## Site 332 Sandy Point West Haven, CT

---



**Date:** June 23, 2010

**Direction:** East

**Description:**

Sandy Point spit at north end of parcel, with exposed cement housing for wastewater outfall pipe that runs through the spits to an offshore discharge point.



**Date:** June 23, 2010

**Direction:** North

**Description:**

Endangered shorebird enclosure areas in dunes on sand spit.




Parcel	MBL	Parcel	MBL
1	036/0161/0/0000	18	036/0138/0/0000
2	036/0159/0/0000	19	036/0139/0/0000
3	036/0162/0/0000	20	036/0140/0/0000
4	036/0160/0/0000	21	036/0141/0/0000
5	028/0220/0/0000	22	036/0142/0/0000
6	028/0219/0/0000	23	036/0143/0/0000
7	028/0217/0/0000	24	036/0144/0/0000
8	028/0218/0/0000	25	036/0145/0/0000
9	028/0222/0/0000	26	036/0146/0/0000
10	028/0221/0/0000	27	036/0153/0/0000
11	028/0230/0/0000	28	036/0154/0/0000
12	028/0229/0/0000	29	036/0155/0/0000
13	028/0228/0/0000	30	036/0156/0/0000
14	028/0227/0/0000	31	036/0157/0/0000
15	028/0223/0/0000	32	036/0152/0/0000
16	022/0147/0/0000	33	036/0172/0/0000
17	036/0137/0/0000	34	028/0231/0/0000

**Site 332 West Haven, CT  
Sandy Point**






# Site 333 Savin Rock West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 50%; transform: translate(-50%, -50%); border-left: 1px solid black; border-right: 1px solid black; width: 100%; height: 10px;"></span> </span> 500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_333-2.ai</p>

# Site 333 Savin Rock West Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Nourishment Area</p>	<p>0 <span style="float: right;">204</span></p>  <p style="text-align: center;">Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_333-3.ai</p>



**Site 333 Savin Rock**  
**West Haven, CT**

<b>Site Address</b>	6 Rock St., West Haven, CT
<b>General Description</b>	Municipal Beach and recreation area in West Haven, CT. Sits on a rocky headland west of the entrance to New Haven Harbor.
<b>Ownership/POC</b>	City of West Haven Mark Paine, Assistant Commissioner (203) 937-3681
<b>Zoning</b>	OS Open Space
<b>Surrounding Land Use</b>	Recreational (bicycle/walking path along beach), open space to west, commercial (conference center) on parcel and other commercial to east, residential area north across roadway.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	No beach; n/a
<b>Nourishment Length</b>	290 ft
<b>Design Berm Width</b>	29 ft
<b>Capacity</b>	1,800 cy
<b>Site Access</b>	Land – Beach Blvd. Water – New Haven Harbor
<b>Staging Area</b>	Potential staging area in large paved lot behind beach.
<b>Additional Considerations</b>	No beach at present. Armored bank on parcel. Generally a rocky headland may not be an optimal site for beach nourishment. However, the City of West Haven has an easement agreement with private parcel owners in the vicinity for maintenance of beaches. So nourishment could occur in this area, if sand became available for the adjacent beach parcels. In this case placement of sand would serve to connect the beach parcels on either side, and would provide protection to the stone revetment on this parcel.

## Site 333 Savin Rock West Haven, CT

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**Date:** June 23, 2010

**Direction:** West

**Description:**

Rocky headland on parcel.



**Date:** June 23, 2010

**Direction:** North

**Description:**

Conference center and lawn at back of headland.

**Site 333 Savin Rock  
West Haven, CT**

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**Date:** June 23, 2010

**Direction:** South

**Description:**

Recreation area at top of headland.

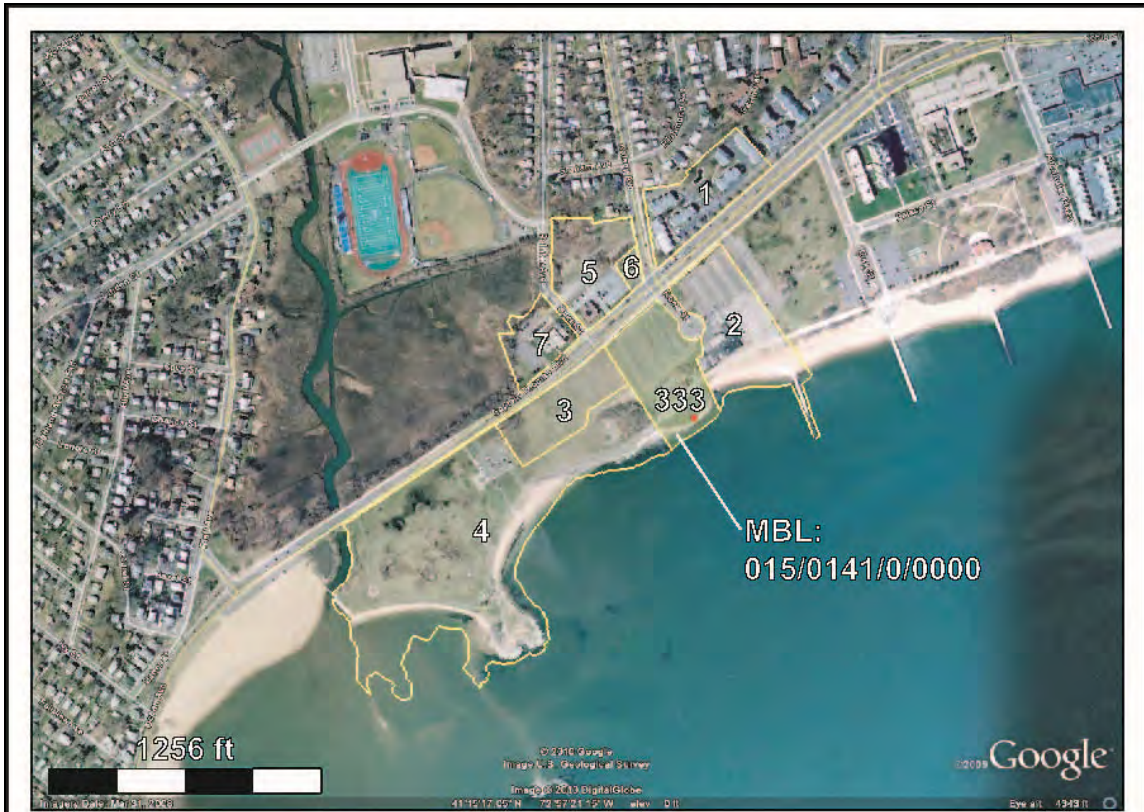


**Date:** June 23, 2010

**Direction:** West

**Description:**

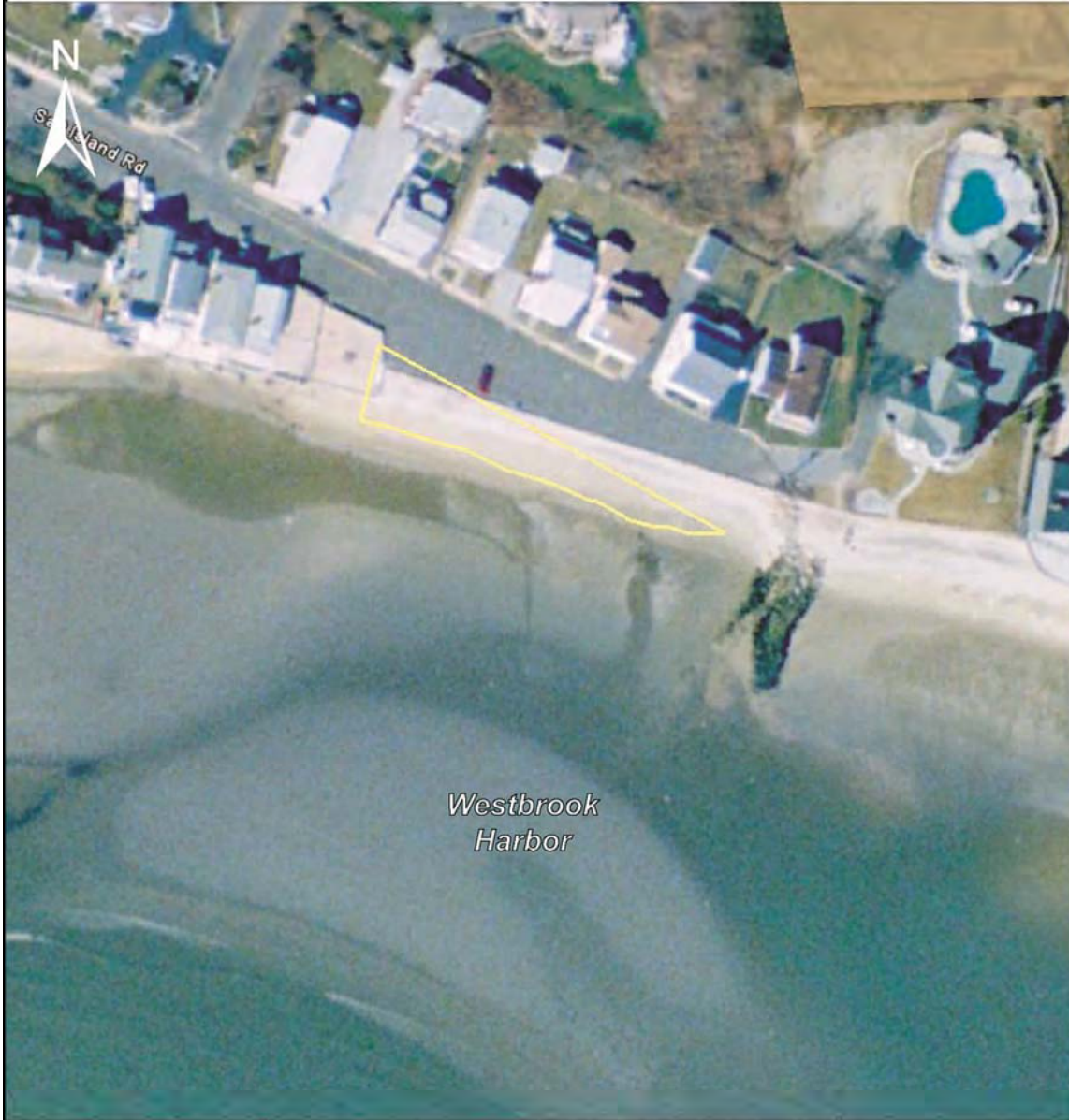
View from sandy beach on adjacent parcel







Parcel	MBL
1	020/0218/0/0000
2	020/0219/0/0000
3	015/0142/0/0000
4	015/0143/0/0000
5	020/0229/0/0000
6	020/0220/0/0000
7	015/0140/0/0000

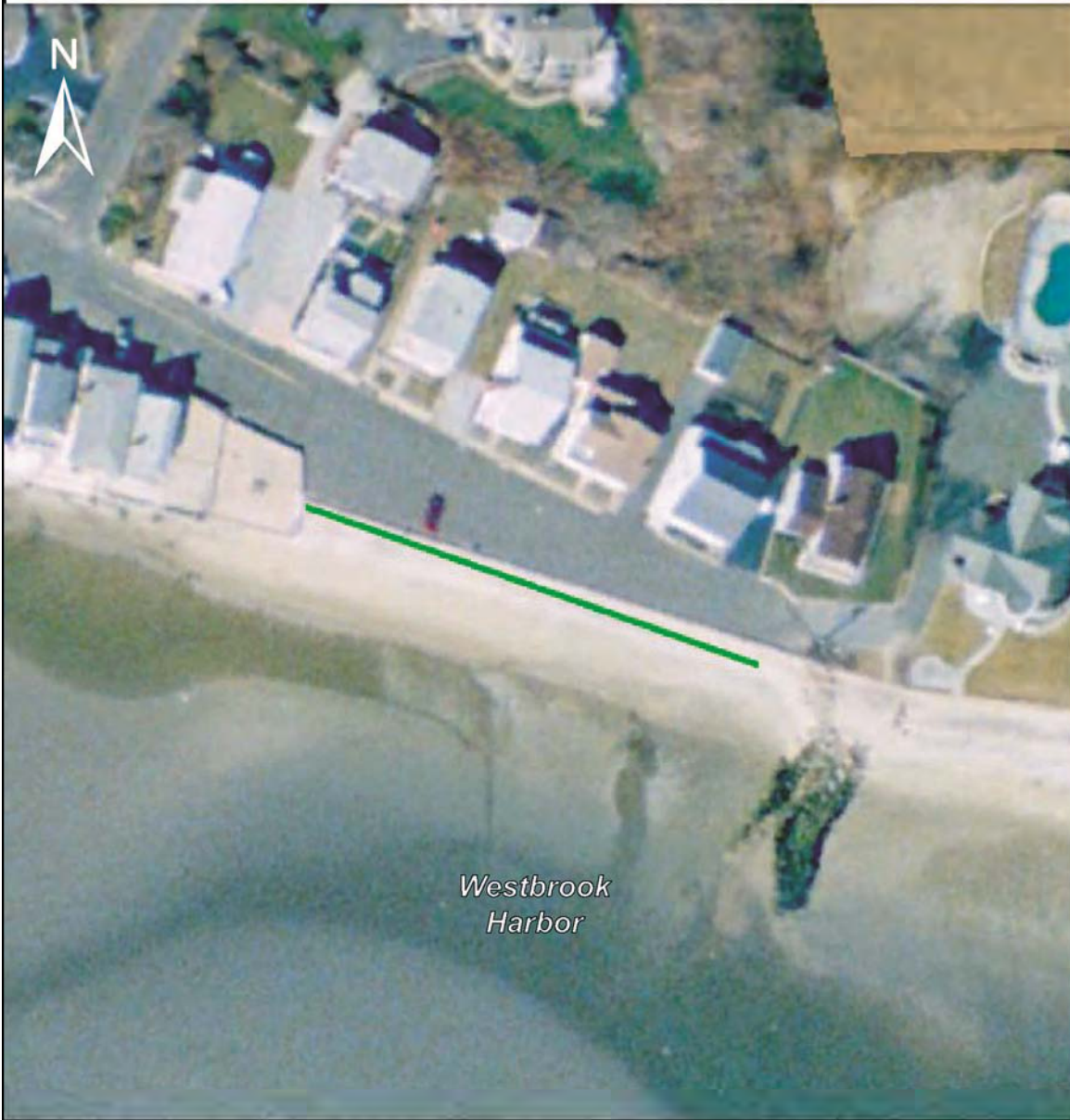
**Site 333 West Haven, CT  
Savin Rock**

# Site 344 Middle Beach Westbrook, CT




<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat</p>	<p>0  250                  Feet</p> <p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>                  US Army Corps                  of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_344-2.ai</p>
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# Site 344 Middle Beach Westbrook, CT



Westbrook  
Harbor

<p><b>Legend</b></p> <p>Mapped Wetlands Tidal Wetland</p> <p>Mapped Habitat Federal/State Listed Species Habitat</p> <p>Nourishment Area</p>	<p>0 68 136 204 Feet</p> <p>Image Source: Google©2009 Image Date: April 1, 2008 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p>US Army Corps of Engineers</p> <p>Date: 8-26-10 File: TO-0024_LIS_344-3.ai</p>
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**Site 344 Middle Beach**  
**Westbrook, CT**

<b>Site Address</b>	Salt Island Rd., Westbrook, CT
<b>General Description</b>	Municipal Beach in Westbrook Harbor, on the north side of Long Island Sound.
<b>Ownership/POC</b>	Town of Westbrook, CT Rich Annino, Parks and Recreation (860) 399-3095
<b>Zoning</b>	HDR High Density Residential
<b>Surrounding Land Use</b>	Residential; extensive wetland across road in back of homes.
<b>Wetlands</b>	No. Mapped wetland abuts row of houses north of beach.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Sediment Type</b>	Well sorted coarse sand
<b>Nourishment Length</b>	220 ft
<b>Design Berm Width</b>	22 ft
<b>Capacity</b>	600 cy
<b>Site Access</b>	Road – Salt Island Rd. (paved road in residential neighborhood). No known restrictions on truck traffic. Water – Westbrook Harbor
<b>Staging Area</b>	Potential staging area in small paved lot that runs along the road in back of beach (room for 10 cars in lot).
<b>Additional Considerations</b>	Stone groin on east end of beach encloses a culvert that runs under the road to a wetland on opposite side of the road, in back of neighboring residences. Berm is narrow; approximately 0-6 ft wide at high tide. Stone and cement revetment runs between the road and berm. This revetment lies approximately 2.5-3 ft above the beach berm. Cultural resources present.

## Site 344 Middle Beach Westbrook, CT

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**Date:** July 16, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** July 16, 2010

**Direction:** South

**Description:**

Stone groin and culvert at east end of beach.



## Site 344 Middle Beach Westbrook, CT

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**Date:** July 16, 2010

**Direction:** Southeast

**Description:**

View of east end of beach, showing groin, culvert, and stone/cement revetment between beach and parking area.

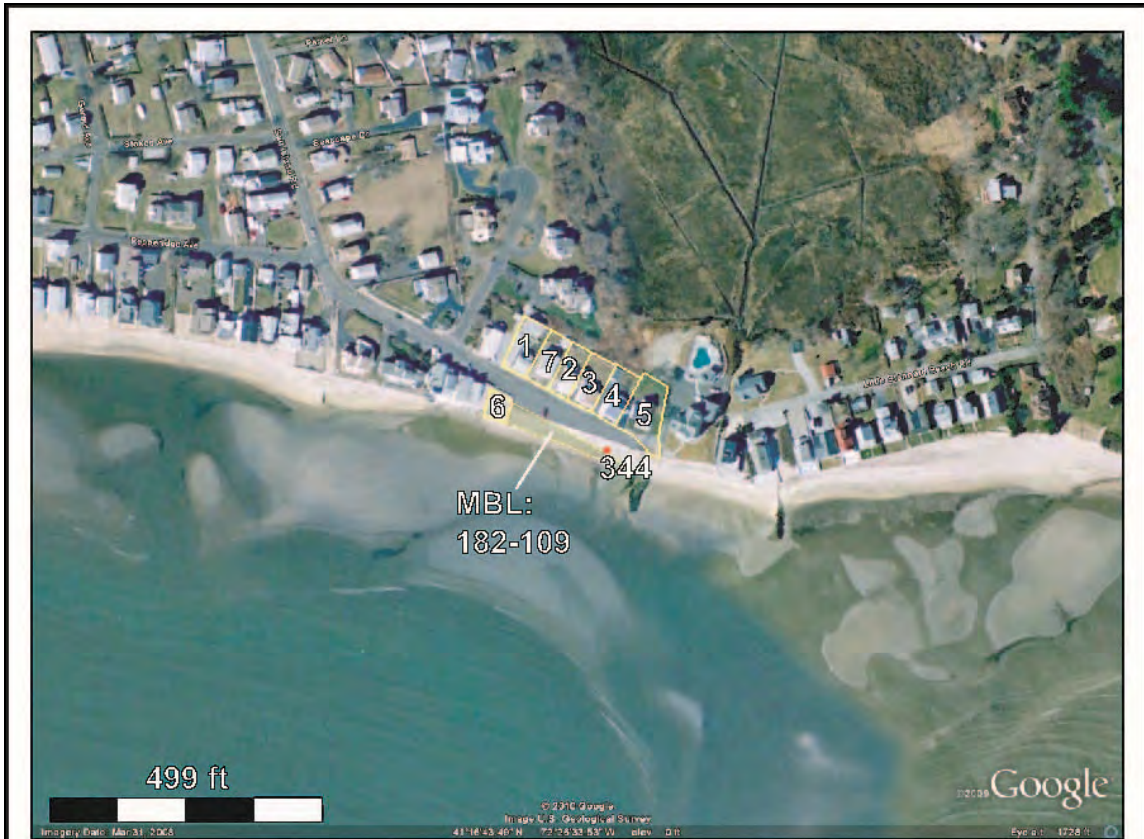


**Date:** July 16, 2010

**Direction:** Southeast

**Description:**

Potential staging area in paved lot behind beach.




Parcel	MBL
1	182-101
2	182-103
3	182-104
4	182-105
5	182-106
6	182-110
7	182-102

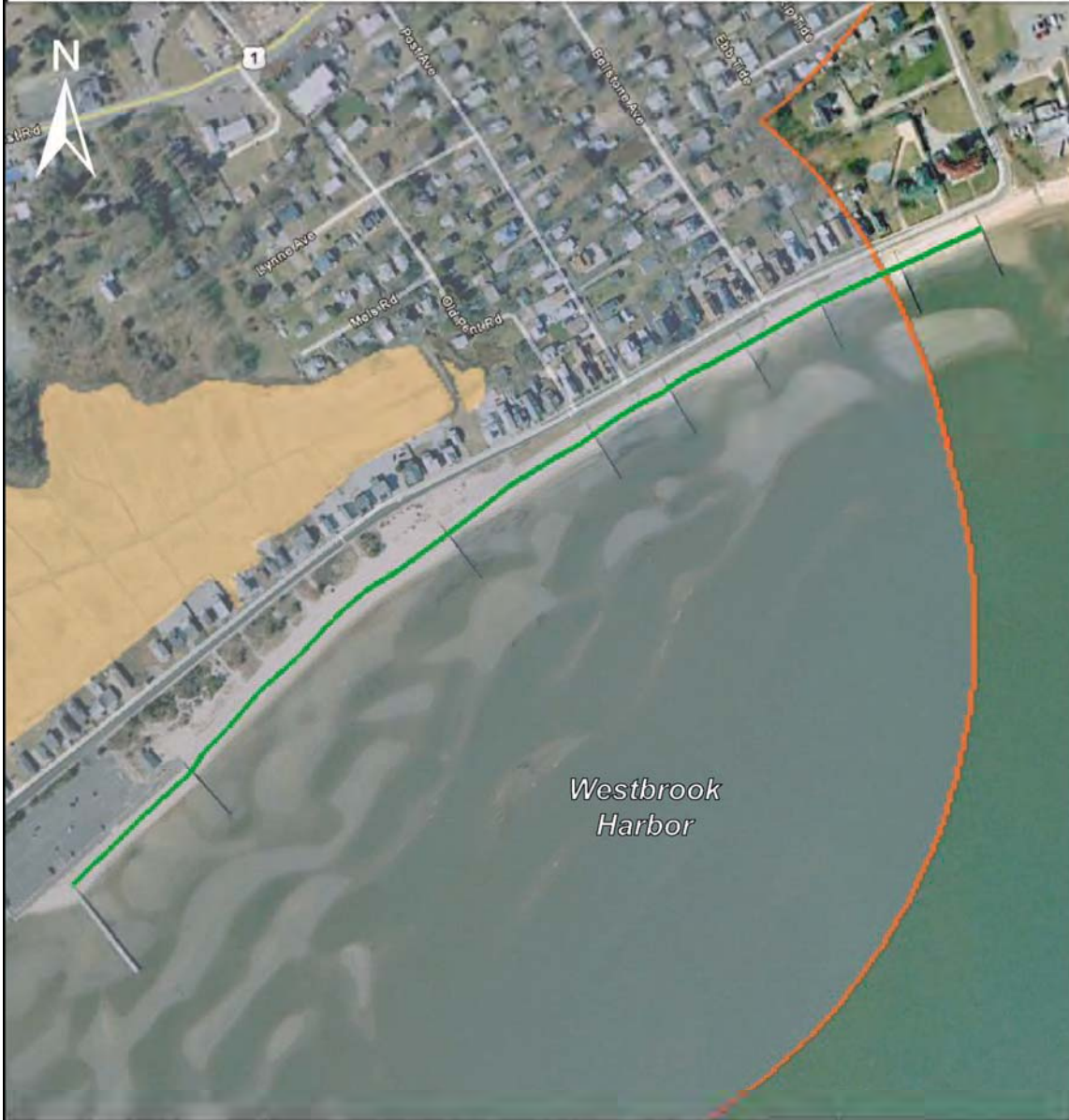
**Site 344 Westbrook, CT  
Middle Beach**


# Site 345 West Beach Westbrook, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0      500      1000      1500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-24-10                  File: TO-0024_LIS_345-2.ai</p>

# Site 345 West Beach Westbrook, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 312 624 936</p> <p>Feet</p>	
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> <li>Nourishment Area</li> </ul>	<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>US Army Corps of Engineers</p> <p>Date: 8-26-10                  File: TO-0024_LIS_345-3.ai</p>

**Site 345 West Beach**  
**Westbrook, CT**

<b>Site Address</b>	Seaside Ave., Westbrook, CT
<b>General Description</b>	Municipal Beach in Westbrook Harbor, north side of Long Island Sound.
<b>Ownership/POC</b>	Town of Westbrook, CT Rich Annino, Parks and Recreation (860) 399-3095
<b>Zoning</b>	HDR High Density Residential
<b>Surrounding Land Use</b>	Residential; extensive wetland across road in back of homes.
<b>Wetlands</b>	No. Mapped wetland across road in back of homes that border beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium to coarse-grained sand
<b>Nourishment Length</b>	2,570 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	42,200 cy
<b>Site Access</b>	Land – Seaside Ave. Water – Westbrook Harbor
<b>Staging Area</b>	Potential staging area in large paved lot behind beach at west end. Lot is elevated above beach berm so access may require alternate route, such as through a break in dunes.
<b>Additional Considerations</b>	Stone and cement groins in various places along the beach. Berm is very narrow at public swim area on the west side; wider toward the east end of the beach. Beach berm is lower than street along the eastern half of the beach, until the start of the dunes. A cement revetment lies between the street and the beach from the east end of parcel to the dune area. Vegetated dunes lie between beach and road along the western half of parcel. Dune restoration project in progress, sponsored by the Town and Boy Scouts. Small boats moored just offshore in certain areas. Swimming area at west end near a bath house and picnic area.

## Site 345 West Beach Westbrook, CT

---



**Date:** July 16, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 16, 2010

**Direction:** East

**Description:**

Beach profile looking east. Paved parking lot at left side of photograph.

## Site 345 West Beach Westbrook, CT

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**Date:** July 16, 2010

**Direction:** North

**Description:**

Vegetated dunes between beach and road on west side of parcel.

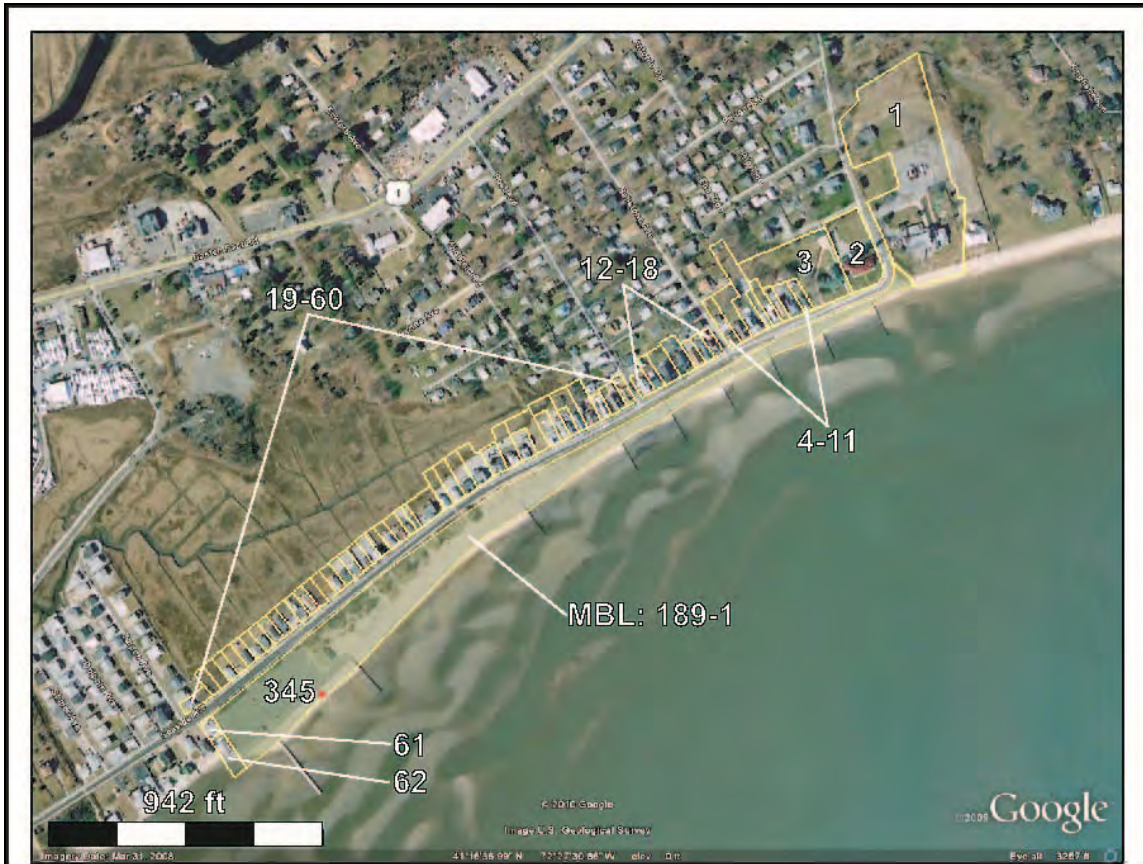


**Date:** July 16, 2010

**Direction:** East

**Description:**

Access to beach via paved area at west end of beach. This area connects with parking lot behind swim area at west end of beach.




Parcel	MBL	Parcel	MBL	Parcel	MBL
1	015/0137/0/0000	22	010/0295/0/0000	43	010/0424/0/0000
2	015/0143/0/0000	23	010/0296/0/0000	44	010/0423/0/0000
3	015/0144/0/0000	24	010/0294/0/0000	45	010/0422/0/0000
4	015/0145/0/0000	25	010/0293/0/0000	46	010/0421/0/0000
5	015/0012/0/0000	26	010/0292/0/0000	47	007/0176/0/0000
6	015/0009/0/0000	27	010/0291/0/0000	48	007/0175/0/0000
7	015/0008/0/0000	28	010/0599/0/0000	49	007/0174/0/0000
8	015/0007/0/0000	29	010/0420/A/0000	50	007/0173/0/0000
9	011/0023/0/0000	30	010/0437/0/0000	51	007/0172/0/0000
10	011/0022/0/0000	31	010/0436/0/0000	52	007/0164/0/0000
11	011/0021/0/0000	32	010/0434/0/0000	53	007/0163/0/0000
12	011/0020/0/0000	33	010/0435/0/0000	54	007/0162/0/0000
13	011/0019/0/0000	34	010/0433/0/0000	55	007/0151/0/0000
14	011/0018/0/0000	35	010/0431/0/0000	56	007/0152/0/0000
15	011/0012/0/0000	36	010/0432/0/0000	57	007/0150/0/0000
16	011/0011/0/0000	37	010/0430/0/0000	58	007/0148/0/0000
17	011/0009/0/0000	38	010/0429/0/0000	59	007/0149/0/0000
18	011/0005/0/0000	39	010/0428/0/0000	60	007/0067/0/0002
19	011/0004/0/0000	40	010/0427/0/0000	61	007/0067/0/0001
20	011/0001/0/0000	41	010/0426/0/0000	62	007/0066/0/0000
21	010/0297/0/0000	42	010/0425/0/0000	63	007/0177/0/0000

**Site 345 Westbrook, CT  
West Beach**




# Site 121 Gin Beach East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul> <p><i>*(Covers Entire Site)</i></p>	<p>0 <span style="float: right;">750</span></p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-28-10                  File: TO-0024_LIS_121-2.ai</p>

# Site 121 Gin Beach East Hampton, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: pink; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: teal; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: tan; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: olive; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 80px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 590</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-28-10                  File: TO-0024_LIS_121-3.ai</p>	

**Site 121 Gin Beach**  
**East Hampton, NY**

<b>Site Address</b>	East Lake Dr., Montauk, NY
<b>General Description</b>	Municipal Beach located on the east side of Lake Montauk Harbor inlet.
<b>Ownership/POC</b>	Town of East Hampton, NY Robert Rogers, East Hampton Parks and Recreation (631) 324-6124
<b>Zoning</b>	PC Parks and conservation
<b>Surrounding Land Use</b>	Commercial marinas and restaurants/residential properties to the west and south of the site; County park to the east.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium-grained sand
<b>Nourishment Length</b>	550 ft
<b>Design Berm Width</b>	200 ft
<b>Capacity</b>	9,000 cy
<b>Site Access</b>	Land – East Lake Dr. Water – Block Island Sound or Lake Montauk Harbor
<b>Staging Area</b>	Potential staging area in paved parking lot landward of beach; potential access for equipment across walking path through dunes.
<b>Additional Considerations</b>	Western end of the beach is bound by the eastern Lake Montauk Harbor jetty; beach elevation is flush with the top of the jetty. Dunes between beach and parking lot are approximately 30 ft wide and 15 ft high. Beach has significant capacity for sand as the jetty is not filled to entrapment. Cultural resources present.

## Site 121 Gin Beach East Hampton, NY

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile looking to the west showing the Lake Montauk Harbor jetties.



**Date:** July 13, 2010

**Direction:** East

**Description:**

Beach profile showing Theodore Roosevelt County Park to the east.

## Site 121 Gin Beach East Hampton, NY

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**Date:** July 13, 2010

**Direction:** South

**Description:**

Western end of Gin Beach showing the eastern Lake Montauk Harbor jetty and the entrance channel.



**Date:** July 13, 2010

**Direction:** East

**Description:**

Potential staging for trucks and grading equipment in lot at back of beach.




Parcel	DSBL
1	0300006000200003001
2	0300007000100003000

**Site 121 East Hampton, NY  
Gin Beach**



# Site 64 Hobart Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 15px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 25px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 45px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 55px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 75px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 85px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> </span> 2500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-24-10                  File: TO-0024_LIS_64-2.ai</p>

# Site 64 Hobart Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: pink; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p style="text-align: center;">0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: February 28, 2007              Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)              NYS Freshwater Wetlands (NYSDEC, 2010)              Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-26-10 File: TO-0024_LIS_64-3.ai</p>
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**Site 64 Hobart Beach**  
**Huntington, NY**

<b>Site Address</b>	Eatons Neck Rd., Huntington, NY
<b>General Description</b>	Municipal Beach on spit between Northport Bay and Huntington Harbor. Dune area is a waterbird park/preserve.
<b>Ownership/POC</b>	Town of Huntington, NY Donald McKay, Huntington Director Parks and Recreation (631) 351-3089
<b>Zoning</b>	R-5 Residential
<b>Surrounding Land Use</b>	Residential; marina in Northport Bay.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site. Plover and tern nesting areas noted on site visit.
<b>Sediment Type</b>	Poorly sorted medium sand
<b>Nourishment Length</b>	2,370 ft
<b>Design Berm Width</b>	237 ft
<b>Capacity</b>	128,800 cy
<b>Site Access</b>	Land – Crescent Beach Dr. Water – Huntington Bay
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Sand is accreting at southern end. A vegetated dune runs along the beach and is enlarged both at the north side of the beach, and at the south end near the terminal end of the spit. Enclosure areas in dunes provide nesting areas for plovers, terns, and oyster catchers. Nourishment area is the narrow part of the barrier beach; spit area where sediment is accreting would not need sand. Cultural resources present.

## Site 64 Hobart Beach Huntington, NY

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**Date:** July 13, 2010

**Direction:** South

**Description:**

Beach profile looking south.



**Date:** July 13, 2010

**Direction:** North

**Description:**

Beach profile looking north. Parking lot/potential staging area in background of photo at right.

## Site 64 Hobart Beach Huntington, NY

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**Date:** July 13, 2010

**Direction:** East

**Description:**

Bird enclosure areas on dune.



**Date:** July 13, 2010

**Direction:** North

**Description:**

Potential staging area in lot behind beach.





Parcel	DSBL
1	0400003000100086000
2	0400003000300071000

**Site 64      Huntington, NY  
Hobart Beach**



# Site 67 Crescent Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-24-10                  File: TO-0024_LIS_67-2.ai</p>	

# Site 67 Crescent Beach Huntington, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #228B22; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #FF4500; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #008000; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">263</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_67-3.ai</p>	

**Site 67 Crescent Beach**  
**Huntington, NY**

<b>Site Address</b>	Crescent Beach Dr., Huntington Bay, NY
<b>General Description</b>	Small Municipal Beach on Huntington Bay. Offshore area is used for recreational boating; upland has a grassy park and play area for children.
<b>Ownership/POC</b>	Town of Huntington Bay, NY Harold Acker, Manager Maritime Services (631) 351-3327
<b>Zoning</b>	R20 Residential
<b>Surrounding Land Use</b>	Residential; open space/recreational area on parcel behind beach.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium sand with pebbles
<b>Nourishment Length</b>	380 ft
<b>Design Berm Width</b>	75 ft
<b>Capacity</b>	3,600 cy
<b>Site Access</b>	Land – Crescent Beach Dr. (Paved road through a neighborhood) Water – Huntington Bay. Shallow near site and heavy recreational boating area.
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Beach has an extremely narrow berm – virtually no beach area at high tide. There is a cement revetment behind beach for shoreline stabilization. Mooring field just offshore.

## Site 67 Crescent Beach Huntington, NY

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 13, 2010

**Direction:** East

**Description:**

Beach profile looking east.



## Site 67 Crescent Beach Huntington, NY

---



**Date:** July 13, 2010

**Direction:** East

**Description:**

East end of beach at high tide.



**Date:** July 13, 2010

**Direction:** North

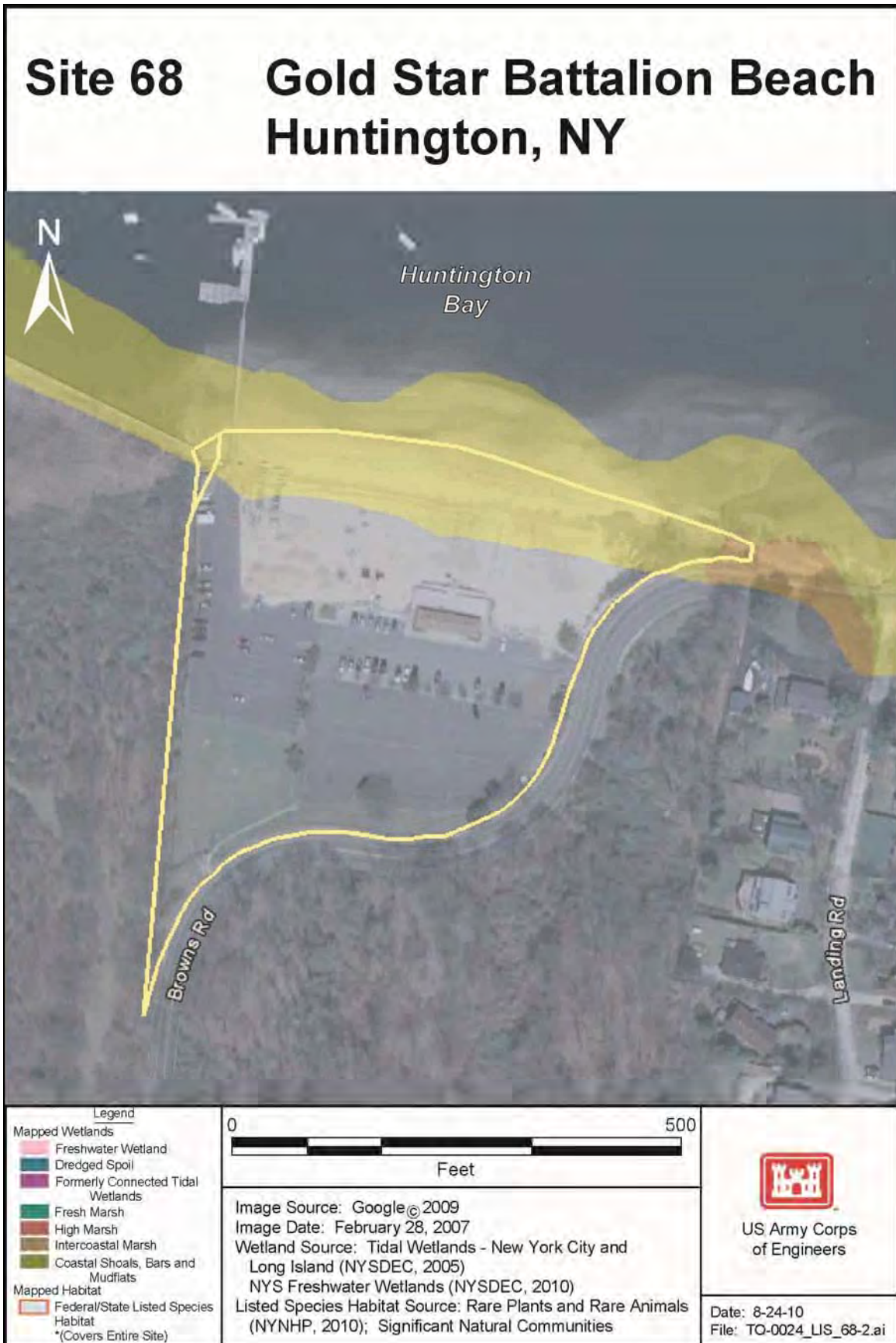
**Description:**

Potential staging area in lot behind beach.



Parcel	DSBL	Parcel	DSBL
1	0400035000600001000	22	0402008000200040000
2	0400035000600004000	23	0402008000200042000
3	0400035000600006001	24	0402008000100065000
4	0400035000600007000	25	0402008000100075000
5	0402008000100061000	26	0402008000200039002
6	0402008000100062000	27	0400035000600002000
7	0402008000100063000	28	0400035000600042000
8	0402008000100064000	29	0402008000100004000
9	0402008000100066000	30	0402008000200021004
10	0402008000100067000	31	0402008000200039001
11	0402008000100068000		
12	0402008000100073000		
13	0402008000100076000		
14	0402008000100077001		
15	0402008000100077002		
16	0402008000200001000		
17	0402008000200002000		
18	0402008000200003000		
19	0402008000200004000		
20	0402008000200021002		
21	0402008000200022000		

**Site 67      Huntington, NY**  
**Crescent Beach**





**Site 68 Gold Star Battalion Beach**  
**Huntington, NY**

<b>Site Address</b>	Browns Rd., Huntington, NY
<b>General Description</b>	Municipal Beach on Huntington Harbor near marina. Beach and recreational facility for young children; town dinghy storage at end of beach.
<b>Ownership/POC</b>	Town of Huntington, NY Donald McKay, Director Parks and Recreation (631) 351-3089
<b>Zoning</b>	R10 Residential
<b>Surrounding Land Use</b>	Residential; open space to west; marina to east.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats directly offshore of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Well sorted medium sand
<b>Nourishment Length</b>	490 ft
<b>Design Berm Width</b>	49 ft
<b>Capacity</b>	2,400 cy
<b>Site Access</b>	Land – West Shore Rd. (paved road in a residential area) Water – Huntington Harbor. Shallow near site and heavy recreational boating use offshore. Small boats are stored at east end of parcel and launched from the beach.
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Wood pier at west end of beach. Mooring field just offshore. Wooden handicap access ramp runs from bath house behind beach almost to the water so fill should be placed to avoid covering the ramp. Cultural resources present.

## Site 68 Gold Star Battalion Beach Huntington, NY

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**Date:** July 12, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile looking west.

## Site 68 Gold Star Battalion Beach Huntington, NY

---



**Date:** July 12, 2010

**Direction:** North

**Description:**

Cement access ramp in center of beach.



**Date:** July 12, 2010

**Direction:** South

**Description:**

Mooring field offshore.



Parcel	DSBL
1	0400023000100002000
2	0400023000100039000
3	0403014000200073000
4	0400024000100001000

**Site 68**

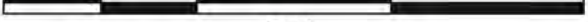

**Huntington, NY**

**Gold Star Battalion Beach**




# Site 81 Breakwater Park Beach Mattituck, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3f3; border: 1px solid #ffe4e4; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #ffc107; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed #ffc107; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_81-2.ai</p>

# Site 81 Breakwater Park Beach Mattituck, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #228B22; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FF4500; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 2px solid #00FF00; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">766</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	

**Site 81 Breakwater Park Beach**  
**Mattituck, NY**

<b>Site Address</b>	Breakwater Ave., Mattituck, NY
<b>General Description</b>	Municipal beach and recreation area on west side of Mattituck Inlet.
<b>Ownership/POC</b>	Town of Mattituck, NY Mattituck Park District (631) 298-9103
<b>Zoning</b>	R80 Residential Low Density
<b>Surrounding Land Use</b>	Residential; open space/dune behind beach; Mattituck Inlet to the east.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium to coarse-grained sand
<b>Nourishment Length</b>	Not considered viable.
<b>Design Berm Width</b>	n/a. Nourishment not considered viable in this area, as sand is accreting in this area and jetty is almost at entrapment.
<b>Capacity</b>	n/a
<b>Site Access</b>	Land – Breakwater Ave. Water – LIS just west of Mattituck Inlet
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Beach is accreting at east end behind jetty at Mattituck Inlet. Nourishment is not considered viable in this area, as jetty is approaching entrapment and Mattituck Inlet lies on the downdrift side. Piping Plover and Least Tern nesting area – enclosures on berm and dune area just behind beach.

## Site 81 Breakwater Park Beach Mattituck, NY

---



**Date:** July 12, 2010

**Direction:** East

**Description:**

Beach profile looking east.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile looking west.

## Site 81 Breakwater Park Beach Mattituck, NY

---



**Date:** July 12, 2010

**Direction:** Southwest

**Description:**

Tern and plover nest area enclosure behind beach.



**Date:** July 12, 2010

**Direction:** Northwest

**Description:**

Potential staging in paved parking area behind beach.



Parcel	DSBL
1	1000099000100016001
2	1000099000100017000
3	1000099000200002000
4	1000099000200003000
5	1000099000200006000
6	1000099000200018001
7	1000099000400001000
8	1000099000400002000
9	1000099000400025000
10	1000099000500001000
11	1000099000200004000


**Site 81**

**Mattituck, NY**

**Breakwater Park Beach**


# Site 111 Crescent Beach Shelter Island, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">750</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_111-2.ai</p>	

# Site 111 Crescent Beach Shelter Island, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #ffc107; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #28a745; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 20px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 50px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 80px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 110px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 125px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 140px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 155px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 170px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 185px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 200px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 215px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 230px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 245px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 260px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 275px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 290px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 305px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 320px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 335px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 350px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 365px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 380px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 395px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 410px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 425px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 440px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 455px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 470px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 485px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 500px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_111-3.ai</p>



**Site 111 Crescent Beach**  
**Shelter Island, NY**

<b>Site Address</b>	Shore Rd., Shelter Island, NY
<b>General Description</b>	Municipal Beach on north side of Shelter Island in a small cove between Jennings Point and Shelter Islands Heights.
<b>Ownership/POC</b>	Town of Shelter Island, NY Garth Griffen, Director Shelter Island Recreation Department (637) 749-0302 ext 109
<b>Zoning</b>	AA Residential
<b>Surrounding Land Use</b>	Beach club; open space/wetland; residential; boat dock on adjacent parcel at west end.
<b>Wetlands</b>	No. Mapped wetlands across road at east end of beach.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted medium to coarse-grained sand with pebbles
<b>Nourishment Length</b>	1,450 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	23,900 cy
<b>Site Access</b>	Land – West Neck Rd to Shore Rd. Water – North side entrance to Shelter Sound & Southold Bay
<b>Staging Area</b>	Potential staging area in paved lot running the length of the beach between Shore Rd. and the beach.
<b>Additional Considerations</b>	Wood pier at west end of beach (not on parcel but adjacent). Wood revetment between beach and parking lot. Parking area is elevated approximately 2.5 ft above berm. Wetland on parcel behind beach on opposite side of the road; beach club behind beach and across the road.

## Site 111 Crescent Beach Shelter Island, NY

---



**Date:** July 12, 2010

**Direction:** West

**Description:**

Small dune at west end of beach.



**Date:** July 12, 2010

**Direction:** South

**Description:**

Potential staging in paved lot behind beach. Lot is slightly higher than beach berm, and separated by wooden railing. Beach club with tents in background.

## Site 111 Crescent Beach Shelter Island, NY

---



**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile looking west



**Date:** July 12, 2010

**Direction:** East

**Description:**

Beach profile looking east.




Parcel	DSBL
1	0700013000200006001
2	0700013000200005000
3	0700013000200007001
4	0700014000100011000
5	0700014000100016002
6	0700013000200004000
7	0700013000200003000
8	0700013000200053000
9	0700013000200054000
10	0700013000200002002
11	0700013000200009000
12	0700013000200010000
13	0700013000200011000
14	0700013000200015000
15	0700013000200016000
16	0700013000200019001

**Site 111 Shelter Island, NY  
Crescent Beach**

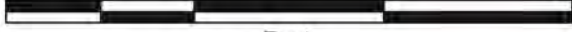

# Site 76 Town Beach Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B8723; border: 1px solid black; margin-right: 5px;"></span> Interoceanic Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid yellow; margin-right: 5px;"></span> *(Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">500</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_76-2.ai</p>	

# Site 76 Town Beach Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10                  File: TO-0024_LIS_76-3.ai</p>	

**Site 76 Town Beach**  
**Southold, NY**

<b>Site Address</b>	North Rd. (County Rd. 48), Southold, NY
<b>General Description</b>	Municipal Beach on the north fork of Long Island with direct access to Long Island Sound.
<b>Ownership/POC</b>	Town of Southold, NY Jim McMahon, Director of Public Works (631) 765-1283
<b>Zoning</b>	R-40 Residential low density AA
<b>Surrounding Land Use</b>	Residential properties directly abut the beach to the east and west and across County Rd. 48 to the south.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Poorly sorted coarse-grained sand
<b>Nourishment Length</b>	990 ft
<b>Design Berm Width</b>	99 ft
<b>Capacity</b>	23,200 cy
<b>Site Access</b>	Land – County Rd. 48 Water – LIS
<b>Staging Area</b>	Potential staging area in paved parking lot landward of the beach; access for equipment directly from parking area to beach, or across gravel/dense pack boat ramp at western end of the beach.
<b>Additional Considerations</b>	This area has recently experienced significant erosion which has damaged the seaward edge of the parking lot; nourishment sand was trucked to this area in the early 1990s following Hurricane Bob. The dominant direction of sediment transport is from west to east, although sediment supply to the site from the west is limited due to coastal armoring.

## Site 76 Town Beach Southold, NY

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**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile showing the steeply sloping foreshore area.



**Date:** July 12, 2010

**Direction:** East

**Description:**

Beach profile showing eastern end of the site with playground equipment and abutting properties beyond.



## Site 76 Town Beach Southold, NY

---



**Date:** July 12, 2010

**Direction:** South

**Description:**

Boat ramp across western end of the beach composed of gravel and dense pack.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Potential staging for trucks and grading equipment in parking lot at back of beach.




Parcel	DSBL
1	1000052000200001002
2	1000052000200013000
3	1000052000200017000
4	1000051000500004000
5	1000052000200018000
6	1000135000100027000
7	1000135000300001000
8	1000052000100001000
9	1000052000200019000

**Site 76      Southold, NY**  
**Town Beach**

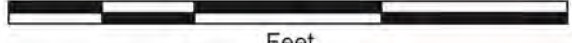

# Site 79 Gull Pond Beach (Norman E. Klipp Park) Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> * (Covers Entire Site)</li> </ul>	<p>0 <span style="float: right;">500</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-25-10                  File: TO-0024_LIS_79-2.ai</p>

# Site 79 Gull Pond Beach (Norman E. Klipp Park) Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FF69B4; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #00FF00; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">493</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009 Image Date: March 1, 2007 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010) Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-26-10 File: TO-0024_LIS_79-3.ai</p>	

**Site 79 Gull Pond Beach**  
**Southold, NY**

<b>Site Address</b>	Manhasset Ave., Southold, NY
<b>General Description</b>	Municipal Beach located southwest of the entrance to Gull Pond.
<b>Ownership/POC</b>	Town of Southold, NY Jim McMahon, Director of Public Works (631) 765-1283
<b>Zoning</b>	R-40 Residential low density AA
<b>Surrounding Land Use</b>	Primarily residential with two commercial marinas in adjacent harbor to west.
<b>Wetlands</b>	Yes. Mapped wetlands include coastal shoals, bars, and mudflats offshore of the beach; additional mapped wetlands behind beach and dune area located south of Manhasset Ave.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Sediment Type</b>	Moderately well-sorted coarse-grained sand
<b>Nourishment Length</b>	820 ft
<b>Design Berm Width</b>	82 ft
<b>Capacity</b>	14,400 cy
<b>Site Access</b>	Land – Manhasset Ave. Water – Shelter Island Sound or Gull Pond
<b>Staging Area</b>	Potential staging area in paved parking lot landward of main beach; access for equipment directly from parking area to beach.
<b>Additional Considerations</b>	Timber jetty on the south side of Gull Pond entrance forms the northern end of the beach. Small boat ramp from parking area into Gull Pond; parking area is supported with timber bulkhead. Beach area south of Manhasset Ave. is backed by a coastal dune vegetated with beach grass, and a more landward area of salt marsh.

## Site 79 Gull Pond Beach Southold, NY

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**Date:** July 12, 2010

**Direction:** North

**Description:**

Beach profile from south end of beach.



**Date:** July 12, 2010

**Direction:** South

**Description:**

Beach profile at southern end of site showing wider area of coastal dunes vegetated with beach grass.

## Site 79 Gull Pond Beach Southold, NY

---



**Date:** July 12, 2010

**Direction:** North

**Description:**

North end of beach with timber jetties at the entrance to Gull Pond.



**Date:** July 12, 2010

**Direction:** Southwest

**Description:**

Potential staging for trucks and grading equipment in parking lot at back of beach.




Parcel	DSBL
1	1000043000500017000
2	1000035000600030000
3	1000043000500001000
4	1000043000500002000
5	1000043000500003000
6	1000043000200006000

**Site 79      Southold, NY**  
**Gull Pond Beach**

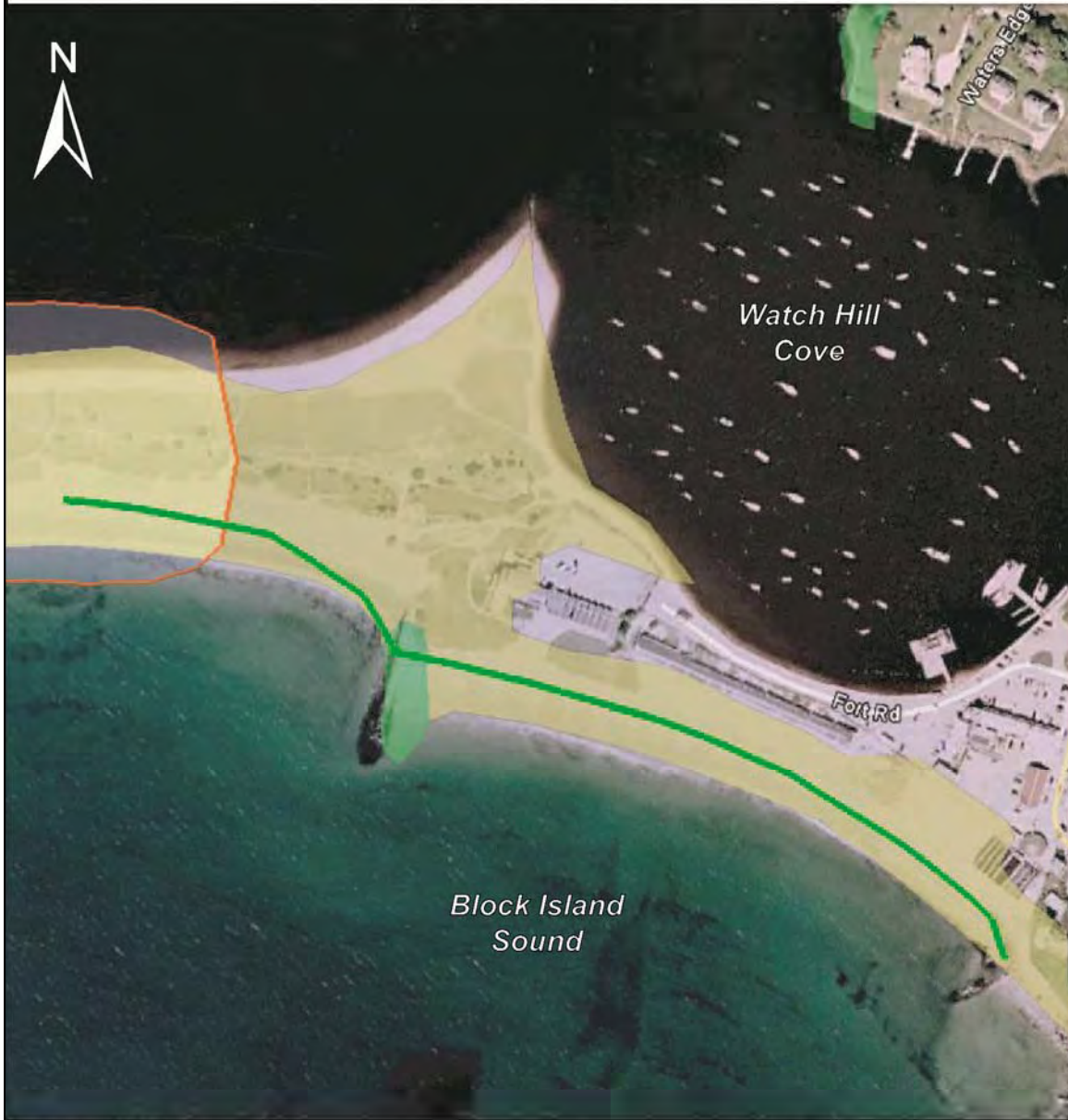




# Site 381 Watch Hill Beach Westerly, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fce4d6; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 50%; transform: translate(-50%, -50%); border-left: 1px solid black; border-right: 1px solid black; width: 0; height: 0; top: -5px;"></span> </span> 1000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_381-2.ai</p>

# Site 381 Watch Hill Beach Westerly, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fce4d6; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #f00; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #000; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">1000</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_381-3.ai</p>

**Site 381 Watch Hill Beach**  
**Westerly, RI**

<b>Site Address</b>	151 Bay St., Westerly, RI
<b>General Description</b>	Barrier beach between Block Island Sound and Watch Hill Cove. The Watch Hill Beach parcel is a small Municipal Beach on the Block Island Sound Side.
<b>Ownership/POC</b>	Watch Hill Fire District, Town of Westerly, RI Paul Duffy, Recreation Director (401) 348-2784
<b>Zoning</b>	SCWH Watch Hill zoning district
<b>Surrounding Land Use</b>	Residential and commercial (restaurants, shops, beach club) to east; open space to west.
<b>Wetlands</b>	Yes. The parcel is mapped as unconsolidated sandy shoreline, with rocky shoreline at the groin.
<b>State and Federally Listed Species Habitat</b>	No. Habitat for terns and plovers occurs on adjacent parcel (Nappatree Point Beach).
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	2,290 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	22,600 cy
<b>Site Access</b>	Land – Bay St. Water – Block Island Sound
<b>Staging Area</b>	Potential staging area in paved lot behind beach.
<b>Additional Considerations</b>	Erosion evident on west sides of both groins on parcel, indicating sediment transport east to west. Adjacent parcel, Nappatree Point beach, was also evaluated and shows similar sediment transport pattern. Vegetated dunes at west side of parcel. Cultural resources present.

## Site 381 Watch Hill Beach Westerly, RI

---



**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach club and private beach adjacent to public area.

## Site 381 Watch Hill Beach Westerly, RI

---



**Date:** July 15, 2010

**Direction:** West

**Description:**

Dune at back of beach.



**Date:** July 15, 2010

**Direction:** Southeast

**Description:**

Potential staging area in paved lot behind beach.

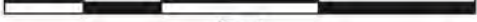



Parcel	MBL
1	178-001
2	185-034
3	185-033
4	185-032A-1
5	185-030
6	185-028
7	185-02C-1
8	185-02H

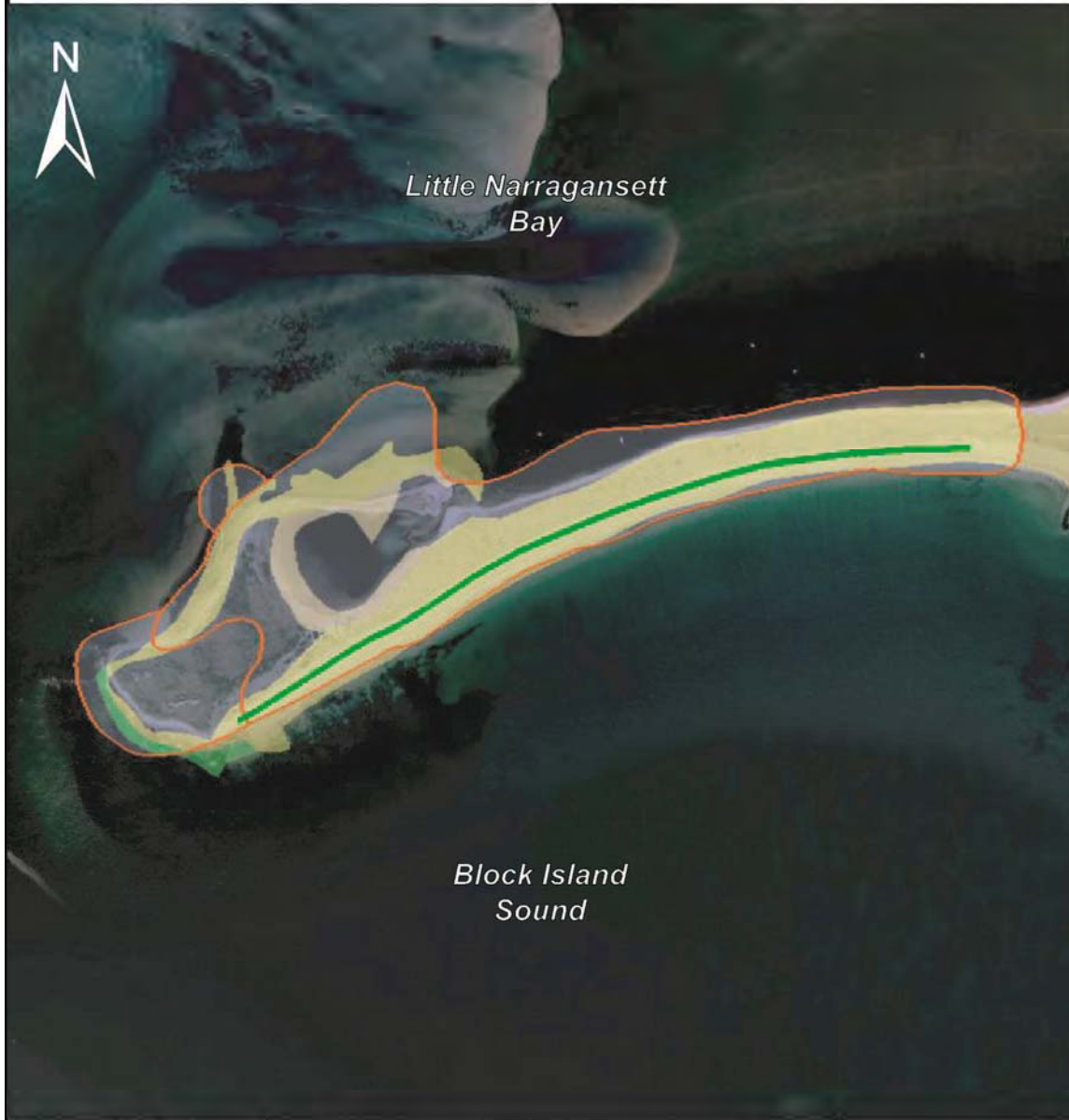
**Site 381      Westerly, RI**  
**Watch Hill Beach**



# Site 382 Napatree Point Beach Westerly, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e67e22; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #27ae60; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #2980b9; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #34495e; border: 1px solid black; margin-right: 5px;"></span> Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f1c40f; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #9b59b6; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #2e8b57; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">3000</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-31-10                  File: TO-0024_LIS_382-2.ai</p>

# Site 382 Napatree Point Beach Westerly, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c7e9c0; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffffcc; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fce4d6; border: 1px solid #000; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #000; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border-bottom: 2px solid #000; margin-right: 5px;"></span> Nourishment Area</li> </ul>	<p>0 <span style="float: right;">3000</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-31-10                  File: TO-0024_LIS_382-3.ai</p>



## Site 382 Nappatree Point Beach Westerly, RI

<b>Site Address</b>	End of Fort Rd., Westerly, RI
<b>General Description</b>	Barrier beach between Block Island Sound and Little Narragansett Bay. The Nappatree Point parcel includes most of the length of the barrier beach and the terminal end of the spit on the west side.
<b>Ownership/POC</b>	Watch Hill Fire District, Town of Westerly, RI Paul Duffy, Recreation Department Director (401) 348-2784
<b>Zoning</b>	Open space/recreation
<b>Surrounding Land Use</b>	Residential and commercial (restaurants, shops, beach club) to east.
<b>Wetlands</b>	Yes. The parcel is mapped as unconsolidated sandy shoreline, with rocky shoreline at the end of the spit.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat on site. Plovers and terns observed on site visit.
<b>Sediment Type</b>	Well sorted medium to fine-grained sand
<b>Nourishment Length</b>	5,300 ft
<b>Design Berm Width</b>	100 ft
<b>Capacity</b>	68,100 cy
<b>Site Access</b>	Land – Fort Rd. Water – Block Island Sound
<b>Staging Area</b>	Potential staging area in paved lot near marina (restricted access to beach – see below).
<b>Additional Considerations</b>	Erosion evident along beach at base of dunes. Sand accreting at west end, on the north side (Little Narragansett Bay side) where dune is extended and heavily vegetated. Vegetated dunes along barrier beach with enclosures for terns, plovers. Potential staging area in small paved lot in back of beach at east end. This lot has restricted access to the beach however. Walking access is through dune on east side of parcel. No vehicular traffic is allowed. Cultural resources present.

## Site 382 Nappatree Point Beach Westerly, RI

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**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach profile looking west.



**Date:** July 15, 2010

**Direction:** East

**Description:**

Beach profile looking east.

## Site 382 Nappatree Point Beach Westerly, RI

---



**Date:** July 15, 2010

**Direction:** Southwest

**Description:**

Access to beach via walking path through dunes.



**Date:** July 15, 2010

**Direction:** West

**Description:**

Plover and tern habitat areas.





Parcel	MBL
1	177-1
2	177-2
3	177-3
4	177-4
5	177-5
6	177-6
7	177-7
8	177-8
9	178-2
10	178-3
11	178-4
12	178-5
13	178-6
14	178-7
15	178-8
16	178-9
17	178-10
18	178-11
19	178-12
20	185-031

**Site 382 Westerly, RI  
Napatree Point Beach**

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# Site 427 Plumb Beach Brooklyn, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">3000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	

**Site 427 Plumb Beach**  
**Brooklyn, NY**

<b>Site Address</b>	Shore Parkway (east of Knapp St.), Brooklyn, NY
<b>General Description</b>	Habitat Restoration site, as well as State/City Beach, and Federal Shore Protection Project located on the north side of Rockaway Inlet between Sheepshead Bay and Gerritson Inlet. Plumb Beach is peripheral to Jamaica Bay, and thus included in the overall bay wide habitat restoration effort because of the opportunities for enhancing ecosystem function in conjunction with the shore protection/beach nourishment project.
<b>Ownership/POC</b>	National Park Service – Gateway National Recreation Area and NYC Department of Parks and Recreation Dan Falt, USACE Project POC (917)790-8614
<b>Agencies/Groups Involved in Project</b>	National Park Service – Gateway National Recreation Area New York City Department of Parks and Recreation New York State Department of Environmental Conservation New York Department of State New York City Department of Transportation
<b>Zoning</b>	Not on local zoning maps – part of Marine Park.
<b>Surrounding Land Use</b>	Belt Parkway; Rockaway Inlet; Residential to the west.
<b>Existing Condition</b>	The beach is severely eroded. During spring 2010, the bicycle path adjacent to beach was lost due to erosion and the road is now threatened.
<b>Prior Condition</b>	Beach has been wider in the past; erosion is a continuing problem and a long-term solution is in the planning phase.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Species of Concern Expected to Benefit From Project</b>	Horseshoe crabs; beach is a mating area for <i>Limulus</i> . Shorebirds, turtles and plants. Shorebirds that nest in dune or beach berm areas would benefit from dune and beach restoration.
<b>Staging Area</b>	Parking lot adjacent to beach.
<b>Capacity</b>	47,700 cy (estimate of nourishment calculated as part of this study); USACE project design volume not available at time of final report.
<b>Additional Considerations</b>	Severe storm in March 2010 eroded the bicycle path adjacent to the beach, and came within 25 feet of the Belt Parkway. This is an important emergency exit route for New York City, and a temporary repair using sand bags was implemented to prevent further loss. An interagency team is working on a comprehensive solution that will afford long-term protection for the infrastructure and maintain/enhance the natural resources and recreation opportunities. The site could provide habitat restoration opportunities that complement the larger set of Jamaica Bay area restoration projects.

## Site 427 Plumb Beach Brooklyn, NY

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**Date:** August 3, 2010

**Direction:** West

**Description:**

Current condition. Beach severely eroded and temporary sand bags have been placed to protect road and parking area.



**Date:** August 3, 2010

**Direction:** East

**Description:**

Beach profile looking east, from a spot on the beach adjacent to (just east of) the most severe erosion.



## Site 427 Plumb Beach Brooklyn, NY

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**Date:** August 3, 2010

**Direction:** West

**Description:**

Most severely eroded area, showing freeway in background at right.

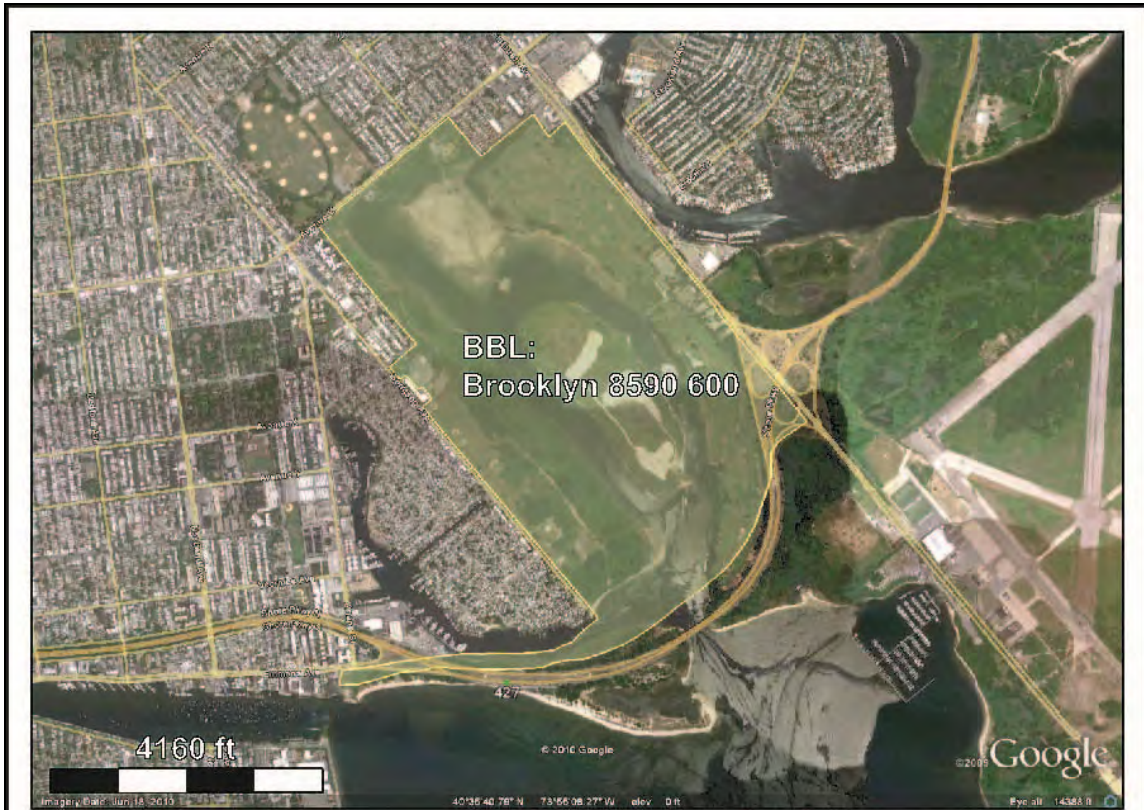


**Date:** August 3, 2010

**Direction:** West

**Description:**

Potential staging area in paved lot behind beach.





**Site 427 Brooklyn, NY  
Plumb Beach**

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# Site 430 White Island Brooklyn, NY

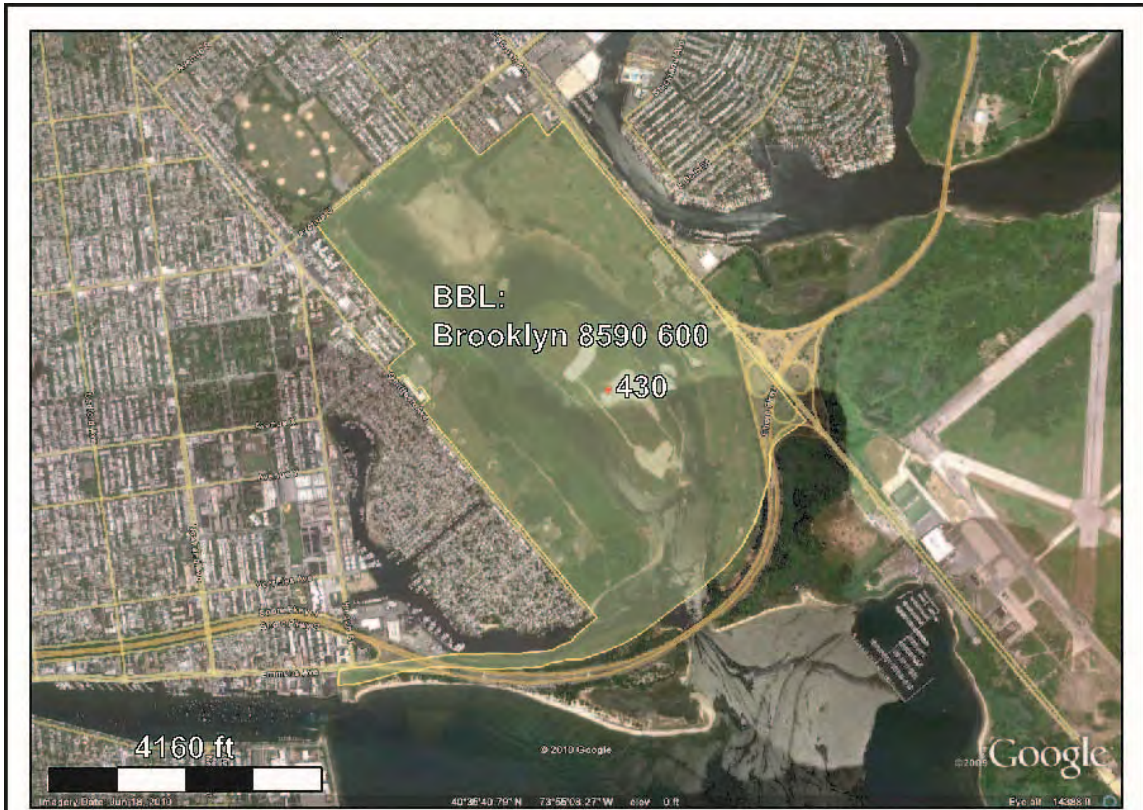


<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2000</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_430-2.ai</p>

**Site 430 White Island Habitat Restoration**  
**Brooklyn, NY**

<b>Site Address</b>	Jamaica Bay near confluence of Gerritsen Creek and Mill Creek
<b>General Description</b>	White Island is located in western Jamaica Bay near the entrance to Gerritsen Creek. Habitat restoration is aimed at restoring grassland habitat, once common in the region but largely lost due to development. A second objective is to stabilize the edges of the island to ensure that waste material, previously disposed of on the island, will not breach into surrounding creeks. The restoration project is underway. Material has been placed onsite and plantings are scheduled to take place in 2010.
<b>Ownership/POC</b>	National Park Service – Gateway National Park New York City Department of Parks and Recreation Dan Falt, USACE Project POC (917)790-8614
<b>Agencies/Groups Involved in Project</b>	National Park Service – Gateway National Recreation Area New York City Department of Parks and Recreation New York State Department of Environmental Conservation US Fish and Wildlife Service National Marine Fisheries Service New York/New Jersey Harbor Estuary Program North American Waterfowl Management Plan US Environmental Protection Agency US Army Corps of Engineers
<b>Zoning</b>	Not zoned; park land.
<b>Surrounding Land Use</b>	Urban/industrial; residential; park land; former commercial airport (Floyd Bennett Field) to the southeast.
<b>Wetlands</b>	Yes. Mapped wetlands are located around the edges of the island.
<b>Existing Condition</b>	Currently, White Island is undergoing restoration. Dredged material has been placed onsite and plantings are scheduled for this year.
<b>Prior Condition</b>	Salt marsh and grassland habitats existed early, but were degraded due to industrial development and associated dredge/fill activity. White Island was previously used for waste disposal. The restoration project is intended to stabilize the area so that waste material does not move out into the creeks.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.



<p><b>Species of Concern Expected to Benefit From Project</b></p>	<p>Several grassland bird species are expected to benefit from this project, including the Upland Sandpiper, Short-Eared Owl, Vesper Sparrow, Grasshopper Sparrow, Bobolink, Savannah Sparrow, Henslow’s Sparrow, Northern Harrier, Eastern Meadowlark, and Horned Lark (City of NY Parks and Recreation, White Island Fact Sheet). White Island has not supported large nesting populations of water birds in the past, but it is thought to have suitable habitat for these species (Hudson-Raritan Comprehensive Restoration Plan). Therefore the restoration should also benefit water birds, including ibises, herons, and egrets.</p>
<p><b>Staging area</b></p>	<p>Barges are required for transport of material as the sites are offshore islands.</p>
<p><b>Capacity</b></p>	<p>No additional capacity at this time. Material has been placed.</p>
<p><b>Additional Considerations</b></p>	<p>The restoration project involved clearing vegetation above the 10 ft contour line, as well as removing exotic species, and capping/covering the island with clean sand. Plantings will promote four types of habitat: tall grass meadow, short grass meadow, maritime grassland, and vegetated dunes. A site tour of White Island was not possible during Summer 2010, so no photographs of the site were obtained.</p>



**Site 430**      **Brooklyn, NY**  
**White Island**

# Site 431 Gerritsen Creek Brooklyn, NY



<p>Legend</p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2000</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 9-10-10                  File: TO-0024_LIS_431-2.ai</p>	



**Site 431 Gerritsen Creek Habitat Restoration**  
**Brooklyn, NY**

<b>Site Address</b>	Jamaica Bay near confluence of Gerritsen Creek and Mill Creek
<b>General Description</b>	The Gerritsen Creek habitat restoration project is located in western Jamaica Bay near entrance to Mill Creek. The objectives of the project are to ameliorate adverse impacts of past filling activities related to construction and maintenance of navigation channels in Jamaica Bay, to restore salt marsh and coastal/maritime grassland; improve tidal flushing and water quality, and generally to enhance ecosystem function. Project related placement of fill has been completed. Approximately 30 acres of salt marsh were restored and 27,000 cy of dredged material was placed on the site in 2009.
<b>Ownership/POC</b>	National Park Service – Gateway National Park New York City Department of Parks and Recreation Dan Falt, USACE Project POC (917)790-8614
<b>Agencies/Groups Involved in Project</b>	National Park Service – Gateway National Recreation Area New York City Department of Parks and Recreation New York State Department of Environmental Conservation US Fish and Wildlife Service National Marine Fisheries Service New York/New Jersey Harbor Estuary Program North American Waterfowl Management Plan US Environmental Protection Agency US Army Corps of Engineers
<b>Zoning</b>	Not zoned; park land.
<b>Surrounding Land Use</b>	Urban/industrial; residential; park land; former commercial airport (Floyd Bennett Field) to the southeast.
<b>Wetlands</b>	Yes. Mapped wetlands are located around the edges of the island.
<b>Existing Condition</b>	The restoration project is on-going. Recently, fill was placed, and the site was planted with salt marsh and coastal grassland species. <i>Phragmites</i> were removed and tidal exchange has been enhanced.
<b>Prior Condition</b>	Historically the area was primarily a salt marsh, part of an extensive wetland area throughout Jamaica Bay. It was renowned for its abundance and diversity of shellfish, and importance as a nursery and breeding ground for various fish species. Over the past century the site was altered by dredge and fill activity related to construction and maintenance of the Jamaica Bay navigation channel. Certain areas were also used as a landfill for nonhazardous waste. The result was a reduction in salt marsh area and habitat degradation. The invasive common reed <i>Phragmites australis</i> came to dominate the site, and coastal processes and watercraft activity have caused erosion and loss of the native salt marsh cordgrass <i>Spartina alterniflora</i> .

<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Species of Concern Expected to Benefit From Project</b>	Various species are expected to benefit, particularly migratory birds (shorebirds, raptors, waterfowl, and land birds) and wading birds (egrets, ibises, and herons). Other waterfowl species known to occur in the area include buffleheads ( <i>Bucephala albeola</i> ), red-breasted mergansers ( <i>Mergus serrator</i> ), and greater scaup ( <i>Aythya marila</i> ); upland species including marsh wrens ( <i>Cistothorus palustris</i> ), sharp-tailed sparrows ( <i>Ammodramus caudactus</i> ) will also benefit. Reptiles known to occur in the area include the diamondback terrapin ( <i>Malaclemys terrapin</i> ) and brown snake ( <i>Storeria dekayi</i> ).
<b>Staging Area</b>	Barges. Material was offloaded dry from a barge.
<b>Capacity</b>	No additional capacity at this time. Material has been placed.
<b>Additional Considerations</b>	For this project, dredged material was transported dry to the site on barges, and offloaded via backhoe. Other projects have involved pumping material to the site as a slurry. The National Park Service requires that dredged material must be clean, and 95% sand for these projects.

## Site 431 Gerritsen Creek Habitat Restoration Brooklyn, NY

---



**Date:** August 3, 2010

**Direction:** East

**Description:**

Gerritsen Creek restoration area.



**Date:** August 3, 2010

**Direction:** East

**Description:**

Restoration area close-up.

## Site 431 Gerritsen Creek Habitat Restoration Brooklyn, NY

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**Date:** August 3, 2010

**Direction:** Northeast

**Description:**

View of adjacent wetland area. Turtle in foreground (on rock at center) illustrates the habitat value of the region.

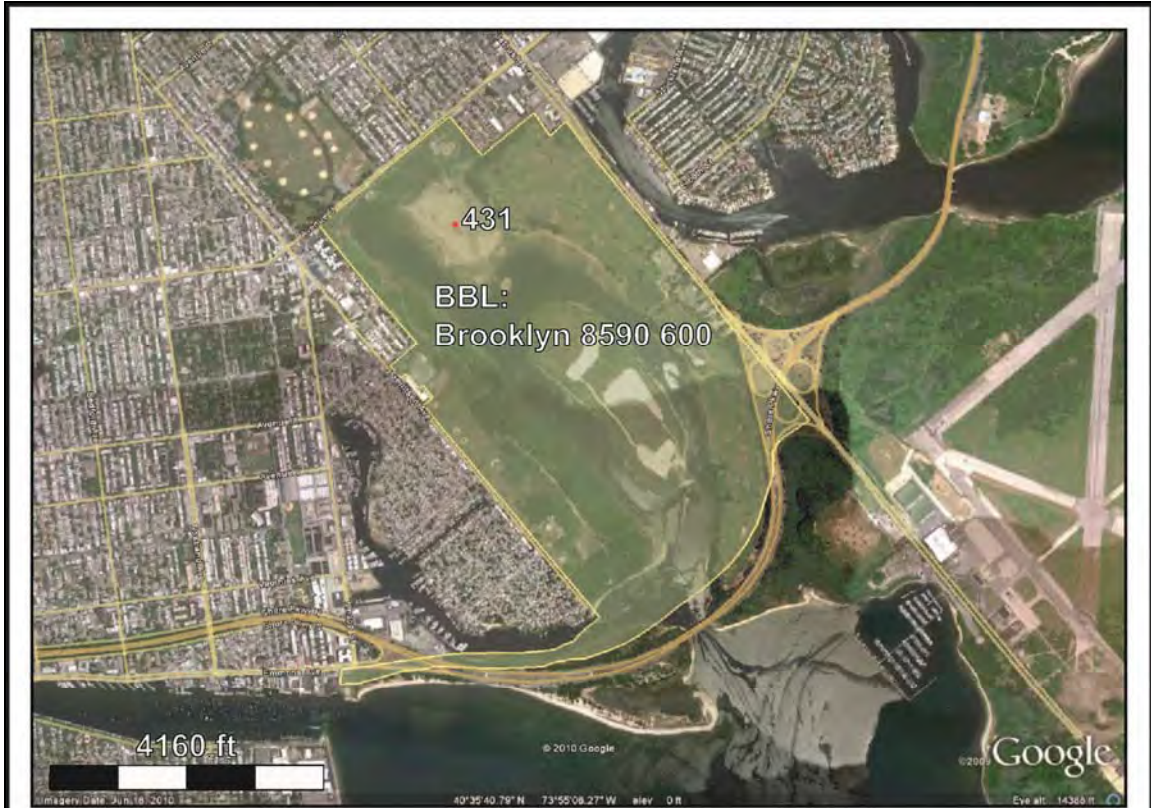


**Date:** August 3, 2010

**Direction:** East

**Description:**


Restoration area in with surrounding wetland and water body.



**Site 431    Brooklyn, NY  
Gerritsen Creek**

# Site 429 Jamaica Bay Marsh Islands Jamaica Bay, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p style="text-align: center;">0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"><div style="width: 100%; height: 100%; border-bottom: 1px dashed black;"></div></span> 3</p> <p style="text-align: center;">Miles</p> <p>Image Source: Google © 2009              Image Date: June 18, 2010              Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)              NYS Freshwater Wetlands (NYSDEC, 2010)              Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<div style="text-align: center;">  <p>US Army Corps of Engineers</p> </div> <p>Date: 9-10-10 File: TO-0024_LIS_429-2.ai</p>
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**Site 429 Jamaica Bay Marsh Islands Habitat Restoration**  
**Jamaica Bay, NY**

<b>Site Address</b>	Islands in Jamaica Bay, NY
<b>General Description</b>	The Jamaica Bay islands are a series of salt marsh islands in Jamaica Bay, a 26-mile embayment situated in the Boroughs of Brooklyn and Queens. A number of island restoration projects are underway or in the planning phase. Project objectives include restoring saltwater wetlands and improving habitat quality.
<b>Ownership/POC</b>	National Park Service – Gateway National Park New York City Department of Parks and Recreation Dan Falt, USACE Project POC (917)790-8614
<b>Agencies/Groups Involved in Restoration</b>	National Park Service – Gateway National Recreation Area New York City Department of Parks and Recreation New York State Department of Environmental Conservation US Fish and Wildlife Service National Marine Fisheries Service New York/New Jersey Harbor Estuary Program North American Waterfowl Management Plan US Environmental Protection Agency US Army Corps of Engineers
<b>Zoning</b>	Not zoned – park land.
<b>Surrounding Land Use</b>	Urban/industrial; residential; park land.
<b>Wetlands</b>	Yes. Mapped wetlands comprise the site and are primarily intertidal marsh.
<b>Existing Condition</b>	The aerial extent and habitat quality of the Jamaica Bay islands has declined in recent years. Over 2,000 acres of marsh land has disappeared from Jamaica Bay over the last century, with the annual rate of loss accelerating in recent years. Estimated annual losses were approximately 10-20 acres/yr between 1950 and 1990, and are now approximately 33-44 acres/yr (Hudson-Raritan Estuary Comprehensive Plan). Habitat quality has degraded due to dredge/fill activity, declining water quality, invasive species, and a variety of other factors. Certain projects (Elders Point East, Elders Point West) have been completed, and habitat quality is expected to improve as these restoration activities continue. The next sites to be restored include Yellow Bar Island, Black Wall, and Rulers Bar. These projects involve rebuilding the islands through beneficial re-use of dredged materials.
<b>Prior Condition</b>	Jamaica Bay was characterized by extensive aquatic and wetland habitats, as well as maritime forests and grasslands. These were interspersed with beach and dune complexes forming a mosaic of coastal habitats. Though historically abundant, the maritime forests, salt marshes, and grasslands have declined in both aerial extent and habitat quality.

<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers Jamaica Bay.
<b>Species of Concern Expected to Benefit From Project</b>	Migratory birds (shorebirds, raptors, waterfowl, and land birds) and long-legged wading birds (ibises, herons, and egrets). Wading bird species found in the Jamaica Bay area during a 2004 bird count include Black-Crowned Night Heron, Glossy Ibis, Great Egret, Snowy Egret, Cattle Egret, Light Blue Heron, Yellow-Crowned Night Heron, Green-Backed Heron, Yellow-crowned Heron, Tricolored Heron (Gelb, 2004).
<b>Staging Area</b>	Barges are required for transport of material as the sites are offshore islands. Some projects have involved pumping a slurry of material to the site; others have brought material in dry.
<b>Capacity(cy)</b>	Next sites for restoration are Yellow Bar, Black Wall, and Rulers Bar. Each project will require 200,000 – 250,000 cy, yielding a total capacity of 600,000-750,000 cy in the near future. Overall capacity is likely greater, as the suite of Jamaica Bay Marsh island projects potentially could create up to 150 acres of salt marsh through beneficial uses of dredged material.
<b>Additional Considerations</b>	National Park Service requires that dredged material must be clean, and 95% sand for these projects. The offshore nature of the islands presents challenges in getting material to the sites, and in staging/equipment use on site. There are no time of year restrictions on placing the material, but if material comes directly from dredging projects, then dredging windows would apply.



## Site 429 Jamaica Bay Islands Habitat Restoration Jamaica Bay, NY

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**Date:** August 3, 2010

**Direction:** Southwest

**Description:**

View of Elder's Point from mainland.



**Date:** August 3, 2010

**Direction:** West

**Description:**

View of marsh islands in Black Wall/Rulers Bar area.

## Site 429 Jamaica Bay Islands Habitat Restoration Jamaica Bay, NY

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**Date:** August 3, 2010

**Direction:** West

**Description:**

View of marsh islands showing recreational boating/land use.



**Date:** August 3, 2010

**Direction:** West

**Description:**

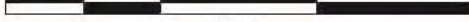

View of marsh islands near Elders Point showing ongoing restoration work (note orange fencing).



**Site 429**    **Jamaica Bay, NY**  
**Jamaica Bay Marsh Islands**

# Site 251 Manchester Landfill Manchester, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 8-18-10                  File: TO-0024_LIS_251-2.ai</p>

**Site 251 Manchester Landfill**  
**Manchester, CT**

<b>Site Address</b>	1 Landfill Way/236 Olcott St., Manchester, CT
<b>General Description</b>	Municipal landfill.
<b>Ownership/POC</b>	Town of Manchester Joe Lentini, Landfill Superintendent (860) 647-3234
<b>Zoning</b>	Industrial
<b>Surrounding Land Use</b>	Residential to the south and east; light industry to the southwest; open space to the north; Hokum River runs along west edge of site.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Types of Material Accepted</b>	Municipal solid waste, construction/demolition, recyclables.
<b>Acceptability of Dredged Material, and Type of Use</b>	Dredged material acceptable under Special Wastes program. Potential uses for dredged material include daily cover and capping. Can accept fine-grained dredged material for daily cover; fines could also be used for capping, but would likely need to be mixed on-site with loam to support vegetation.
<b>Tipping Fees</b>	\$83.00/ton for dredged material.
<b>Landfill Capacity and/or Design Years</b>	Total capacity of the site is 1.2 million cy. Active life expected through 2021 to 2025, depending on economic activity and waste generation rates in the region.
<b>Site Access</b>	Landfill Way
<b>Restrictions on Time of Day or Year</b>	Hours of operation Mon.-Sat. 7:15 to 14:30.
<b>Additional Considerations</b>	Dredged material would be handled under Special Waste program, which accepts septic waste, fines, etc. Special Waste program may allow disposal of contaminated dredged material, following application and acceptance of a Special Waste Disposal Authorization. At present daily volume is down due to sluggish economy, therefore planned closure date of 2021 could be extended to 2025.

## Site 251 Manchester Landfill Manchester, CT

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**Date:** July 14, 2010

**Direction:** North

**Description:**

Access road to active landfill area.



**Date:** July 14, 2010

**Direction:** Northeast

**Description:**

Active disposal area.

## Site 251 Manchester Landfill Manchester, CT

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**Date:** July 14, 2010

**Direction:** West

**Description:**

Active recycling area.



**Date:** July 14, 2010

**Direction:** South

**Description:**

View of recycling area from a high point on the site.



Parcel	MBL	Parcel	MBL
1	519000089	22	367000147
2	519000077	23	396000951
3	519000039	24	367000165
4	396000844	25	367000135
5	367000110	26	367000159
6	519000281	27	367000073
7	396000960	28	396000847
8	396000810	29	367000079
9	519000205	30	367000085
10	519000147R	31	367000119
11	519000053	32	367000151
12	519000057	33	367000055
13	367000010	34	367000061
14	396000972	35	367000067
15	430000325	36	367000125
16	519000155	37	367000131
17	519000271	38	367000155
18	519000011	39	367000175
19	519000151	40	430000180
20	396000864	41	430000250
21	367000049		



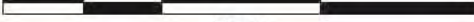

**Site 251    Manchester, CT**  
**Active Landfill**



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# Site 272 Windsor-Bloomfield Landfill Windsor, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2000</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google©2009              Image Date: October 1, 2006              Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)              Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 8-24-10              File: TO-0024_LIS_272-2.ai</p>
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**Site 272 Windsor-Bloomfield Landfill  
Windsor, CT**

<b>Site Address</b>	50 and 60 Huckleberry Rd., Windsor, CT.
<b>General Description</b>	Municipal landfill. Small facility that takes material from Windsor and Bloomfield, as well as businesses in surrounding area.
<b>Ownership/POC</b>	Town of Windsor Mark Goosens, Solid Waste Manager (860) 285-1832
<b>Zoning</b>	NZ Public and Quasi-public; AG Agricultural
<b>Surrounding Land Use</b>	Residential to the east; open space/public park land to the north; light industrial to the west (Combustion Engineering Co. in process of re-development at an old nuclear facility that has been remediated); Farmington River to the west.
<b>Wetlands</b>	Yes. Wetlands identified near northern edge of parcel, but not in landfill area.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat on the north side of the site, and at the northwest corner of the active landfill area.
<b>Types of Material Accepted</b>	Municipal solid waste, recyclables, bulky waste.
<b>Acceptability of Dredged Material, and Type of Use</b>	Dredged material may be acceptable. Dewatered material could potentially be used for final cover on closed areas. Landfill is set to close within a few years and will need final cover rich in organic matter for planting vegetative cover.
<b>Tipping Fees</b>	\$65/ton for construction/demolition (bulky waste). \$68/ton for municipal solid waste.
<b>Landfill Capacity and/or Design Years</b>	Rough estimate of requirement for final cover - 40,000 cy. Current total capacity estimated at approximately 160,000 cy. Landfill is set to close in 2013, though exact closure date depends on economic activity and amount of material placed at the site.
<b>Site Access</b>	Huckleberry Rd. Paved road with no restrictions to truck traffic. This road runs through a neighborhood but there are no restrictions and the solid waste manager reports no problems with homeowners.
<b>Restrictions on Time of Day or Year</b>	Hours of operation Mon.-Fri. 8:00 to 15:30. Not open holidays.
<b>Additional Considerations</b>	Material would need to go through chemical and physical testing to ensure it is clean and appropriate for final cover. Landfill will close some time during the next few years and will need final cover. If clean, dewatered material is available it may be appropriate as final cover. The post-closure plan is for a park. Once closed and capped, the landfill will connect with existing parkland on the adjacent parcel. Landfill has 'finger-like cells running perpendicular to general direction of active cells to create interesting topography. Closure date is 2012-2013, depending on the economy.

## Site 272 Windsor-Bloomfield Landfill Windsor, CT

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**Date:** July 28, 2010

**Direction:** West

**Description:**

Current use of site and active disposal area.



**Date:** July 28, 2010

**Direction:** South

**Description:**

View from access road. Active site in background; closed cell in foreground. When landfill closes, final cover will be applied and site will tie in with walking trail/recreation area adjacent to site.

## Site 272 Windsor-Bloomfield Landfill Windsor, CT

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**Date:** July 28, 2010

**Direction:** North

**Description:**

Edge of site. When closed, the landfill area will be vegetated, and will connect with open space on adjacent parcel. Walking trails may be constructed on site.

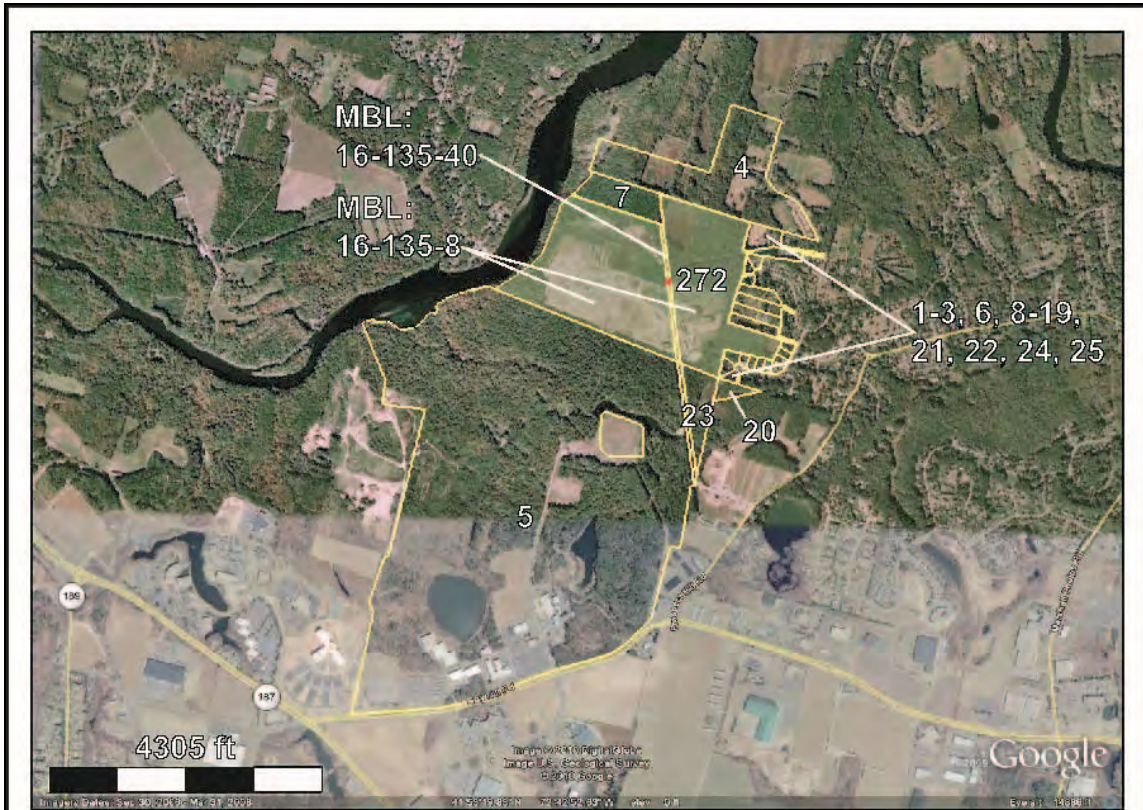


**Date:** July 28, 2010

**Direction:** East

**Description:**

Access road at top of site. Compost area at right.

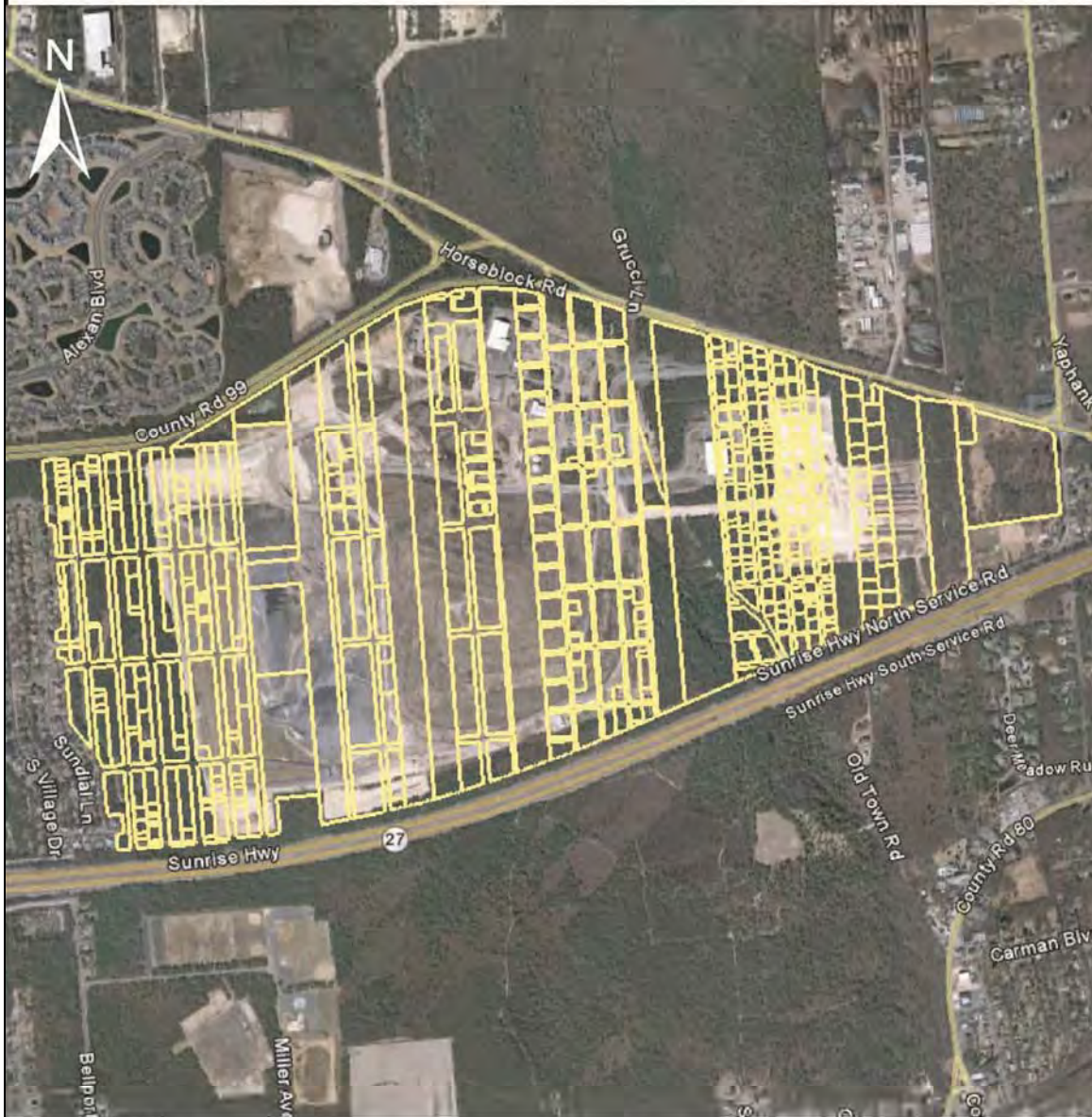


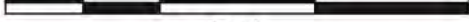

Parcel	MBL	Parcel	MBL
1	16-135-200	13	16-135-0
2	16-135-456	14	16-135-155
3	16-135-440	15	16-135-444
4	15-135-22	16	16-135-452
5	12-142-12	17	16-135-448
6	16-135-152	18	16-135-418
7	10-135-10	19	16-135-426
8	16-135-410	20	16-135-447
9	16-135-414	21	16-135-204
10	16-135-20	22	16-135-208
11	16-135-20	23	12-142-12
12	16-135-156	24	16-135-436
		25	16-135-212

**Site 272 Windsor, CT  
Active Landfill**

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# Site 61 Town of Brookhaven Landfill Brookhaven, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p style="text-align: center;">0 <span style="float: right;">3500</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: February 28, 2007              Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)              NYS Freshwater Wetlands (NYSDEC, 2010)              Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<div style="text-align: center;">  <p>US Army Corps of Engineers</p> </div> <p>Date: 8-17-10              File: TO-0024_LIS_61-2.ai</p>
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**Site 61 Brookhaven Landfill**  
**Brookhaven, NY**

<b>Site Address</b>	350 Horseblock Rd., Brookhaven, NY
<b>General Description</b>	Municipal landfill and recycling facility.
<b>Ownership/POC</b>	Town of Brookhaven Mike DesGaines, Lanfill/Recycling Facility Manager (631) 286-8551
<b>Zoning</b>	A1 Residential 1-family 40,000 sq ft
<b>Surrounding Land Use</b>	Residential to the west and south; light industrial to the south; open space to the north and south.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Types of Material Accepted</b>	Construction/demolition; municipal solid waste; organic waste including sludge from New York City; ash from incinerators in Hempstead.
<b>Acceptability of Dredged Material, and Type of Use</b>	Acceptable. Dredged material can be used as daily cover or for capping cells as they close; can accept fine-grained dredged material for daily cover; fines could also be used for capping, but would likely need to be mixed on-site with loam to support vegetation.
<b>Tipping Fees</b>	\$25.00/ton for dredged material. Landfill may also add a cubic yard option for pricing in future.
<b>Landfill Capacity and/or Design Years</b>	Operator didn't have exact numbers but capacity appears high. In 1986 a 56-acre expansion project was brought online. Current expansion includes cells on northern portion of site. These will tie in with northern edge of westernmost cell.
<b>Site Access</b>	Horseblock Rd., which is a paved road, currently provides access for trucks and heavy equipment.
<b>Restrictions on Time of Day or Year</b>	Hours of operation Mon.-Fri. 9:00 to 16:00; Sat. 7:00 to 12:00. Open year-round except holidays.
<b>Additional Considerations</b>	Site can accept most types of material, including dredged material with fines. It also accepts items such as boats, most types of C&D material, and large animal carcasses. Town of Brookhaven household trash is incinerated in Hempstead, and the ash is returned to the Brookhaven landfill.

**Site 61 Brookhaven Landfill**  
**Brookhaven, NY**

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Current use of site – fill area.



**Date:** July 13, 2010

**Direction:** East

**Description:**

New cells under construction.

## Site 61 Brookhaven Landfill Brookhaven, NY

---



**Date:** July 13, 2010

**Direction:** North

**Description:**

View from a high point on the site showing active disposal area and new cells.



**Date:** July 13, 2010

**Direction:** West

**Description:**

View from top of site. Landfill is one of the highest points on Long Island.



\*Parcel numbers on next page

**Site 61 Brookhaven, NY  
Town of Brookhaven Landfill**

Parcel	DSBL	Parcel	DSBL
1	0200845000100029001	61	0200873000500007000
2	0200845000200003001	62	0200873000500011000
3	0200845000200003002	63	0200873000500013000
4	0200845000200004000	64	0200873000500014000
5	0200845000200007000	65	0200874000100001000
6	0200845000200008000	66	0200874000100002000
7	0200845000300011001	67	0200874000100004000
8	0200845000400011000	68	0200874000200024000
9	0200845000400012000	69	0200874000200025000
10	0200845000400013000	70	0200874000200027000
11	0200845000700002000	71	0200874000200028000
12	0200845000700003000	72	0200874000200029000
13	0200846000200006000	73	0200874000200030000
14	0200846000200007000	74	0200874000200031000
15	0200846000200008000	75	0200874000200032000
16	0200846000200010000	76	0200874000200040000
17	0200873000100050001	77	0200874000200041000
18	0200873000100052000	78	0200874000200044000
19	0200873000100053000	79	0200874000300023001
20	0200873000100054000	80	0200874000300024001
21	0200873000100055000	81	0200874000300026001
22	0200873000100056000	82	0200874000300027000
23	0200873000100058000	83	0200874000300030000
24	0200873000100061001	84	0200874000300031000
25	0200873000100061009	85	0200874000300032000
26	0200873000100062000	86	0200874000300043001
27	0200873000100064000	87	0200874000300044001
28	0200873000200004000	88	0200874000300049000
29	0200873000200005000	89	0200874000400004000
30	0200873000200006000	90	0200874000400028001
31	0200873000200007000	91	0200874000400029001
32	0200873000200008000	92	0200874000400031002
33	0200873000200010001	93	0200874000400033001
34	0200873000200010002	94	0200874000400036000
35	0200873000200010003	95	0200874000400037001
36	0200873000200016000	96	0200874000400037002
37	0200873000200018000	97	0200874000400038002
38	0200873000200020000	98	0200874000400039000
39	0200873000200027000	99	0200874000400040001
40	0200873000200029000	100	0200874000400040002
41	0200873000200030000	101	0200874000400041000
42	0200873000200033000	102	0200874000500001000
43	0200873000300004000	103	0200874000500002000
44	0200873000300005000	104	0200874000500003000
45	0200873000300006000	105	0200874000500004000
46	0200873000300007000	106	0200874000500005000
47	0200873000300008000	107	0200874000500006000
48	0200873000300009000	108	0200874000500007000
49	0200873000300011000	109	0200874000500008000
50	0200873000300014000	110	0200875000100001000
51	0200873000300015000	111	0200875000100003001
52	0200873000300016000	112	0200875000100005001
53	0200873000300017000	113	0200875000100005002
54	0200873000300019000	114	0200875000100007001
55	0200873000400019000	115	0200875000100007002
56	0200873000500001000	116	0200875000100009000
57	0200873000500002000	117	0200875000100010000
58	0200873000500003000	118	0200875000100011000
59	0200873000500005000	119	0200875000100013000
60	0200873000500006000	120	0200875000100014000

**Site 61 Brookhaven, NY  
Town of Brookhaven Landfill**

Parcel	DSBL	Parcel	DSBL
121	0200875000100015001	181	0200875000200024000
122	0200875000100015003	182	0200875000200025000
123	0200875000100016000	183	0200875000200026000
124	0200875000100017001	184	0200875000200028002
125	0200875000100017002	185	0200875000200029001
126	0200875000100018000	186	0200875000200029002
127	0200875000100019000	187	0200875000200030001
128	0200875000100022001	188	0200875000200030002
129	0200875000100022002	189	0200875000200031001
130	0200875000100023000	190	0200875000200031002
131	0200875000100024000	191	0200875000200031003
132	0200875000100025001	192	0200875000200032000
133	0200875000100025002	193	0200875000200033000
134	0200875000100026000	194	0200875000200034000
135	0200875000100027001	195	0200875000200035000
136	0200875000100028000	196	0200875000200037001
137	0200875000100029000	197	0200875000200037002
138	0200875000100031000	198	0200875000200038000
139	0200875000100032002	199	0200875000200039000
140	0200875000100033000	200	0200875000200040002
141	0200875000100034000	201	0200875000200042000
142	0200875000100035002	202	0200875000200043001
143	0200875000100036001	203	0200875000200043002
144	0200875000100036002	204	0200875000200045002
145	0200875000100037002	205	0200875000300001000
146	0200875000100038002	206	0200875000300002001
147	0200875000100039001	207	0200875000300003001
148	0200875000100039002	208	0200875000300004001
149	0200875000100040000	209	0200875000300006001
150	0200875000100041001	210	0200875000300007001
151	0200875000100041002	211	0200875000300008001
152	0200875000100042001	212	0200875000300009001
153	0200875000100042002	213	0200875000300011001
154	0200875000100043000	214	0200875000300015001
155	0200875000100046000	215	0200875000300016001
156	0200875000100047000	216	0200875000300017001
157	0200875000200001001	217	0200875000300018001
158	0200875000200001002	218	0200875000300020001
159	0200875000200002000	219	0200875000300021001
160	0200875000200003001	220	0200875000300023001
161	0200875000200003002	221	0200875000300023002
162	0200875000200004000	222	0200875000300024000
163	0200875000200006000	223	0200875000300025000
164	0200875000200007002	224	0200875000500002000
165	0200875000200008000	225	0200875000500003000
166	0200875000200009000	226	0200900000200001001
167	0200875000200010001	227	0200900000200003002
168	0200875000200010002	228	0200900000200003003
169	0200875000200011000	229	0200900000200011003
170	0200875000200012001	230	0200900000200011004
171	0200875000200013001	231	0200900000200012000
172	0200875000200013002	232	0200900000200014000
173	0200875000200014000	233	0200900000200015000
174	0200875000200015000	234	0200900000200017000
175	0200875000200019000	235	0200900000200018000
176	0200875000200020001	236	0200900000200020000
177	0200875000200020002	237	0200900000200022002
178	0200875000200021001	238	0200900000200026002
179	0200875000200021002	239	0200900000300002000
180	0200875000200023000	240	0200900000300003000

**Site 61 Brookhaven, NY  
Town of Brookhaven Landfill**

Parcel	DSBL	Parcel	DSBL
241	0200900000300004000	301	0200901000200001000
242	0200900000300005000	302	0200901000200002000
243	0200900000300006000	303	0200901000200004000
244	0200900000300008000	304	0200901000200006000
245	0200900000300009000	305	0200901000200008000
246	0200900000300010000	306	0200901000200010000
247	0200900000300011000	307	0200901000200021001
248	0200900000300012000	308	0200901000200025001
249	0200900000300013000	309	0200901000200031001
250	0200900000300015000	310	0200901000200033000
251	0200900000300016000	311	0200901000200036001
252	0200900000300017000	312	0200901000200048002
253	0200900000300018000	313	0200901000200049000
254	0200900000300019000	314	0200901000200050000
255	0200900000300020000	315	0200901000200051000
256	0200900000300021000	316	0200901000200052000
257	0200900000300023000	317	0200901000200053001
258	0200900000300025000	318	0200901000200054000
259	0200900000300027000	319	0200901000200056000
260	0200900000400001000	320	0200901000200057001
261	0200900000400002000	321	0200901000200058001
262	0200900000400004000	322	0200901000200062000
263	0200900000400005000	323	0200901000200064000
264	0200900000400007000	324	0200902000100001000
265	0200900000400008000	325	0200902000100002000
266	0200900000400011000	326	0200902000100003000
267	0200900000400012000	327	0200902000100004000
268	0200900000400013000	328	0200902000100005000
269	0200900000400014000	329	0200902000100006000
270	0200900000400015000	330	0200902000100008000
271	0200900000400017000	331	0200902000100009000
272	0200900000400018000	332	0200902000100010001
273	0200900000400019000	333	0200902000100010002
274	0200900000400020000	334	0200902000100012000
275	0200900000400021000	335	0200902000100013001
276	0200900000400025000	336	0200902000100013002
277	0200900000400026000	337	0200902000100014000
278	0200900000400027000	338	0200902000100015000
279	0200900000400028000	339	0200902000100016000
280	0200900000400029000	340	0200902000100017001
281	0200900000400030000	341	0200902000100017002
282	0200900000400031000	342	0200902000100018000
283	0200900000400032000	343	0200902000100019000
284	0200900000400033000	344	0200902000100021001
285	0200900000400034000	345	0200902000100021002
286	0200900000400035000	346	0200902000100022000
287	0200900000500001000	347	0200902000100023000
288	0200900000500002000	348	0200902000500002001
289	0200900000500003001	349	0200902000500003000
290	0200900000500004000	350	0200930000600010000
291	0200900000500011000	351	0200930000600011000
292	0200900000500013001	352	0200930000600012000
293	0200901000100001000	353	0200930000600013000
294	0200901000100002000	354	0200930000600015000
295	0200901000100003000	355	0200930000600016000
296	0200901000100009000	356	0200930000600017000
297	02009010001000061000	357	0200930000600018000
298	02009010001000062000	358	0200845000200006000
299	02009010001000063000	359	0200845000200009000
300	02009010001000064000	360	0200845000400014000

**Site 61 Brookhaven, NY  
Town of Brookhaven Landfill**

Parcel	DSBL	Parcel	DSBL
361	0200845000400015000	421	0200874000400034000
362	0200873000100061008	422	0200874000400035000
363	0200873000200009000	423	0200875000100012001
364	0200873000300002000	424	0200875000100020000
365	0200873000400017000	425	0200875000100021000
366	0200873000500004000	426	0200875000100030000
367	0200873000500009000	427	0200875000100038001
368	0200874000200026000	428	0200875000200017002
369	0200874000200043000	429	0200875000300010001
370	0200874000300022001	430	0200875000300014001
371	0200874000300045000	431	0200875000300022001
372	0200874000300048000	432	0200875000500004000
373	0200874000400030001	433	0200900000200013000
374	0200875000100027002	434	0200900000300001000
375	0200875000100037001	435	0200900000300007000
376	0200875000100045000	436	0200900000300014000
377	0200875000200005000	437	0200900000300026000
378	0200875000200007001	438	0200900000400010000
379	0200875000200028001	439	0200900000400022000
380	0200875000200040001	440	0200900000500010000
381	0200875000300012001	441	0200901000100005000
382	0200900000200016000	442	0200901000100006000
383	0200900000400006000	443	0200901000200039001
384	0200900000400024000	444	0200901000200061000
385	0200902000100007000	445	0200901000200065000
386	0200902000100020000	446	0200902000500001001
387	0200930000600014000	447	0200845000300031001
388	0200845000700001000	448	0200873000100063000
389	0200873000100057000	449	0200873000200011000
390	0200873000300003000	450	0200873000200017000
391	0200873000300010000	451	0200873000200028000
392	0200873000500010000	452	0200873000500012000
393	0200874000100003000	453	0200874000400014000
394	0200874000400015001	454	0200874000400019001
395	0200874000400024001	455	0200874000400031003
396	0200875000100004000	456	0200874000400038001
397	0200875000100015002	457	0200875000100002000
398	0200875000100032001	458	0200875000100003002
399	0200875000200018001	459	0200875000100006000
400	0200875000200022000	460	0200875000100008000
401	0200875000200045001	461	0200875000100012002
402	0200875000300005001	462	0200875000100035001
403	0200875000300013001	463	0200875000100044000
404	0200900000200019000	464	0200875000200012002
405	0200900000300024000	465	0200875000200017001
406	0200900000400003000	466	0200875000200018002
407	0200900000400023000	467	0200875000200027000
408	0200901000100007000	468	0200875000200036000
409	0200901000100008000	469	0200875000200041000
410	0200901000200007000	470	0200875000200044000
411	0200901000200032000	471	0200875000300019001
412	0200901000200048003	472	0200900000300022000
413	0200901000200055000	473	0200900000400009000
414	0200902000100011000	474	0200900000400016000
415	0200846000200009000	475	0200901000100004000
416	0200873000200015000	476	0200901000200024001
417	0200873000200019000	477	0200901000200063000
418	0200873000400016000	478	02008730001000097000
419	0200874000200023000	479	02008730001000099000
420	0200874000300047001	480	0200900000200027000

**Site 61****Brookhaven, NY****Town of Brookhaven Landfill**



Parcel	DSBL	Parcel	DSBL
481	0200900000200028000	541	0200931000200054000
482	0200900000200030000	542	0200931000200055000
483	0200900000200031000	543	0200931000300001000
484	0200900000200032000	544	0200931000300059001
485	0200900000200033000	545	0200974000200002000
486	0200900000200036000	546	0200902000300009000
487	0200900000200037000	547	0200902000200022002
488	0200900000200039000	548	0200902000200022003
489	0200873000100094000	549	0200901000300023000
490	0200873000100095000	550	0200902000300011001
491	0200873000100096000	551	0200930000500009000
492	0200900000200040000	552	0200902000400029001
493	0200900000200041000	553	0200930000300028000
494	0200900000200043000	554	0200930000300051000
495	0200900000200044000	555	0200931000200050004
496	0200900000200045005	556	0200815000100006003
497	0200900000200045006	557	0200844000300022010
498	0200900000200047000	558	0200845000500001000
499	0200900000200048000	559	0200845000600002001
500	0200900000200049000	560	0200845000600003000
501	0200930000100020000	561	0200845000600007000
502	0200900000200038000	562	0200846000300003001
503	0200900000200046000	563	0200846000300004000
504	0200900000200045004	564	0200846000300005000
505	0200900000200034000	565	020084600040002002
506	0200900000200035000	566	0200873000100028003
507	0200900000200042000	567	0200873000100070002
508	0200873000100098000	568	0200873000100091000
509	0200900000200029000	569	0200873000100092000
510	0200873000100051000	570	0200873000100093000
511	0200900000200002000	571	0200875000400001000
512	0200901000300001001	572	0200875000500001000
513	0200901000300003000	573	0200875000500005000
514	0200901000300004000	574	0200875000500009000
515	0200901000300012000	575	0200875000500011000
516	0200901000300013001	576	0200875000500012000
517	0200901000300020001	577	0200875000500013000
518	0200901000400001000	578	0200875000500015000
519	0200902000200004002	579	0200875000500016001
520	0200902000200019000	580	0200875000500017000
521	0200902000200022001	581	0200903000100002000
522	0200902000200023000	582	0200875000500014000
523	0200902000300001001	583	0200873000100068000
524	0200902000300001002	584	0200815000100004005
525	0200902000300010000	585	0200845000600006001
526	0200902000300012000	586	0200875000500010000
527	0200902000300013000	587	0200903000100001000
528	0200902000300025000	588	0200875000400005000
529	0200902000400028002	589	0200875000400013003
530	0200902000400030007	590	0200845000800001000
531	0200902000400030008	591	0200846000500023001
532	0200930000300063002	592	0200900000100112000
533	0200930000400001000	593	0200900000100113000
534	0200930000400010000	594	0200900000100114000
535	0200930000400011000	595	0200902000300002000
536	0200930000400020000		
537	0200930000500001000		
538	0200930000500010000		
539	0200931000100001004		
540	0200931000200049000		

**Site 61 Brookhaven, NY  
Town of Brookhaven Landfill**

# Site 60 Bydenburgh Rd. Landfill Complex, Clean Fill Phase 1 & 2 Islip, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Dredged Spoil
	Formerly Connected Tidal Wetlands
Mapped Habitat	
	Fresh Marsh
	High Marsh
	Interoceanic Marsh
	Coastal Shoals, Bars and Mudflats
	Federal/State Listed Species Habitat
	*(Covers Entire Site)

0 2500  
Feet

Image Source: Google © 2009  
 Image Date: February 28, 2007  
 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)  
 NYS Freshwater Wetlands (NYSDEC, 2010)  
 Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities



US Army Corps of Engineers

Date: 8-24-10  
 File: TO-0024\_LIS\_60-2.ai

**Site 60 Town of Islip Landfill**  
**Islip, NY**

<b>Site Address</b>	440 Blydenbergh Rd., Islip, NY
<b>General Description</b>	Municipal landfill.
<b>Ownership/POC</b>	Town of Islip, Islip Resource Recovery Agency Robby Brick, Director (631) 224-5645
<b>Zoning</b>	R-AAA Residence AAA
<b>Surrounding Land Use</b>	Residential to the north, west, and south; agricultural/horse farm to the west; golf course to the east.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Types of Material Accepted</b>	Clean fill and construction/demolition material.
<b>Acceptability of Dredged Material, and Type of Use</b>	Not likely. Islip has had trouble with dredged material in the past and is not likely to accept it in the future.
<b>Tipping Fees</b>	\$45.00/ton for dredged material.
<b>Landfill Capacity and/or Design Years</b>	600,000-700,000 cy capacity. Active life expected to go through 2015 or 2016.
<b>Site Access</b>	Blydenburgh Rd.
<b>Restrictions on Time of Day or Year</b>	Hours of operation Mon.-Fri. 7:00 to 14:45; Sat. 7:00 to 12:45; year-round. Not open holidays.
<b>Additional Considerations</b>	Prior problems with dredged material included contractors switching loads and bringing unacceptable material to the site. Landfill managers indicate dredged material would not be a good fit for this site. Total landfill volume is 4,500,000 cy. Operators expect 5 ½ years to reach capacity. The largest parcel on the site is the municipal solid waste cell, which is already closed and capped.

## Site 60 Town of Islip Landfill Islip, NY

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**Date:** July 13, 2010

**Direction:** North

**Description:**

Site entrance.



**Date:** July 13, 2010

**Direction:** Northeast

**Description:**

Active disposal area near top of site.

**Site 60 Town of Islip Landfill  
Islip, NY**

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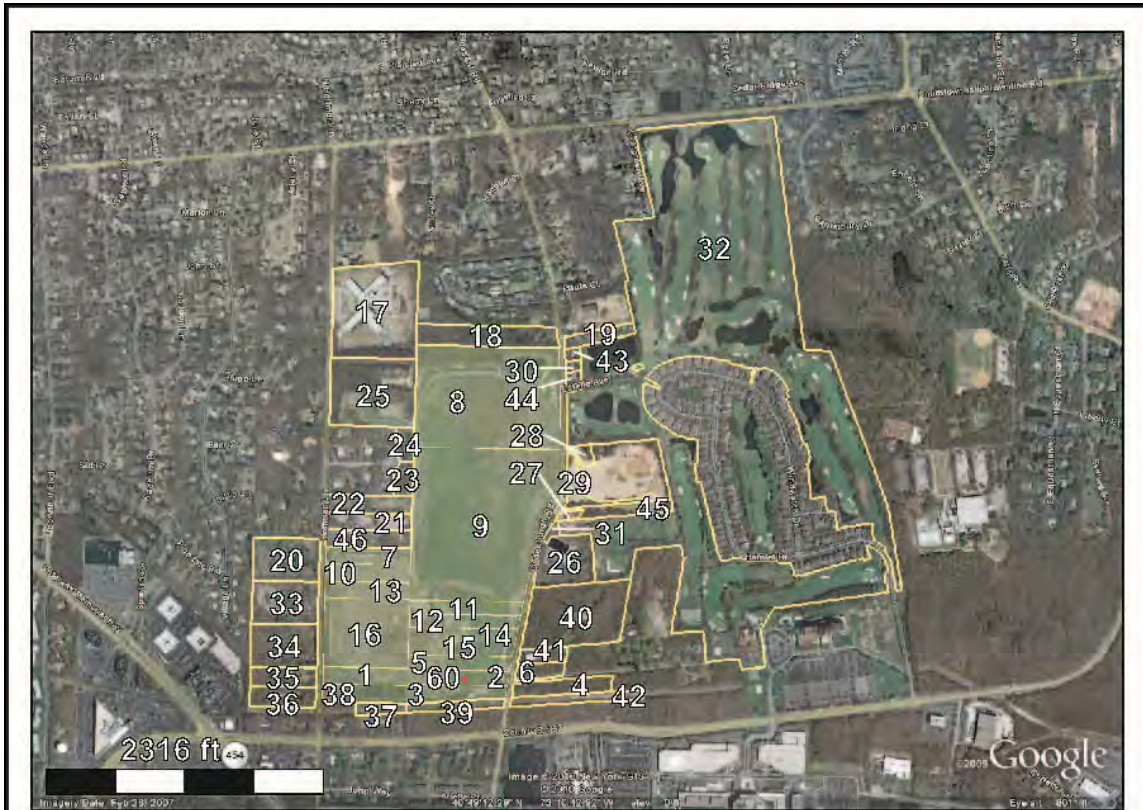


**Date:** July 13, 2010

**Direction:** North

**Description:**

Active disposal area near top of site.





Parcel	DSBL	Parcel	DSBL
1	0500027000100023000	24	0500016000100013006
2	0500027000200006000	25	0500016000100016001
3	0500027000200007000	26	0500016000200005002
4	0500027000200020000	27	0500016000200007000
5	0500027000200005000	28	0500016000200010001
6	0500027000200030000	29	0500016000200010010
7	0500016000100009000	30	0500016000200012000
8	0500016000200003001	31	0500016000200015000
9	0500016000200004000	32	0500017000100001116
10	0500027000100026000	33	0500027000100001000
11	0500027000200001000	34	0500027000100002000
12	0500027000200002000	35	0500027000100003000
13	0500027000100025000	36	0500027000100004000
14	0500027000200003000	37	0500027000100021000
15	0500027000200004000	38	0500027000100022000
16	0500027000100024000	39	0500027000200008000
17	0500005000200010000	40	0500027000200017000
18	0500005000200024000	41	0500027000200018000
19	0500005000300016000	42	0500027000200021000
20	0500016000100008000	43	0500016000200014000
21	0500016000100011000	44	0500016000200011000
22	0500016000100012000	45	0500016000200006002
23	0500016000100013005	46	0500016000100010000

**Site 60 Islip, NY**  
**Blydenburgh Rd. Landfill Complex**  
**Clean Fill Phase 1 + 2**

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# Site 59 110 Sand Company Clean Fill Disposal Site Melville, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A08060; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-17-10                  File: TO-0024_LIS_59-2.ai</p>



**Site 59 110 Sand Clean Fill Disposal Site**  
**Melville, NY**

<b>Site Address</b>	136 Bethpage/Spagnolli Rd., Melville, NY
<b>General Description</b>	Privately owned sand mine and disposal site. Part of the site is also currently used for asphalt manufacture, but the majority of the site is a disposal area.
<b>Ownership/POC</b>	110 Sand Co. James Debis, PE (631) 694-2822
<b>Zoning</b>	I1, I2 Light Industry; R40 Residence
<b>Surrounding Land Use</b>	Light industrial; park/open space to the north; residential (Broad Hill Hollow Estates) to the west.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Types of Material Accepted</b>	Construction/demolition; municipal solid waste; organic waste.
<b>Acceptability of Dredged Material, and Type of Use</b>	Acceptable, but easier if it is a freshwater source. Dredged material can be used as daily cover or fill; can use fine-grained dredged material for cover and fill.
<b>Tipping Fees</b>	\$25.00/ton for dredged material.
<b>Landfill Capacity and/or Design Years</b>	Permitted for up to 6,000 tons/day or 2 million tons/yr. Current volume is lower due to economic slowdown. Expected design life of site is for 40 years through 2050.
<b>Site Access</b>	Spagnolli Rd. This is a paved road with no limitations to truck and heavy equipment access.
<b>Restrictions on Time of Day or Year</b>	Hours of operation Mon.-Sat., 7:00 to 16:30.
<b>Additional Considerations</b>	This site was originally a sand mine, and now the excavated areas are being filled. Landfill can accept various types of material including electrical conduit and all kinds of C&D material. Tipping fees are generally lower than municipal landfills in the area. The landfill has a great deal of capacity and flexibility to accept dredged material as daily cover or fill.

**Site 59 110 Sand Clean Fill Disposal Site  
Melville, NY**

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Current use of site – fill area.



**Date:** July 13, 2010

**Direction:** East

**Description:**

Access road. Sand piles shown in foreground.

**Site 59 110 Sand Clean Fill Disposal Site  
Melville, NY**

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**Date:** July 13, 2010

**Direction:** North

**Description:**

Active disposal area on site.

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Area to be filled in future. New cells will be built adjacent to previously filled areas shown on right side of photo.




Parcel	DSBL	Parcel	DSBL
1	0400254000200045000	13	0400265000100010012
2	0400265000100004000	14	0400265000100011007
3	0400265000100005000	15	0400265000100012000
4	0400265000100006010	16	0400265010100070000
5	0400265000100006011	17	0400266000100002004
6	0400265000100007000	18	0400265000100006003
7	0400265000100009006	19	0400254000200046008
8	0400265000100010002	20	0400265000100009003
9	0400265000100010004	21	0400265000100011009
10	0400265000100010006	22	0400265000100011011
11	0400265000100010009	23	0400265000100010011
12	0400265000100010010		

**Site 59 Melville, NY**  
**110 Sand Company**  
**Clean Fill Disposal Site**

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# Site 422/423 Flushing Airport Wetlands and Uplands Flushing, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #DDA0DD; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #D2B48C; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #D2691E; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8FBC8F; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFDAB9; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="display: inline-block; width: 100%; border-bottom: 1px dashed black;"></span> </span> 2000</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;"><b>US Army Corps of Engineers</b></p>
<p>Image Source: Google©2009 Image Date: June 18, 2010 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010) Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-24-10 File: TO-0024_LIS_422&amp;423-2.ai</p>	

**Site 422 & 423 Flushing Airport Wetlands and Uplands  
Flushing, NY**

<b>Site Address</b>	20 <sup>th</sup> Ave and 132 <sup>nd</sup> St. Queens, NY
<b>General Site Description</b>	Site was formerly an airport (from 1920's to 1980s) under the DOT marine and aviation division. Now the site is in remediation/redevelopment under the New York City Economic Development Corporation.
<b>Ownership/Developer POC</b>	New York City Economic Development Corporation Doug Rice, Vice President (212) 312-3750
<b>Development Project</b>	The project was originally designed as a 1.3 acre wetland mitigation project, intended to mitigate for wetland impacts on a nearby parcel developed by the City. It has grown into a much larger project involving removal of <i>Phragmites</i> , removal of contaminated sediment on the site, capping with 2 ft of clean fill over the entire site, and reconstructing the wetland hydrology and vegetation. Five years after the redevelopment project is completed, the New York City Parks Department will take over site management. The Parks Department would like to have increased public access on the site, but specific plans have not been formulated. At present a new road is being constructed through the site, in part to provide access for equipment during development, and in part to provide another roadway to this highly congested industrial, commercial, and retail area.
<b>Zoning</b>	M2-1 Medium manufacturing medium performance, mainly in older manufacturing areas.
<b>Surrounding Land Use</b>	College Point Sports Association Complex to the west; industrial, commercial/retail including a New York Times building and US Postal Service facility to east. The Flushing airport parcel receives runoff from parcels to the east.
<b>Wetlands</b>	Yes. Mapped wetlands throughout the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Staging Area</b>	Potential staging area at the south end of the site, near the southern end of a new road that runs along on the west side of the wetland. For the upland area, a staging area could be set up in the northwestern corner. This area is flat and cleared of trees, and has been used as a storage/staging area in the past.
<b>Capacity and Intended Use for Dredged Material</b>	Approximately 140,000 cy for the wetland area. Material is needed to cover the area with 2 ft of clean fill. The 24.5 acre upland area may also be covered with clean fill if funding becomes available.
<b>Timetable for Redevelopment</b>	Uncertain. Depends on project funding.

<b>Land Access</b>	Unpaved access road at 20 <sup>th</sup> Ave and 132 <sup>nd</sup> St. Currently, access is blocked by a locked gate. The new road will run through the site along the west side of the wetland. When complete it will connect with existing roads outside the site. It is hoped that the new road will help to relieve heavy congestion on local roads. The project plan includes a proposed maintenance access road on the northwest side of the site, entering from 20 <sup>th</sup> Ave just above the wetland. Railroad runs adjacent to the site on the southern corner.
<b>Limitations to Truck or Heavy Equipment Use</b>	Roads are heavily congested in this area so trucking to the site could be difficult. However, no access by water is available so this may be the only option.
<b>Water Access</b>	No direct water access. Nearest point for barge access is approximately 1.5 miles to the west at the Flushing Bay Municipal Transfer Station. Material could be offloaded to trucks here, and this would likely be more cost-effective than trucking material from more distant areas.
<b>Additional Considerations</b>	Material must meet TAGM 4046 criteria*. Testing and acceptance procedures for the site were developed in coordination with NY DEC. In the past, project engineers had considered pumping a slurry of material to the site through a pipeline that could run to the wetland from the Flushing Bay Transfer Station. Subsequently, this was determined infeasible. Project timeframe depends on funding and is uncertain at this point. The site is located in a FEMA AE-Zone.

\*The TAGM (Technical and Administrative Guidance Memorandum) from the New York Department of Environmental Conservation provides guidance for determining soil cleanup levels at contaminated sites, when cleanup of a site to predisposal conditions is not possible or feasible. TAGM 4046 criteria have developed for a variety of contaminants. Details on specific contaminants can be found at <http://www.dec.ny.gov/regulations/2612.html>



## Site 422 & 423 Flushing Airport Redevelopment Flushing, NY

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**Date:** August 4, 2010

**Direction:** North

**Description:**

Flushing airport wetlands remediation site. Wetland at right; photo taken from site entrance where a new road is being constructed.



**Date:** August 4, 2010

**Direction:** East

**Description:**

Wetland area viewed from new road.

## Site 422 & 423 Flushing Airport Redevelopment Flushing, NY

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**Date:** August 16, 2010

**Direction:** East

**Description:**

*Phragmites* occur throughout much of the wetland area. The redevelopment plan includes removal of all plants and rhizomes, and re-planting with desired species.



**Date:** August 4, 2010

**Direction:** East

**Description:**

Upland area of site. This area could be used for staging or storing material prior to use.




Parcel	BBL	Parcel	BBL
1	Queens 4178 1	25	Queens 4306 19
2	Queens 4179 1	26	Queens 4305 1
3	Queens 4180 1	27	Queens 4278 1
4	Queens 4181 26	28	Queens 4278 17
5	Queens 4181 1	29	Queens 4278 34
6	Queens 4181 33	30	Queens 4278 36
7	Queens 4182 1	31	Queens 4278 19
8	Queens 4183 1	32	Queens 4238 1
9	Queens 4243 1	33	Queens 4238 33
10	Queens 4242 1	34	Queens 4209 1
11	Queens 4213 13	35	Queens 4208 1
12	Queens 4213 1	36	Queens 4237 1
13	Queens 4212 1	37	Queens 4277 1
14	Queens 4211 1	38	Queens 4304 1
15	Queens 4210 1	39	Queens 4334 50
16	Queens 4239 1	40	Queens 4282 100
17	Queens 4240 1	41	Queens 4331 1
18	Queens 4241 1	42	Queens 4183 75
19	Queens 4280 1	43	Queens 4177 1
20	Queens 4278 60	44	Queens 4207 16
21	Queens 4306 20	45	Queens 4138 1
22	Queens 4306 1	46	Queens 4138 50
23	Queens 4282 75	47	Queens 4143 60
24	Queens 4282 50	48	Queens 4145 1

**Site 422/423 Flushing, NY**  
**Flushing Wetlands & Uplands**

# Site 437 Plum Island Southold, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #9ACD32; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> </ul>	<p>0 <span style="display: inline-block; width: 150px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 15px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 25px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 45px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 55px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 75px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 85px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> </span> 6000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_437-2.ai</p>

### Site 437 Plum Island Southold, NY

<b>Site Address</b>	Island off the northeast coast of Long Island. Plum Island is officially a part of the Town of Southold.
<b>General Site Description</b>	Plum Island is a small island east of Orient Point on Long Island. The island houses the Plum Island Animal Disease Center, which was established in 1954 by the US Department of Agriculture (USDA). The center conducts research on animal pathogens in order to protect farmers, ranchers, and the food supply. USDA also operates the Agricultural Research Service and the Plant Health Inspection Service on the island. In 2003 the Department of Homeland Security (DHS) took ownership of the island and facilities, but USDA researchers continue work on the island.
<b>Ownership/Developer POC</b>	Department of Homeland Security/General Services Administration Tom Dwyer, Environmental Protection Specialist (631) 323-3045
<b>Development Project</b>	DHS and the General Services Administration (GSA) are investigating options for moving the Plum Island research center to Kansas, and selling the island to private entities. Public Law 110-329 Section 540 of the Consolidated Security, Disaster Assistance and Continuing Appropriations Act of 2009 instructed the GSA to sell all real and related personal property and assets that support Plum Island if the DHS decided that a new bio-contaminant laboratory should be developed and located at another site.  In 2009, DHS made a decision to develop and locate the new facility, the National Bio and Agro-Defense Facility (NBAF), in Manhattan, Kansas. However, this proposal and associated redevelopment plans for Plum Island have not been finalized. A No-Action alternative is still an option, along with various land use and zoning options for Plum Island if it is sold for redevelopment. Public Scoping meetings have been held, and an Environmental Impact Statement is being developed for the Island, as alternatives are being developed.  Because a redevelopment plan is not currently in place, this analysis deals only with beach nourishment as an option for placement of dredged material. There is a beach/berm area on the south side of the island that has been nourished in the past with material from maintenance dredging in the harbor. This beach area could potentially take more material than it presently receives.
<b>Zoning</b>	Not currently subject to local zoning regulations. Zoning and land use options would be considered if the island is sold.
<b>Surrounding Land Use</b>	Island; no abutters.
<b>Wetlands</b>	Yes. Mapped wetlands along the southwestern shoreline. Unmapped inland wetlands noted in the southeast corner of the island during site visit.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat on southwest end of island, and in a small area in the middle/northern section. Piping Plovers observed at Pine Point on the south corner of the island during site visits.

<b>Staging Area</b>	Staging areas exist near the port area. Others could be constructed on site.
<b>Capacity and Intended Use for Dredged Material</b>	41,600 cy. Capacity estimate was based on a 2,900 ft long beach nourishment project with a 100 ft wide berm, as there is no redevelopment plan in place.
<b>Timetable for Redevelopment</b>	Uncertain; this will depend on final decisions regarding the development of the NBAF in Kansas, and subsequent options for sale and redevelopment of Plum Island.
<b>Land Access</b>	Access to the beach nourishment site is via sand road located behind the dunes.
<b>Limitations to Truck or Heavy Equipment Use</b>	Much of the island has only narrow, sand roads. New roads may be required if the island is redeveloped. Beach nourishment has occurred in the past, and equipment and trucks are able to access the nourishment area via unpaved road behind the dunes.
<b>Water Access</b>	Access for barges and ferries at the main harbor near Plum Gut. The harbor has a sheet pile bulkhead, docks, and pilings where barges could be tied up. No restrictions on transferring material to shore at the harbor area.
<b>Additional Considerations</b>	At present DHS staff do not see an imminent change in operations at Plum Island, and no specific re-development plans have been made. Therefore dredged material placement in support of redevelopment is not being considered for this project. However, current use of dredged material on the island includes beach and berm nourishment at the southeastern edge of the island. When the channel and port area are dredged for navigation purposes, dredged material is used to build the berm along the sand road leading from the harbor to Pine Point (the southern tip of the Island). Therefore capacity calculations have been performed for the purposes of nourishment in this area.  Endangered species (Piping Plovers, Terns) occur at Pine Point. Wetlands present on the island. Cultural resources are present on the island. The site contains FEMA VE-Zones and AE-Zones.

## Site 437 Plum Island Southold, NY

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**Date:** July 28, 2010

**Direction:** North

**Description:**

Current beach nourishment area viewed from Pine Point. Vegetated berm is being built up to provide protection for a sand road that runs from the harbor to Pine Point



**Date:** July 28, 2010

**Direction:** North

**Description:**

Sand road behind berm that runs from the harbor to Pine Point.

**Site 437 Plum Island  
Southold, NY**

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**Date:** July 28, 2010

**Direction:** South

**Description:**

View of Pine Point from road in back of berm at nourishment area.



**Date:** July 28, 2010

**Direction:** West

**Description:**

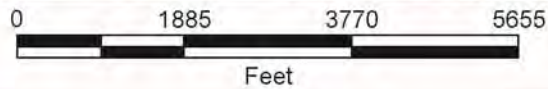
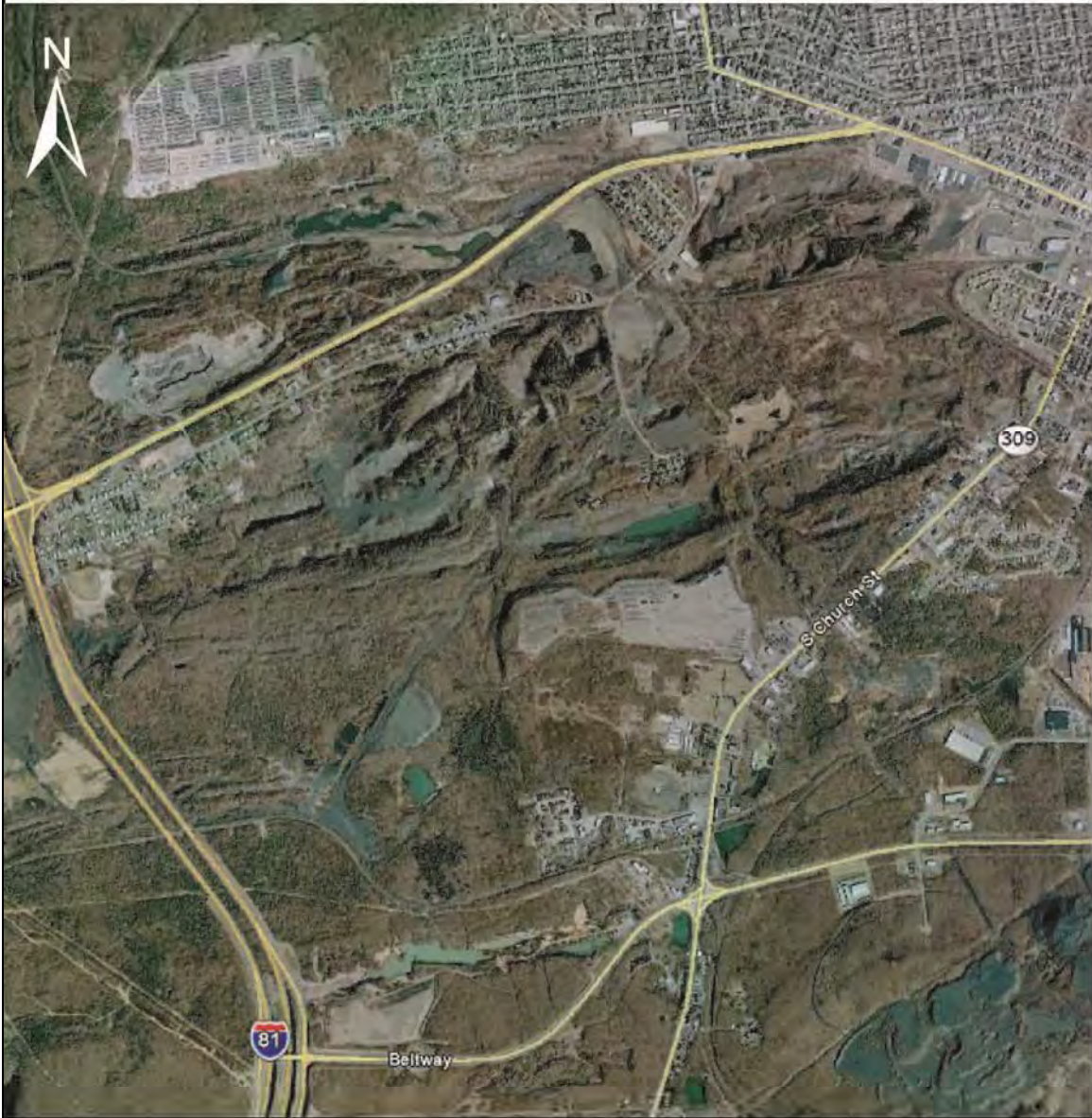
Pine Point area with Piping Plover enclosures.





**Site 437     Southold, NY  
Plum Island**

# Site 417 Hazelton Mines Hazelton, PA



US Army Corps  
of Engineers

Image Source: Google © 2009  
Image Date: April 1, 2005




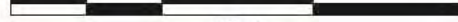

Date: 8-27-10  
File: TO-0024\_LIS\_417.ai

**Site 417 Hazelton Mines****Hazelton, PA**

<b>Site Address</b>	Site bounded by Routes 924, 309, and Broad St. Project developer address is 282 South Church St., Hazelton, PA
<b>General Site Description</b>	277 acre abandoned mine site southwest of downtown Hazelton that contains deep mine pits and spoil piles. Approx. 50 acres of the site was used previously for disposal of industrial and municipal waste. Extensive underground mining occurred throughout the area, and the mines are currently filled with water. Water discharges through a mine tunnel into a stream that feeds the Susquehanna River.
<b>Ownership/Developer POC</b>	Hazelton Creek Properties, LLC Anthony Mazonkey, Project Manager (570) 714-2467
<b>Development Project</b>	Reclamation plan seeks to fill mine pits and redevelop area close to downtown Hazelton with the Hazelton Performing Arts Center and shopping facilities. Currently the project is permitted by PA DEP (O-85 and O-96) to receive dredge material, cement kiln dust and regulated fill (construction waste), and is currently in active operations. The proponent is currently seeking permits to receive FDG (flue gas desulfurization) material. The reclamation project has received 700,000 cubic yards of dredge material from the USACE Philadelphia District (Fort Mifflin) in the past. Hazelton Creek Properties has a contract to purchase all land from the Hazelton City Authority.
<b>Zoning</b>	n/a
<b>Surrounding Land Use</b>	Industrial, Commercial/Residential (downtown area), and open space, including other abandoned mines.
<b>Wetlands</b>	Yes. Wetlands located on the western portion of site.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Staging Area</b>	Staging areas exist or could be constructed. Many mine spoil piles have been graded, creating large flat areas.
<b>Capacity and Intended Use for Dredged Material</b>	15 million cubic yards.
<b>Timetable for Redevelopment</b>	None projected. Developer estimates currently at 10% completion.
<b>Land Access</b>	Railroad access on site, capacity for 50 cars on rail spur. Also highway access via I-80 and I-81.
<b>Limitations to Truck or Heavy Equipment Use</b>	Heavy equipment currently in use at site.
<b>Water Access</b>	None.
<b>Additional Considerations</b>	Project faces community opposition. Public Interest Law Center of Philadelphia has challenged PA DEP's special research and development permit for the project. Their appeal is concerned with contaminants in fill, but focuses on potential contaminants in FDG. The permit to receive dredge material is not being contested. Tipping fees are charged for material disposal; rates depend on quantity and presence of contamination.

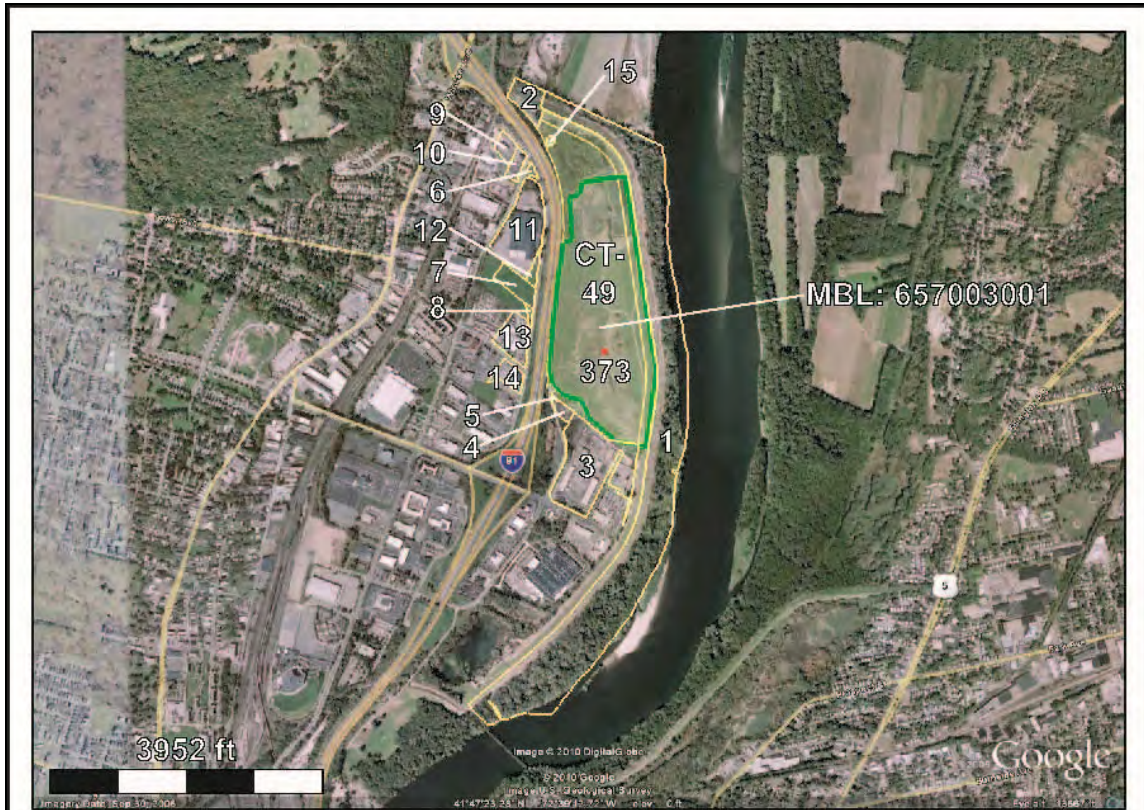
# Site 373/CT-49 CRRA Hartford Landfill Hartford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Dewatering Site</p>	<p>0  2500  <b>Feet</b></p> <p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>                  US Army Corps of Engineers</p> <p>Date: 8-18-10                  File: TO-0024_LIS_373_CT-49-2.ai</p>
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**Site 373 & CT-49 Hartford Landfill**  
**Hartford, CT**

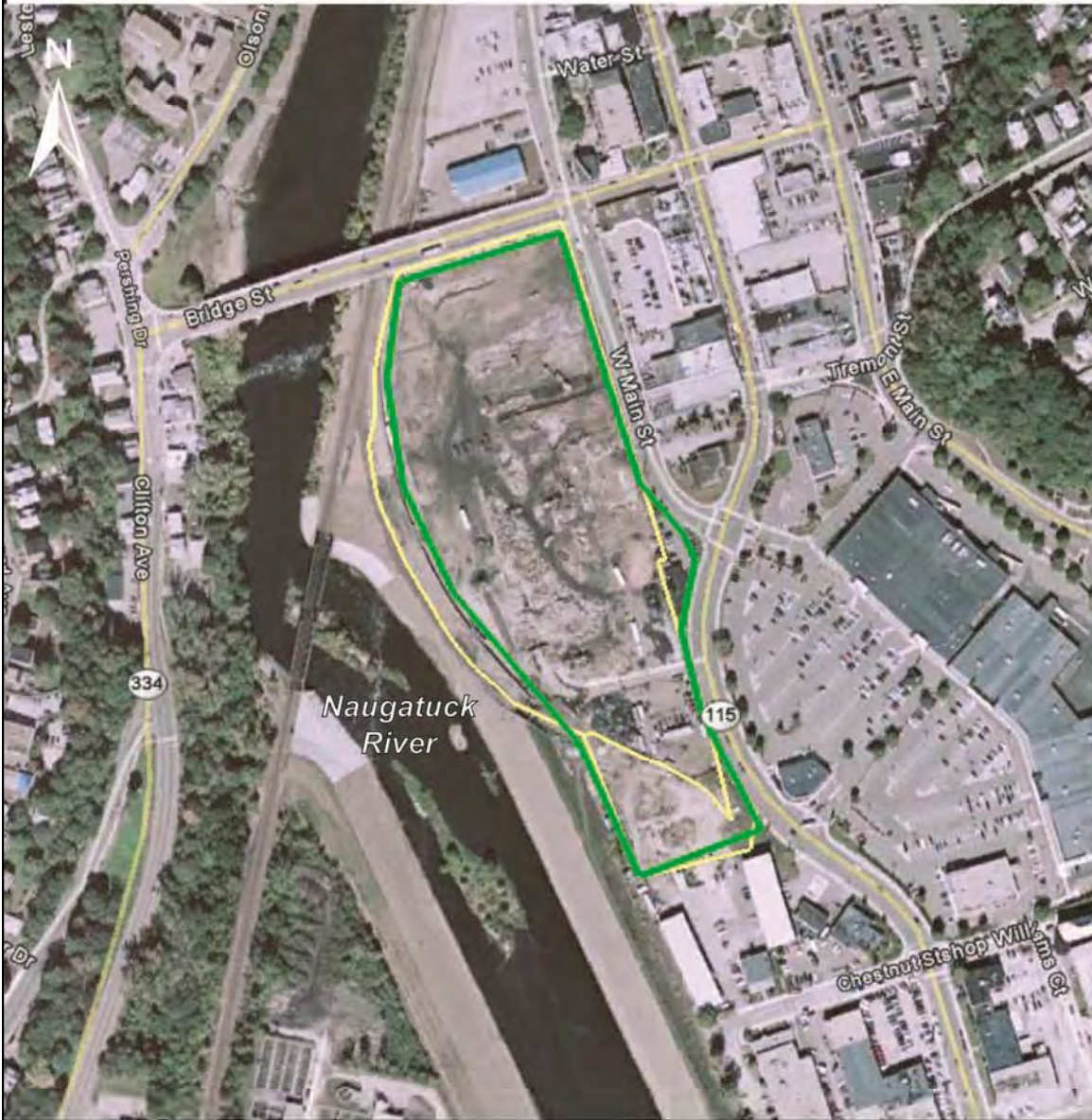
<b>Site Address</b>	284 Liebert Rd. Hartford, CT
<b>General Description</b>	Municipal landfill and recycling facility.
<b>Ownership/POC</b>	CT Resource Recovery Authority (CRRRA) Peter Egan, Director (860) 757-7725
<b>Zoning</b>	I1 Industrial
<b>Surrounding Land Use</b>	Industrial to the south and west; I-91 to the west; Connecticut River to the east.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of site.
<b>Types of Material Accepted</b>	Only final cover material is being accepted presently; landfill is closed and final capping is underway.
<b>Acceptability of Dredged Material, and Type of Use</b>	Not acceptable. CRRRA director indicates this landfill is closed and will not accept dredged material.
<b>Tipping Fees</b>	n/a
<b>Landfill Capacity and/or Design Years</b>	None. Landfill closed, capping is underway, and not accepting dredged material.
<b>Site Access</b>	Liebert Rd.
<b>Restrictions on Time of Day or Year</b>	n/a
<b>Additional Considerations</b>	CRRRA director noted that the landfill is set for final closure in 2012. Also indicated that the landfill would not accept dredged material for capping or dewatering, as it would not be a 'good fit' for the site. The director did not grant site access, noting that neither he, nor his staff, have time to accommodate a site visit request. Therefore no photos were obtained for this site. Site "Not Feasible" for dewatering.



Parcel	MBL
1	653005001
2	658007003
3	655005004
4	655005002
5	655005001
6	658001001
7	657002005
8	657002004
9	658001015
10	658001014
11	657002007
12	657002006
13	657002003
14	657001001
15	658000200

**Site 373/CT-49 Hartford, CT  
Active Landfill and  
Potential Dewatering Site**

# Site CT-41 Ansonia, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li> Federal/State Listed Species Habitat</li> <li> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">1000</span></p> <p style="text-align: center;">Feet</p>	<p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google© 2009                  Image Date: September 30, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-19-10                  File: TO-0024_LIS_CT-41-2.ai</p>

# Site CT-41 Ansonia, CT



Legend	
Mapped Wetlands	
Tidal Wetland	
Mapped Habitat	
Federal/State Listed Species Habitat	
Dewatering Site	
Staging Area	
Berm	
Dewatering Area	



Image Source: Google © 2009  
 Image Date: September 30, 2006  
 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)  
 Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)



Date: 9-7-10  
 File: TO-0024\_LIS\_CT-41-4.ai



**Site CT-41**  
**Ansonia, CT**

<b>Site Address</b>	105 West Main St., Ansonia, CT
<b>General Description</b>	Light industrial/commercial site on the Naugatuck River. The majority of this site has recently been developed into a Target Super-store and parking lot. The southern end of the site, outside the Target development area, is currently a storage yard for heavy equipment and building materials.
<b>Ownership/POC</b>	Target Corporation
<b>Zoning</b>	Industrial HI
<b>Surrounding Land Use</b>	Light industrial, commercial, and retail stores to the north, east, and south; Naugatuck River to the west.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Urban land (307)
<b>Staging Area</b>	n/a
<b>Dewatering Capacity</b>	1,000 cy
<b>Land Access</b>	Rte. 334 to Main St.
<b>Water Access</b>	Naugatuck River; water depths in the river are shallow (approx. 0-6 ft), and would likely not provide enough depth for barges.
<b>Additional Considerations</b>	<p>The only portion of the site with potential for dewatering is the southern end, which is about 0.2 acres in size. The remainder of the site has been developed into a new retail store by Target Corp.</p> <p>Water access to the site is via the Naugatuck River, with approx. depths of 0-6 ft. The banks of the river have been built into levees which are approx. 20-30 feet above the level of the site. The levees are armored with rip rap. Effluent control from a potential dewatering site would need to consider the presence of the levees.</p> <p>Site "Potentially Viable in the Future" for dewatering.</p>

## Site CT-41 Ansonia, CT

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**Date:** June 22, 2010

**Direction:** North

**Description:**

Current use of site. Target store.



**Date:** June 22, 2010

**Direction:** East

**Description:**

Current use of site – large parking lot outside store.

## Site CT-41 Ansonia, CT

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**Date:** June 22, 2010

**Direction:** East

**Description:**

Equipment and material storage area at the south end of the site.

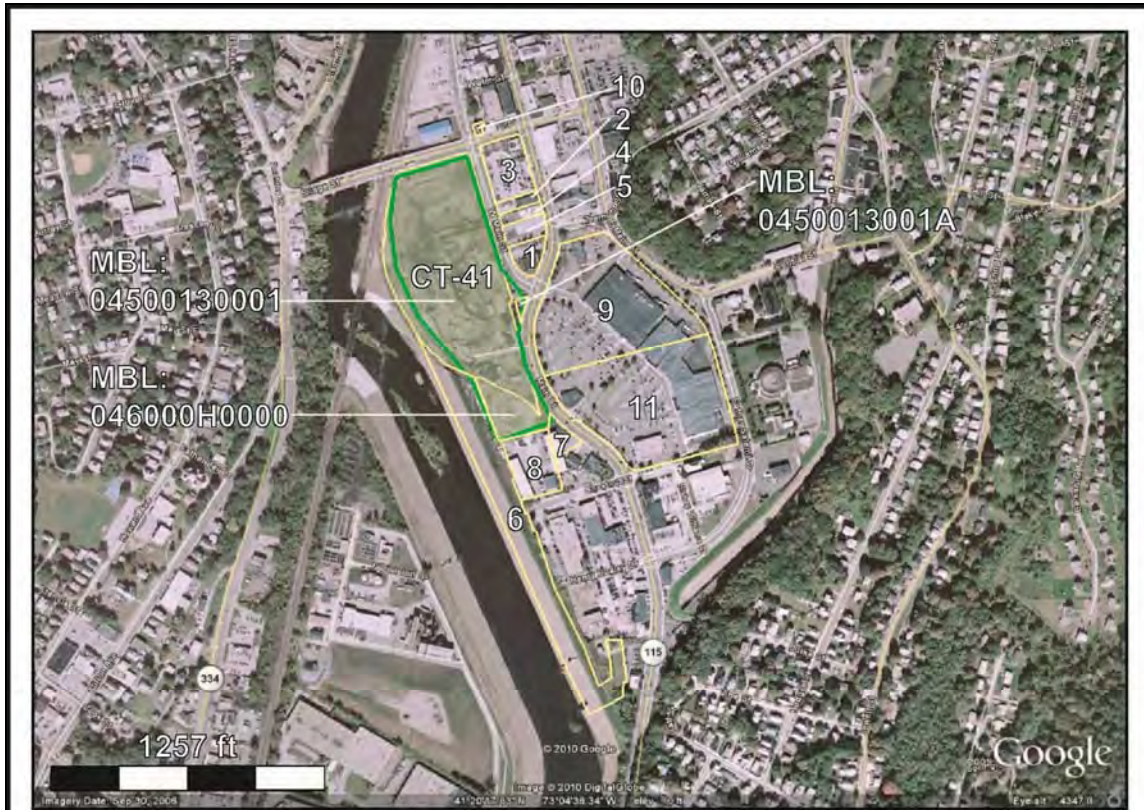


**Date:** June 22, 2010

**Direction:** South

**Description:**

Naugatuck River showing levees with rip rap adjacent to the site.



Parcel	MBL
1	04500660000
2	04500630000
3	MBL not available
4	04500640003
5	04500650000
6	046028A0000
7	04600240001
8	046025A0001
9	04500670000
10	04500140000
11	MBL not available

**Site CT-41 Ansonia, CT  
Potential Dewatering Site**

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# Site CT-50 East Hartford, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 1000</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> <li>Dewatering Site</li> </ul>	<p>Image Source: Google ©2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-19-10                  File: TO-0024_LIS_CT-50-2.ai</p>

**Site CT-50**  
**East Hartford, CT**

<b>Site Address</b>	133/195 Riverside Dr., East Hartford, CT
<b>General Description</b>	Site is property of Goodwin College. Formerly an oil terminal. The site has been remediated and redeveloped into a college campus.
<b>Ownership/POC</b>	Goodwin College Brian Howell, (860) 528-4111 ext. 2031
<b>Zoning</b>	Town of Fairfield Flood Plain District
<b>Surrounding Land Use</b>	Residential; College; Connecticut River to the west.
<b>Wetlands</b>	No mapped wetlands on site, but CT river and riparian zone abuts the site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Mapped Soils</b>	Udorthents - Urban land complex (306); southeast corner Ninigret and Tisbury soils, 0 to 5 percent slopes (21A).
<b>Staging Area</b>	n/a
<b>Dewatering Capacity</b>	None at this time; college administration building existing on site and plans are in place for expansion into neighboring areas.
<b>Land Access</b>	Rte 2 to High St.; access road is Riverside Drive.
<b>Water Access</b>	Connecticut River
<b>Additional Considerations</b>	Site was at one time an oil terminal. Oil was transported to site via the Connecticut River and offloaded to tanks on site. Tanks have been removed and site has been developed into Goodwin College. Recent college expansion includes a new administration building and courtyard/lawn area on the parcel of interest. The site is therefore not available for dewatering. The college does own land south of the selected parcel; however this is riparian/wetland habitat and school has plans to conduct field courses in this area. Site "Not Feasible" for dewatering.

## Site CT 50 East Hartford, CT

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**Date:** July 14, 2010

**Direction:** West

**Description:**

View of Connecticut River from Goodwin College administration building where selected parcel is located.



**Date:** July 14, 2010

**Direction:** South

**Description:**

Area of recent tank removal behind administration building. Plans in place to expand college in this area.



**Site CT 50**  
**East Hartford, CT**

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**Date:** July 14, 2010

**Direction:** South

**Description:**

Goodwin College administration building on selected site

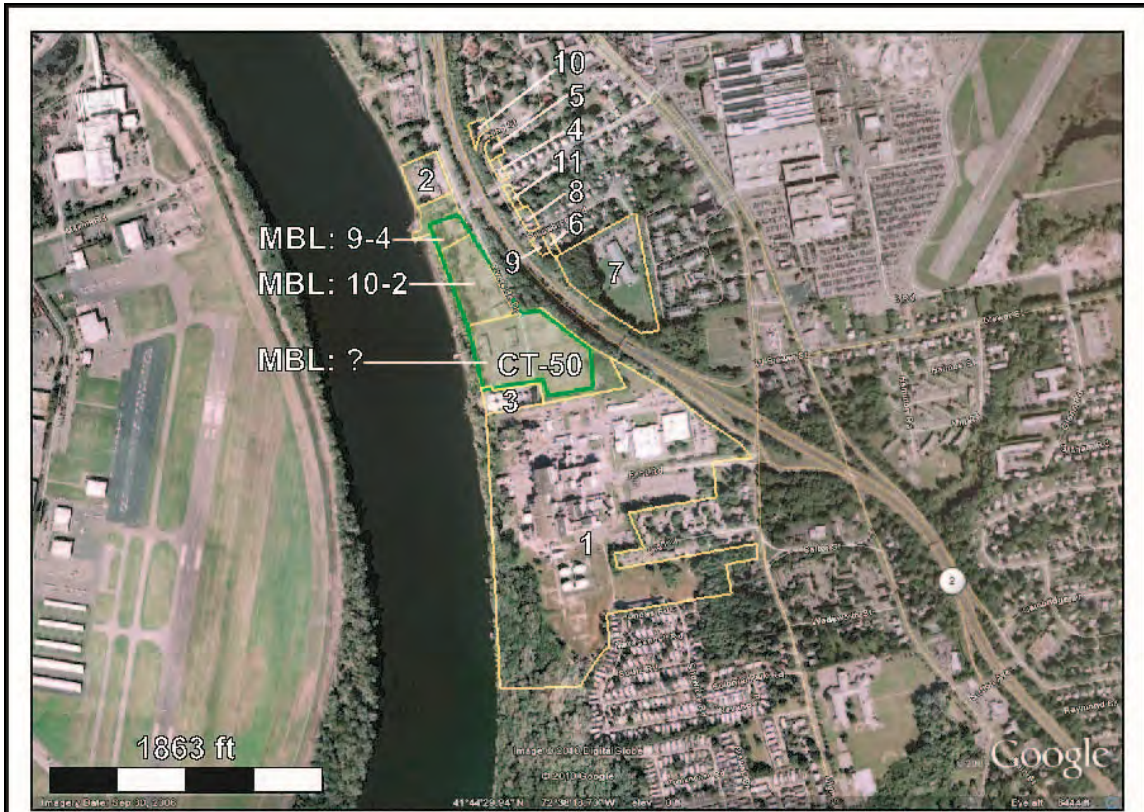


**Date:** July 14, 2010

**Direction:** North

**Description:**

Goodwin College lawn/garden area outside administration building




Parcel	MBL
1	9-1
2	10-2
3	9-2
4	10-79
5	10-151
6	9-11
7	9-5
8	10-55/56
9	9-12
10	10-165
11	10-54

**Site CT-50 East Hartford, CT  
Potential Dewatering Site**

# Site CT-8 Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      500      1000      1500</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-17-10                  File: TC-0024_LIS_CT-8-2.ai</p>

# Site CT-8 Fairfield, CT



Legend	
Mapped Wetlands	
	Tidal Wetland
Mapped Habitat	
	Federal/State Listed Species Habitat
	Dewatering Site
	Staging Area
	Berm
	Dewatering Area

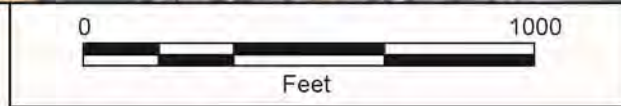


Image Source: Google © 2009  
 Image Date: October 1, 2006  
 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)  
 Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)



Date: 9-3-10  
 File: TO-0024\_LIS\_CT-8-4.ai

**Site CT-8**  
**Fairfield, CT**

<b>Site Address</b>	183 One Rod Highway, Fairfield, CT
<b>General Description</b>	Site is town property. Area of interest is used for material recycling, asphalt processing. Larger town parcel also includes DPW offices, wastewater treatment plant, and construction materials storage.
<b>Ownership/POC</b>	Town of Fairfield, CT Steve Bartlett, Assistant Director, Fairfield DPW (203) 256-3010
<b>Zoning</b>	Town of Fairfield Flood Plain District
<b>Surrounding Land Use</b>	Wetland/open space; closed & capped landfill; residential.
<b>Wetlands</b>	Yes. Mapped and observed wetlands adjacent to, and on parcel on south, east, and north sides.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Dumps (302); southwestern portion Westbrook mucky peat (98); small northeastern portion Udorthents - Urban land complex (306).
<b>Staging Area</b>	Room for staging areas at the end of access roads on the north and east sides.
<b>Dewatering Capacity</b>	47,800 cy
<b>Land Access</b>	I-95 is approximately 2 miles from the site. One Rod Highway provides access to the site. This is a secondary road with no limitations to heavy equipment or truck access. MetroNorth railroad is approximately 1 mile.
<b>Water Access</b>	Pine Creek runs along site and connects to LIS. Approximate water depths 2-10 ft. No facilities available for transferring material to shore. No docks, no bulkhead.
<b>Additional Considerations</b>	Site currently used for Town of Fairfield recycling and for a private asphalt recycling facility, and has been used in such endeavors for the past 28+ years. Site operator does not anticipate an ability to dewater dredged material on the site in the foreseeable future. Residential parcels on Fairfield Beach Road – generally these homeowners have voiced concern over various uses of the site. Plans are in place to establish a walking path along the edge of the parcel, on berms adjacent to the marsh. Wetlands on and adjacent to site. Setbacks required. Berm failure could potentially damage wetlands. Soils may be unstable, as site was previously used as a municipal waste site, and later for dumping brush. Sink holes and potholes appear frequently. FEMA AE-Zone. Site “Potentially Viable in the Future” for dewatering.

**Site CT 8  
Fairfield, CT**

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**Date:** June 22, 2010

**Direction:** West

**Description:**

Current use of site for asphalt recycling.



**Date:** June 22, 2010

**Direction:** East

**Description:**

Current use of site for yard waste recycling.

**Site CT 8  
Fairfield, CT**

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**Date:** June 22, 2010

**Direction:** Southwest

**Description:**

View from top of berm alongside the asphalt recycling area, showing wetland adjacent to site.

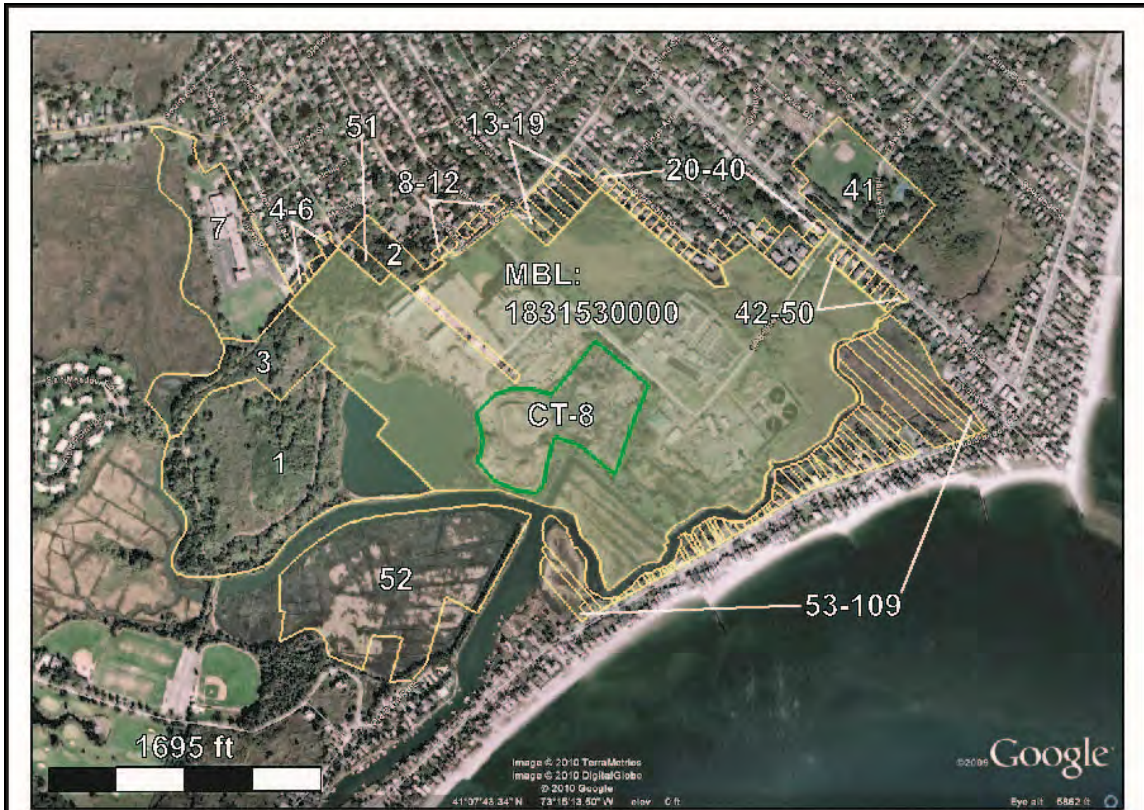


**Date:** June 22, 2010

**Direction:** South

**Description:**

View from top of berm showing adjacent salt marsh and water access via Pine Creek.



\*Parcel numbers on next page

**Site CT-8    Fairfield, CT**  
**Potential Dewatering Site**



Parcel	MBL	Parcel	MBL	Parcel	MBL
1	2342880000	37	1831560000	73	1842240000
2	1825280000	38	1831570000	74	1842230000
3	2321150000	39	183194A0000	75	1842220000
4	2320290000	40	1831940000	76	1842210000
5	2320010000	41	1830230000	77	1842200000
6	2320140000	42	1831520000	78	1842190000
7	2320440000	43	1831510000	79	1842180000
8	182597A0000	44	1831500000	80	1842170000
9	1825970000	45	1831490000	81	1842160000
10	1824850000	46	1831480000	82	1842150000
11	1825270000	47	1831470000	83	1842140000
12	1824320000	48	1831460000	84	1842130000
13	1832790000	49	1831450000	85	1842120000
14	1832780000	50	1831440000	86	1842110000
15	1832770000	51	1825300000	87	1842100000
16	1832760000	52	2342880000	88	1842090000
17	1832750000	53	1842450000	89	1842080000
18	1832740000	54	1842430000	90	1842070000
19	1832730000	55	1842420000	91	184206A0000
20	1832680000	56	1842410000	92	1842060000
21	1832670000	57	1842400000	93	1842050000
22	1832660000	58	184239A0000	94	1842040000
23	1832650000	59	1842390000	95	1842020000
24	1832640000	60	1842380000	96	1842010000
25	1832630000	61	1842370000	97	1842000000
26	1832620000	62	1842360000	98	1841990000
27	1832610000	63	1842350000	99	1841980000
28	1832600000	64	1842340000	100	1841970000
29	1832590000	65	1842330000	101	1841960000
30	1832580000	66	1842320000	102	1841930000
31	1832570000	67	1842310000	103	1841900000
32	1832560000	68	1842300000	104	1841870000
33	1832550000	69	1842290000	105	1841850000
34	1831970000	70	1842280000	106	1841840000
35	1832210000	71	1842260000	107	1841830000
36	1831550000	72	1842250000	108	1841820000
				109	1841810000

**Site CT-8      Fairfield, CT**  
**Potential Dewatering Site**

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# Site CT-30-A Hamden and North Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      500      1000      1500</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-17-10                  File: TO-0024_LIS_CT-30-A-2.ai</p>

# Site CT-30-A Hamden and North Haven, CT



<p style="text-align: center;"><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Dewatering Site   Staging Area   Berm   Dewatering Area</p>	<p>0      400      800      1200</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Image Source: Google ©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 9-3-10                  File: TO-0024_LIS_CT-30-A-4.ai</p>

**Site CT-30-A**  
**Hamden, CT**

<b>Site Address</b>	2895 State St., Hamden, CT
<b>General Description</b>	This site has two distinct areas: north side is a CT DEP Remediation Site (the "Tire Pond") where a previously unpermitted tire disposal area is being filled and capped. The south side of the site is used for materials recycling by the site owner.
<b>Ownership/POC</b>	Joseph Faricelli, site owner/operator (203) 287-5424 CT DEP owns tidal/wetland areas on west side of site, and has taken over the remediation of the northern portion of the site. POC Brian Dexter (603) 423-1016, Project Manager at Laurero Engineering Associates, who are coordinating the remediation project with CT DEP. Site visit/interview with Rick Brainerd, engineer at Laurero Engineering (860) 747-6181.
<b>Zoning</b>	CDD1, IG80
<b>Surrounding Land Use</b>	Wetland/open space; industrial; residential just beyond industrial area to west.
<b>Wetlands</b>	No. Mapped wetlands on the north end of the site and on adjacent properties to the east and south.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of the site.
<b>Mapped Soils</b>	Water (W); eastern and southern edges Udorthents - Urban land complex (306). Note much of site is mapped as "water" but the former pond is now filled with tires and will soon be capped with clean fill.
<b>Staging Area</b>	Staging areas exist on site, both on the northern parcel where fill will soon be used in remediation, and on the southern end where materials recycling is conducted.
<b>Dewatering Capacity</b>	99,600 cy – south end of site only; site owner currently not amenable to use of the site for dewatering. Site also has capacity for 690,000 cy of dry fill material to be used in the remediation project. There is a plan in place to set up a weigh station and start accepting material in fall 2010. Dry dredged material may be appropriate for this area.
<b>Land Access</b>	Rte 5/State St. Approximately .5 mile to I-91; 5 miles to I-95. Railroad runs along west side of site.
<b>Water Access</b>	No direct access to site by water. Quinnipiac River is adjacent to site but water depth is inadequate for barges, and there are no docking facilities or shore stabilization structures. Depths range from approximately 4 to less than 1 ft in this area of the river.

<b>Additional Considerations</b>	<p>Northern parcel of site currently undergoing remediation by CT DEP. This area has capacity for dry material to be trucked to site. Dewatered dredged material could potentially be placed here, if it is acceptable. The protocol for testing and acceptability is being finalized, and site will start accepting material in fall 2010.</p> <p>Dewatering on the southern portion of the site may be feasible if site use changes. Constraints here include lack of water access to the site, and distance from deep water (approximately 5 miles), so pumping a slurry to the site may be infeasible. Note: photos are from the northern portion of the site only, as the site operator at the materials recycling area did not grant access.</p> <p>FEMA AE-Zone.</p> <p>Site “Potentially Viable in the Future” for dewatering.</p>
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## Site CT-30-A Hamden, CT

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**Date:** August 4, 2010

**Direction:** East

**Description:**

Remediation area at northern portion of site. Some fill material has been placed and site will accept more starting in fall 2010.



**Date:** August 4, 2010

**Direction:** East

**Description:**

Site is adjacent to Quinnipiac River, but water is very shallow and access by barge would not be possible.

**Site CT-30-A  
Hamden, CT**

---



**Date:** August 4, 2010

**Direction:** East

**Description:**

Staging areas will be set up adjacent to fill area.



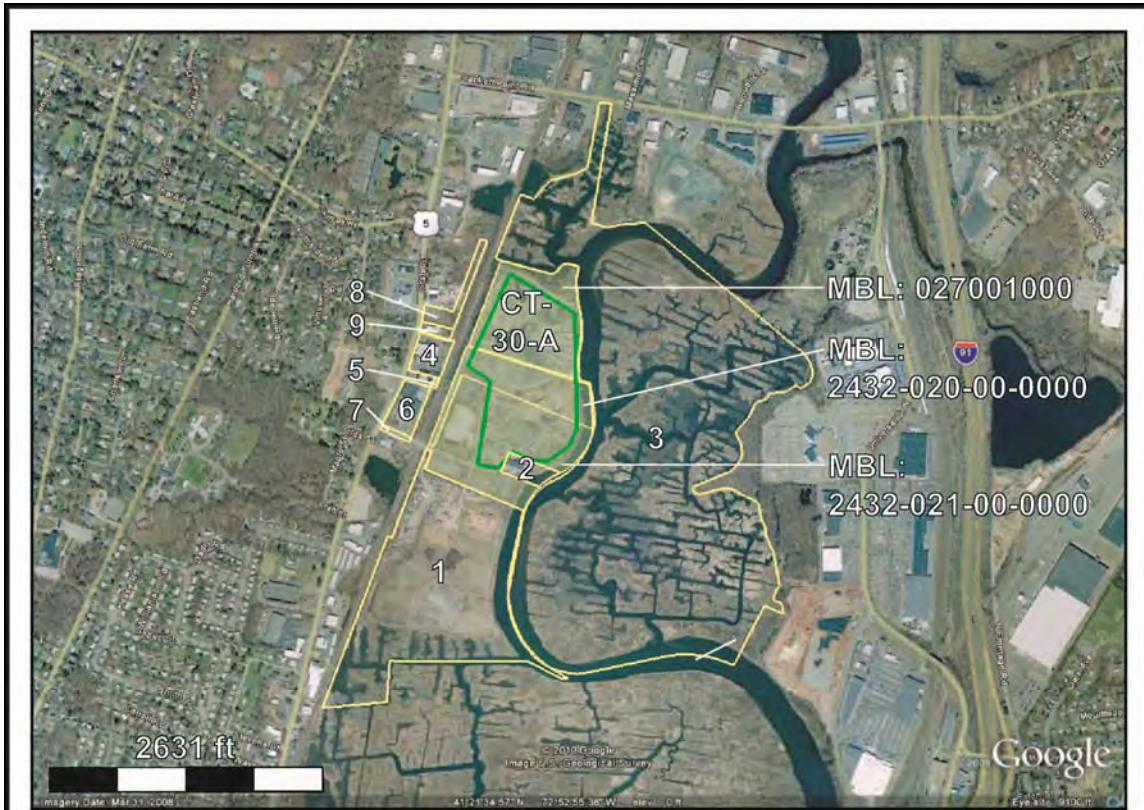
**Date:** August 4, 2010

**Direction:** West

**Description:**

Remediation area drainage basin/sediment trap in background; process material on access road in foreground.










Parcel	MBL
1	2332-014-00-0000
2	2332-013-00-0000
3	035020000
4	2432-019-00-0000
5	2432-016-00-0000
6	2432-017-00-0000
7	MBL not available
8	026050000
9	026053000

**Site CT-30-A Hamden and North Haven, CT  
Possible Dewatering Site**

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# Site CT-28 New Haven, CT



<p><b>Legend</b></p> <p>Mapped Wetlands   Tidal Wetland</p> <p>Mapped Habitat   Federal/State Listed Species Habitat   Dewatering Site</p>	<p>0 500 1000 1500                    Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 8-17-10                  File: TO-0024_LIS_CT-28-2.ai</p>

# Site CT-28 New Haven, CT



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Mapped Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> <li>Mapped Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid green; margin-right: 5px;"></span> Dewatering Site</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; margin-right: 5px;"></span> Staging Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> Berm</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; margin-right: 5px;"></span> Dewatering Area</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 15px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 25px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 45px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 55px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 75px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 85px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; width: 10px; height: 10px;"></span> </span> 1400</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google ©2009                  Image Date: April 1, 2008                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>		<p>Date: 9-3-10                  File: TO-0024_LIS_CT-28-4.ai</p>

**Site CT-28**  
**New Haven, CT**

<b>Site Address</b>	80 Middletown Ave., New Haven, CT
<b>General Description</b>	This is a truck and rail reloading facility located on the western shore of the Quinnipiac River just north of the I-91 over pass.
<b>Ownership/POC</b>	Conrail holds title to the parcel. The Anastasio Group leases the land. Andy Anastasio Jr. (203) 787-5746
<b>Zoning</b>	IH Heavy Industrial
<b>Surrounding Land Use</b>	Extensive wetland to the north and Quinnipiac River on west side of parcel; industrial and residential areas in vicinity; open space (West Rock Park) to west.
<b>Wetlands</b>	Yes. Mapped wetlands on site along the river and to the north.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Mapped Soils</b>	Udorthents - Urban land complex (306).
<b>Staging Area</b>	Staging areas for equipment currently on site. Entire site is flat, and trucks and equipment are used and stored on site.
<b>Dewatering Capacity</b>	23,100 cy
<b>Land Access</b>	Middletown Ave. to access road just before the I-91 overpass. I-91 is less than 1 mile from the site.
<b>Water Access</b>	Quinnipiac River. River depths are approximately 15 ft at mid-channel to the Ferry St. Bridge, then approximately 8.4 ft at the Grand Avenue Bridge. River becomes shallower between Grand Avenue Bridge and the site, and depth at the site is 6 ft or less. Material may need to be pumped to the site from the I-91 bridge area due to low fixed bridges at I-91 and Middletown Ave. These bridges have clearance of less than 6 ft. Bridges down river have better clearance: the Ferry St. Bridge has 25 ft, the Grand Ave. Bridge has center-pier swing span clearance 9 ft. Barges could potentially pass to a spot north of the Ferry St. Bridge and pump material to site. A right-of-way exists along the river where the oil company runs a line to storage tanks just north of the site.
<b>Additional Considerations</b>	The site is used for truck and rail reload/distribution and has a vacant area on the north side of the parcel that could be used for dewatering. Site owner/operator is amenable to the idea. Material may need to be pumped to the site if it was transported by river, as the fixed bridges on the site (railroad bridge) and just below the site on the river (Middletown Ave. Bridge) are very low. Currently there is no material onsite for building berms. May need to bring in material for this purpose. Site has direct access to rail and major highway (Rte. 91). Wetland adjacent to site. Setbacks and drainage/discharge issues would need to be addressed. Site is in FEMA AE-Zone. Site "Currently Viable" for dewatering.

## Site CT-28 New Haven, CT

---



**Date:** June 16, 2010

**Direction:** North

**Description:**

Currently vacant area on site that could be used for dewatering.



**Date:** June 16, 2010

**Direction:** East

**Description:**

Fixed bridge with very low clearance just downstream of the site on Quinnipiac River. Barges would not be able to access the site directly, so material would need to be pumped up from below the low fixed bridges.

## Site CT-28 New Haven, CT

---



**Date:** June 16, 2010

**Direction:** North

**Description:**

Material could potentially be pumped to a dewatering basin via a right-of-way along the west side of the river. There is currently a right-of-way for an oil pipeline through this area.

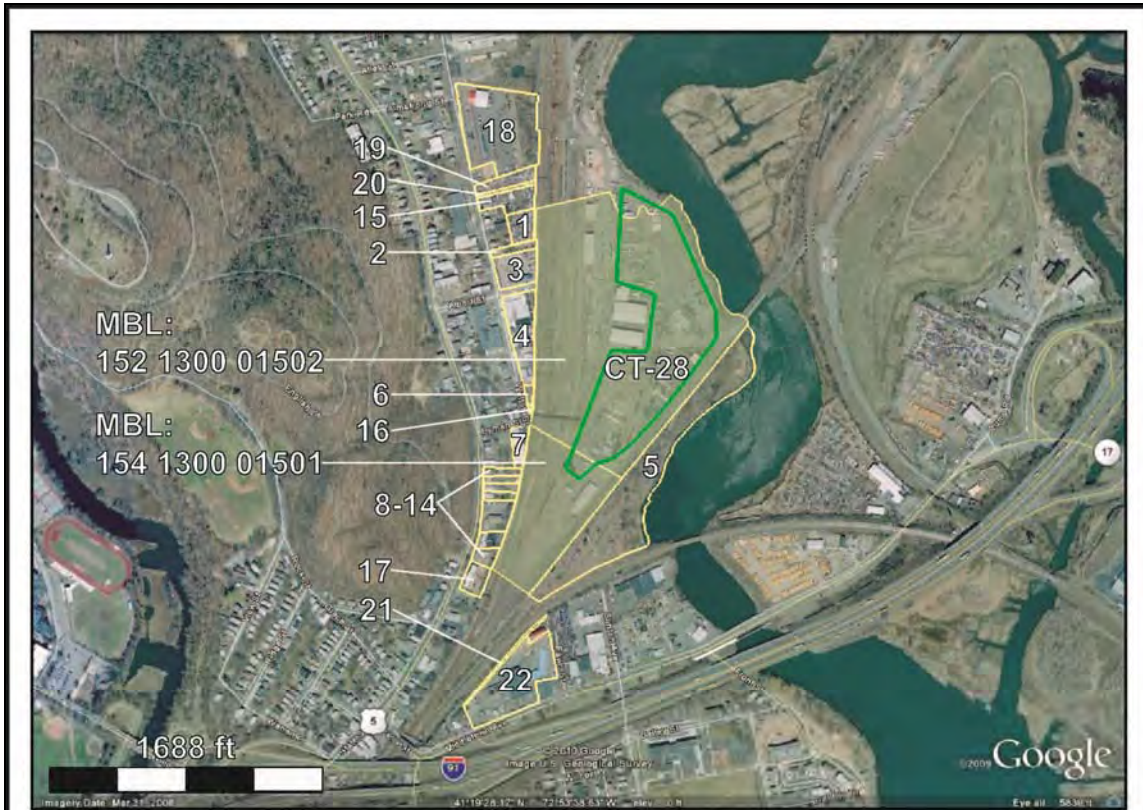


**Date:** June 16, 2010

**Direction:** South

**Description:**

Wetland area adjacent to site.




Parcel	MBL
1	MBL not available
2	152 0842 00600
3	152 0842 00700
4	152 0841 00100
5	154 0840 01500
6	152 0841 00200
7	154 0840 01400
8	154 0840 01000
9	154 0840 00900
10	154 0840 00800
11	154 0840 00700
12	154 0840 00500
13	154 0840 00400
14	154 0840 00300
15	2031-014-00-0000
16	152 0841 00300
17	154 0840 00200
18	2031-020-00-0000
19	2031-018-00-0000
20	2031-017-00-0000
21	155 0836 00102
22	155 0836 00300

**Site CT-28 New Haven, CT**  
**Possible Dewatering Site**

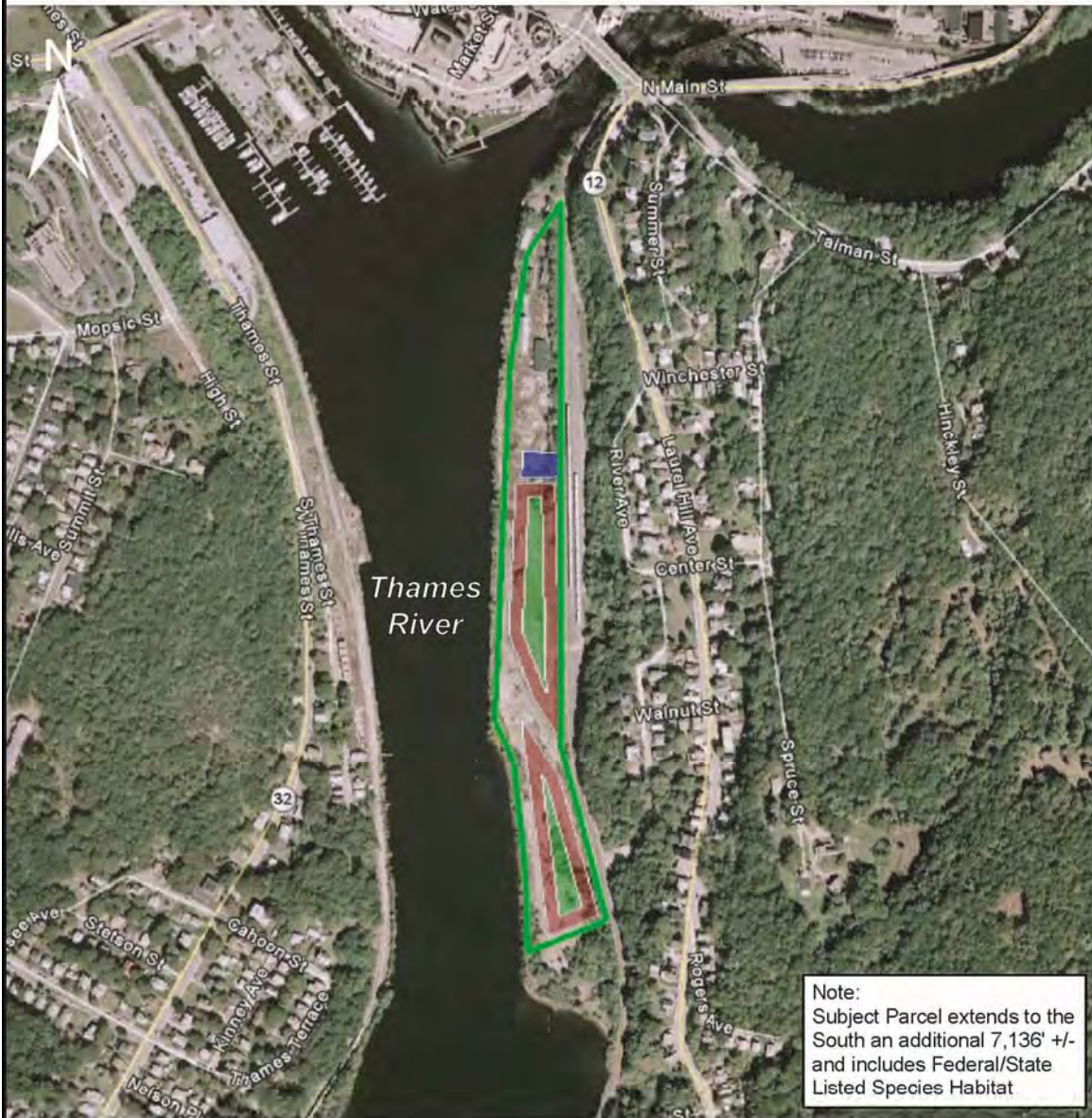



# Site CT-54 Norwich, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid blue;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid green;"></span> Dewatering Site</li> </ul>	<p>0 <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"> <span style="position: absolute; left: 5px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 15px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 25px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 35px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 45px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 55px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 65px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 75px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 85px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> <span style="position: absolute; left: 95px; top: -5px; border-left: 1px solid black; border-right: 1px solid black; width: 10px;"></span> </span> 2000</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's                  (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database                  Areas (CT DEP, 2010)</p>	<p>Date: 8-17-10                  File: TC-0024_LIS_CT-54-2.ai</p>

# Site CT-54 Norwich, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid black; margin-right: 5px;"></span> Dewatering Site</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black; margin-right: 5px;"></span> Staging Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> Berm</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area</li> </ul>	<p>0      500      1000      1500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009 Image Date: October 1, 2006 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002) Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>		<p>Date: 9-3-10 File: TO-0024_LIS_CT-54-4.ai</p>

**Site CT-54**  
**Norwich, CT**

<b>Site Address</b>	8 New Wharf Rd., Norwich, CT
<b>General Description</b>	Rail yard on the east side of the Thames River in Norwich, CT. Formerly used as a transfer station for bulk materials transported to the site by barges for regional distribution by rail. Much of parcel is currently inactive, but trains do run through the site. Northern part of parcel is leased to Shetucket Iron Co.
<b>Ownership/POC</b>	Providence and Worcester Railroad Co. Bernie Cartier, Operations (508) 459-4545 Dave Cuthbertson, Engineer (508) 755-4000 ext. 252
<b>Zoning</b>	WD Waterfront Development
<b>Surrounding Land Use</b>	Residential and major roadways to the east; Thames River to the west.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Udorthents - Urban land complex (306). Observations on site indicate coarse sand and gravel.
<b>Staging Area</b>	Room for staging areas in various places on site. None currently on site.
<b>Dewatering Capacity</b>	17,500 cy. Capacity is for two separate basins because railroad track runs through site. If a single basin could be constructed capacity would be larger because berm area could be reduced; however rail line would need to be moved to the side of the parcel to make that possible.
<b>Land Access</b>	Rte 12 to small unmarked access road at north end of parcel. Access road dips down somewhat steeply at site entrance but not likely to cause problems for truck and equipment access. Approximately 3 miles to Rte. 395. Railroad runs through site.
<b>Water Access</b>	Thames River; water depth at the site is approximately 15ft. Depth in the channel is 15-22 ft and is navigable all the way to Long Island Sound (approximately 14 miles downriver). Depth in the turning basin just north of the site is 12 ft. Wood and stone bulkhead on along portions of the shoreline and barge access feasible. Bulkhead appears solid but may need maintenance or upgrade prior to use.
<b>Additional Considerations</b>	Site has both deep water and rail access. POC indicates few restrictions on type of freight. Trains can carry most types of material including HazMats; POC believes the railroad managers may be amenable to using the site for dewatering. Site has a sewer line underground, and overhead electric power lines, but they may be inactive; lines appear to be cut. FEMA AE-Zone. Site "Currently Feasible" for dewatering.

**Site CT-54**  
**Norwich, CT**

---



**Date:** July 16, 2010

**Direction:** West

**Description:**

Current use of site – vacant land adjacent to river.



**Date:** July 16, 2010

**Direction:** South

**Description:**

Rail line runs through site.

**Site CT-54  
Norwich, CT**

---



**Date:** July 16, 2010

**Direction:** South

**Description:**

Access road to site from north.



**Date:** July 16, 2010

**Direction:** West

**Description:**

Wood/stone bulkhead at shore. Site was formerly used to offload bulk materials from barges for distribution by train.

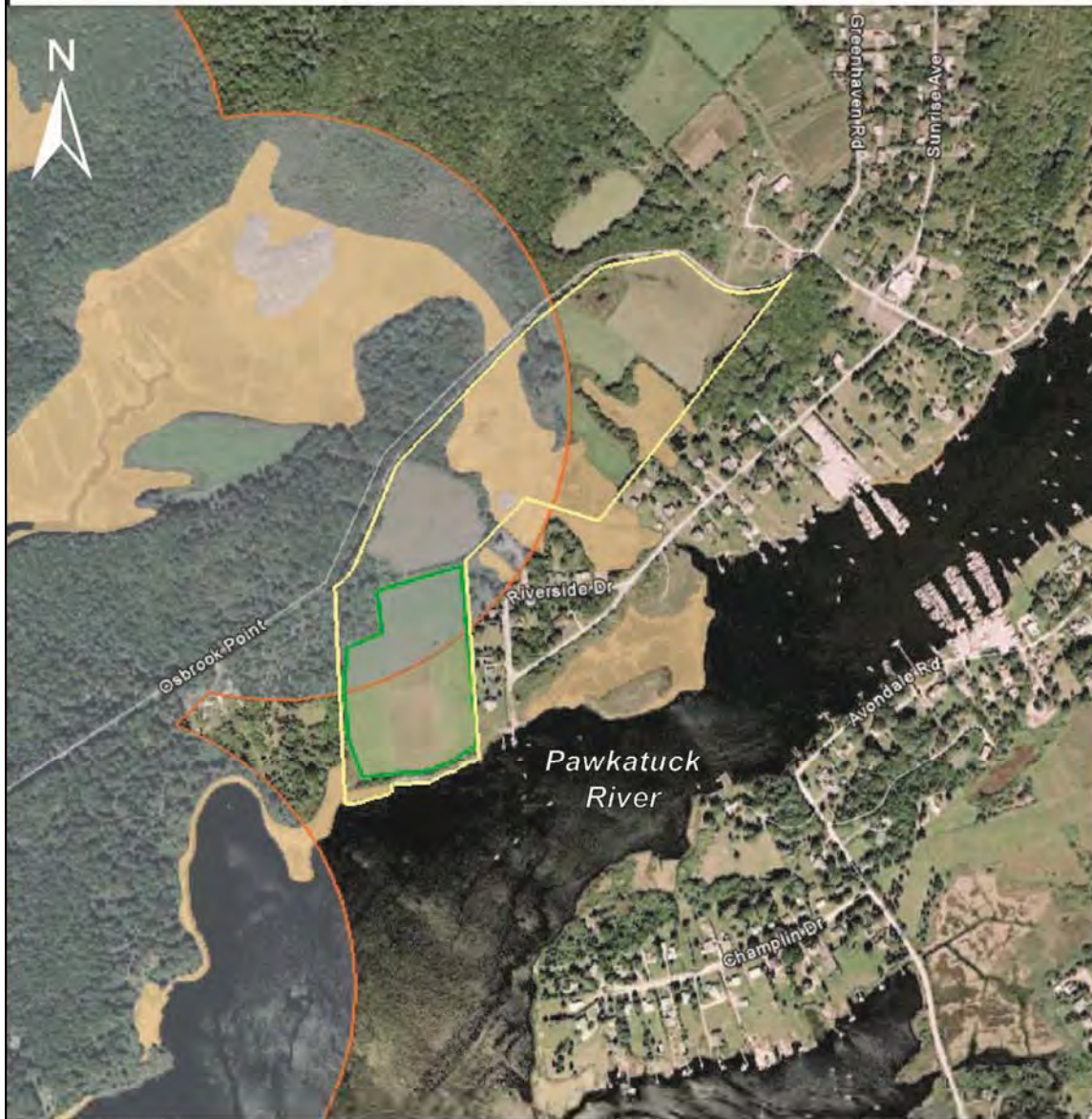


Parcel	MBL	Parcel	MBL
1	56 35 43	18	54 1 5
2	54 1 38	19	54 1 4
3	54 1 37	20	54 1 3
4	54 1 36	21	56 34 1
5	54 1 35	22	56 34 2
6	54 1 34	23	56 35 2
7	54 6 8	24	56 34 3
8	54 1 32	25	56 34 4
9	54 8 7	26	56 34 5
10	54 1 30	27	56 34 6
11	54 1 29	28	54 2 3
12	54 1 28	29	54 2 2
13	54 1 27	30	54 2 1
14	54 1 9	31	54 3 1
15	54 1 8	32	54 7 7
16	54 1 7	33	54 6 1
17	54 1 6		

**Site CT-54 Norwich, CT  
Potential Dewatering Site**

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# Site CT-35 Stonington, CT

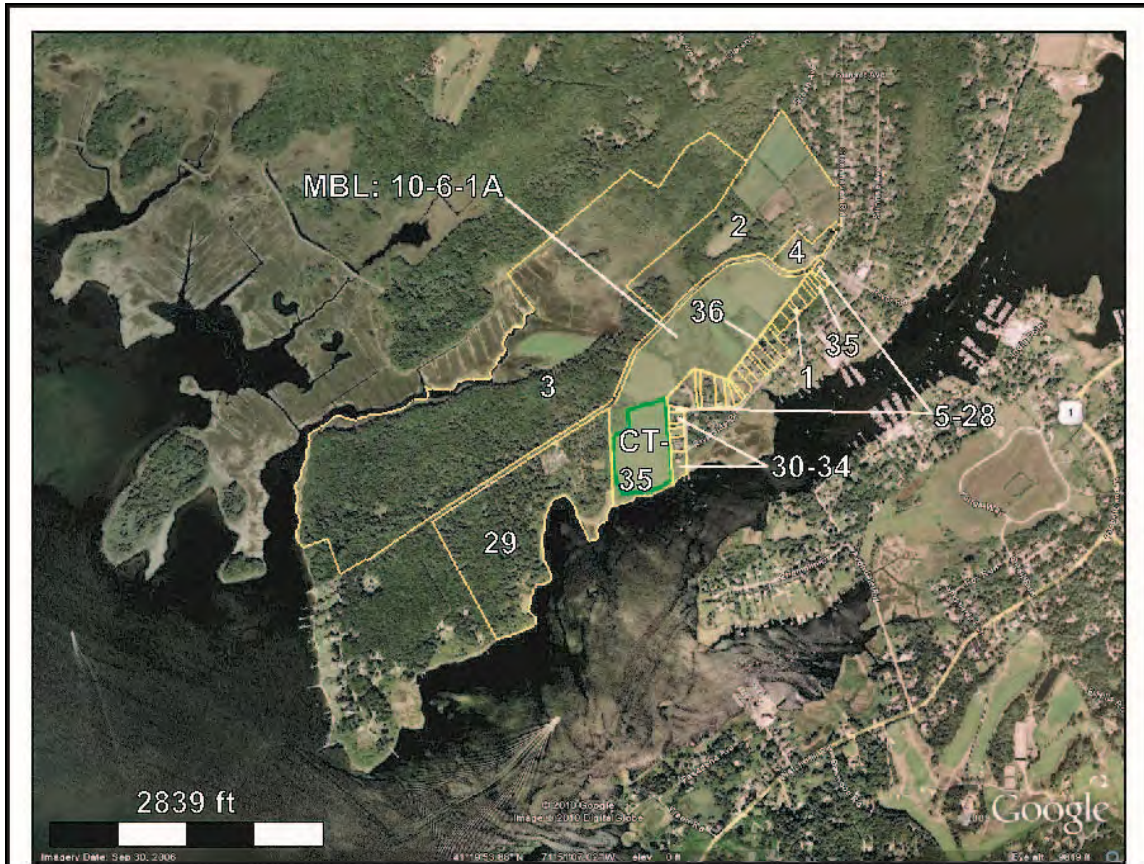


<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul> <p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> <li>Dewatering Site</li> </ul>	<p>0 2000</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-17-10                  File: TO-0024_LIS_CT-35-2.ai</p>



**Site CT-35**  
**Stonington, CT**

<b>Site Address</b>	Osbrook Pt., Parcel D. Stonington, CT
<b>General Description</b>	Site is property of Davis Lawrence Malcolm Trustees. Parcel is on Osbrook Point, near the mouth of the Pawkatuck River in Stonington. Land is in the Connecticut Farmland Preservation Program, and land use is restricted to agricultural and related uses in perpetuity. Current use is hay cultivation.
<b>Ownership/POC</b>	Davis Lawrence Malcolm Trustees (owner) J. Dippel, Program Director (860) 713-2511
<b>Zoning</b>	RC 120 Residential Coastal
<b>Surrounding Land Use</b>	Agriculture; open space; residential.
<b>Wetlands</b>	Yes. Mapped wetlands on site.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers northern one-half of the site.
<b>Mapped Soils</b>	Haven and Enfield soils, 0 to 3% slopes (32A); small southern portion Pawkatuck mucky peat (97).
<b>Staging Area</b>	None currently exists on site.
<b>Dewatering Capacity</b>	None. Site not feasible as land is in the CT Farmland Protection Program and dredged material placement is not an allowable land use under the program.
<b>Land Access</b>	Osbrook Point Rd. Approximately 3 miles to Rte. 1, 6 miles to I-95.
<b>Water Access</b>	Pawkatuck River mouth, north side of LIS.
<b>Additional Considerations</b>	J. Dippel, director of the Connecticut Farmland Protection Program, indicates that placement or dewatering of dredged material would not be an allowable land use for this parcel. The Farm Protection Program is aimed at preserving agricultural parcels in perpetuity. Therefore the site does not have capacity for dewatering now or in future. Parcel owners did not grant access to site. Therefore no photos were obtained. Cultural resources present. Site "Not Feasible" for dewatering.



Parcel	MBL	Parcel	MBL
1	10-7-7	19	9-3-26
2	10-6-1B	20	9-3-24
3	29-1-2	21	9-3-12
4	10-6-1	22	9-3-14
5	10-7-19	23	9-3-16
6	10-7-15	23	9-3-18
7	10-7-13	25	9-3-22
8	10-7-12	26	9-3-21
9	10-7-11	27	9-3-20
10	10-7-8	28	9-3-11
11	10-7-5	29	30-1-1
12	10-7-3	30	9-3-9
13	10-7-1	31	9-3-8
14	9-3-33	32	9-3-7
15	9-3-32	33	9-3-4
16	9-3-29	34	9-3-1
17	9-3-28	35	10-7-14
18	9-3-27	36	10-7-20

**Site CT-35     Stonington, CT**  
**Potential Dewatering Site**





**Site NY-5A**  
**Huntington, NY**

<b>Site Address</b>	Off Waterside Ave., Huntington, NY
<b>General Description</b>	The site is located on the north shore of Long Island, east of the Village of Asharoken and west of the Northport power plant intake channel. The site contains recreational playing fields, a parking lot, public access/boat ramps, and coastal dunes/beaches.
<b>Ownership/POC</b>	Town of Huntington
<b>Zoning</b>	I-6 Generating station
<b>Surrounding Land Use</b>	Residential properties to the west and south; industrial power plant to the east.
<b>Wetlands</b>	Yes. Mapped and observed wetlands include coastal shoals, bars, and mudflats directly offshore of the site and near the head of the power plant intake channel.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat in the coastal dunes and beach area.
<b>Mapped Soils</b>	Cut and fill land, gently sloping (CuB); northern edge Beaches (Bc); western portion Cut and fill land, steep (CuE); northwestern portion Carver and Plymouth sands, 15 to 35 percent slopes (CpE); northwestern edge Dune land (Du).
<b>Staging Area</b>	Existing paved parking lot could be used as staging for heavy equipment.
<b>Dewatering Capacity</b>	122,000 cy
<b>Land Access</b>	Waterside Ave. to park entrance road.
<b>Water Access</b>	Water access could be gained from the power plant intake channel located east of the site. The channel entrance is protected by two stone jetties; shoreline along the dewatering site does not have bulkhead/seawall/revetment, but 2 large boat ramps could provide access for pipeline and equipment. Controlling depths in the intake channel are approx. 13 ft; suitable for barges.
<b>Additional Considerations</b>	South portion of the site is leased to a youth soccer club and has recently been developed into playing fields; this area is not available for dewatering. The parking lot is used in conjunction with the boat ramps for public access to LIS; this area is not available for dewatering, but could be used for staging equipment. The coastal dune and wooded area of the site could potentially be used for dewatering; the dune has been used in the past for dewatering dredged material from the power plant. Time of year restrictions would likely be necessary to protect mapped habitat. Use of the wooded area would require tree removal. Cultural resources present. FEMA VE-Zone and AE-Zone. Site "Currently Feasible" for dewatering.

## Site NY-5A Huntington, NY

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**Date:** July 15, 2010

**Direction:** Northwest

**Description:**

Parking lot near center of site that provides access to adjacent boat ramp.



**Date:** July 15, 2010

**Direction:** South

**Description:**

Current use of south portion of the site as soccer playing fields.

## Site NY-5A Huntington, NY

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**Date:** July 15, 2010

**Direction:** West

**Description:**

Beach and dune profile along the LIS shoreline of the site.



**Date:** July 15, 2010

**Direction:** West

**Description:**

Boat ramps that provide access to the power plant intake channel and LIS.



Parcel	DSBL	Parcel	DSBL
1	0400007000100003000	22	0404002000200001000
2	0400007000100004000	23	0404002000200005000
3	0400010000100004001	24	0404002000200006000
4	0400010000100005000	25	0404002000200007000
5	0400010000100007000	26	0400007000300001000
6	0400010000200002004	27	0400010000200001000
7	0400010000200002006	28	0401008000200033000
8	0400010000200035000	29	0401008000200037000
9	0400010000200036000	30	0400007000200003000
10	0400010000200042000	31	0401008000200036000
11	0400011000100040001	32	0404002000200004000
12	0400012000100003001	33	0404002000200027001
13	0401008000100028000	34	0400007000200004000
14	0401008000100030003	35	0401008000200034000
15	0401008000100030004	36	0400010000100001000
16	0401008000200030000		
17	0401008000200031000		
18	0401008000200032000		
19	0401008000200035000		
20	0404001000100001000		
21	0404001000100028000		

**Site NY-5A & 5B Huntington, NY  
Possible Dewatering Site**







**Site NY-5B**  
**Huntington, NY**

<b>Site Address</b>	Waterside Ave./Eatons Neck Rd., Huntington, NY
<b>General Description</b>	The site is located on the north shore of Long Island, east of the Village of Asharoken. The site is operating as a natural gas and conventional oil electric power generating station.
<b>Ownership/POC</b>	National Grid USA – KeySpan Energy Bob DeMoustes (631) 262-2273
<b>Zoning</b>	I-6 Generating station
<b>Surrounding Land Use</b>	Residential properties to the east and south; municipal open space and recreational fields to the west.
<b>Wetlands</b>	Yes. Mapped and observed wetlands include coastal shoals, bars, and mudflats directly offshore of the site and near the head of the adjacent intake channel.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat in the coastal dunes and beach area.
<b>Mapped Soils</b>	Cut and fill land, gently sloping (CuB); northern and western edges Beaches (Bc).
<b>Staging Area</b>	Potential staging could be developed at the end of the power plant entrance road near the northeast corner of the dewatering site. The entrance road is accessible from North County Rd. The area is currently covered with grasses and would not require the removal of any trees.
<b>Dewatering Capacity</b>	63,000 cy
<b>Land Access</b>	Waterside Ave. to power plant entrance road.
<b>Water Access</b>	Water access could be gained from the power plant intake channel located east of the site. The channel entrance is protected by two stone jetties; shoreline along the dewatering site is armored with a rip rap revetment and could provide access for pipeline and equipment. Controlling depths in the intake channel are approx. 13 ft; suitable for barges.
<b>Additional Considerations</b>	The site is currently a grassy lawn area in front of the power plant main office building. The POC indicated that this area would not likely be available for dewatering; however, the more seaward dune and beach area has been used in the past for dewatering sandy material dredged from around the facility. The operator would prefer to see 3 <sup>rd</sup> party dredged materials dewatered on the adjacent Town of Huntington property (Site-5A). Security at the site is governed by MARSEC; this would impose strict security measures on use of the site as a dewatering area. Cultural resources present. Site “Potentially Viable in the Future” for dewatering.

**Site NY-5B**  
**Huntington, NY**

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**Date:** August 2, 2010

**Direction:** North

**Description:**

Current use of site as grassy lawn in front of main office building for power plant.



**Date:** August 2, 2010

**Direction:** Northeast

**Description:**

Current use of site as grassy lawn in front of main office building for power plant.

**Site NY-5B**  
**Huntington, NY**

---



**Date:** August 2, 2010

**Direction:** East

**Description:**

Beach profile seaward of the dewatering area that has been used for dredged materials dewatering previously.



**Date:** August 2, 2010

**Direction:** West

**Description:**

Beach profile seaward of the dewatering area showing entrance channel jetties in the background.




Parcel	DSBL	Parcel	DSBL
1	0400007000100003000	22	0404002000200001000
2	0400007000100004000	23	0404002000200005000
3	0400010000100004001	24	0404002000200006000
4	0400010000100005000	25	0404002000200007000
5	0400010000100007000	26	0400007000300001000
6	0400010000200002004	27	0400010000200001000
7	0400010000200002006	28	0401008000200033000
8	0400010000200035000	29	0401008000200037000
9	0400010000200036000	30	0400007000200003000
10	0400010000200042000	31	0401008000200036000
11	0400011000100040001	32	0404002000200004000
12	0400012000100003001	33	0404002000200027001
13	0401008000100028000	34	0400007000200004000
14	0401008000100030003	35	0401008000200034000
15	0401008000100030004	36	0400010000100001000
16	0401008000200030000		
17	0401008000200031000		
18	0401008000200032000		
19	0401008000200035000		
20	0404001000100001000		
21	0404001000100028000		

**Site NY-5A & 5B Huntington, NY**  
**Possible Dewatering Site**


# Site NY-18 Bronx, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FFA500; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #90EE90; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0                      500                      1000                      1500</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google©2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	

# Site NY-18 Bronx, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #654321; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FF69B4; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #90EE90; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      395      790      1185</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;"><b>US Army Corps of Engineers</b></p>
	<p>Image Source: Google© 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p> <p><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area      <span style="display: inline-block; width: 15px; height: 10px; background-color: #FF69B4; border: 1px solid black; margin-right: 5px;"></span> Berm      <span style="display: inline-block; width: 15px; height: 10px; background-color: #6A5ACD; border: 1px solid black; margin-right: 5px;"></span> Staging Area</p>	



**Site NY-18**  
**Bronx, NY**

<b>Site Address</b>	504 Barry St., Bronx, NY
<b>General Description</b>	The site is a former landfill and material reloading facility on the East River. Northern part of parcel is a former landfill that is currently being capped. Other areas on site are currently being used for material processing and bulk storage.
<b>Ownership/POC</b>	Oak Point Property, LLC Steve Smith, Owner/Developer (609) 577-7703
<b>Zoning</b>	M3-1 Heavy manufacturing - low performance - heavy manufacturing use
<b>Surrounding Land Use</b>	Industrial; freeway.
<b>Wetlands</b>	Yes. Wetlands observed along shoreline area.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Laguardia-Ebbets-Pavement & buildings, wet substratum complex, 0 to 8% slopes (7).
<b>Staging Area</b>	Room for staging areas on site. Can be set up to accommodate dewatering area.
<b>Dewatering Capacity</b>	30,500 cy
<b>Land Access</b>	Buckner Expressway to Barry St. to access road. These roads can accommodate trucks and heavy equipment. Railroad access on site.
<b>Water Access</b>	East River just north of North Brother Island (west of Ryker's Island). Water depth 15 ft adjacent to site; 30+ ft offshore. Site has wood piles and bulkhead.
<b>Additional Considerations</b>	The northern area of this site is a former landfill, being capped per a DEP/site owner closure plan. This area is slated for development. The southern portion of site is now used as a storage area, but could become available for dewatering. Access to the site via deep water, rail, or major road is possible. In the past rail cars offloaded material directly onto barges and the railroad track still comes in to the site. Shoreline has a wood/stone bulkhead and old wood piles. This may need upgrading if site is accessed by barge. There is currently no material on site for building dikes, but material will soon be brought to the site for capping the landfill area on the north side of the site, and some of this material may be appropriate for building dikes. Site owner/operator is amenable to the idea of dewatering. Site is in FEMA AE-Zone. Site "Currently Feasible" for dewatering.

**Site NY-18  
Bronx, NY**

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**Date:** August 3, 2010

**Direction:** North

**Description:**

Current use of southern portion of site as storage facility.



**Date:** August 3, 2010

**Direction:** West

**Description:**

Old piles and bulkhead at shoreline.

## Site NY-18 Bronx, NY

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**Date:** August 3, 2010

**Direction:** East

**Description:**

Northern portion of site looking east  
– landfill closure area.



**Date:** August 3, 2010

**Direction:** North

**Description:**

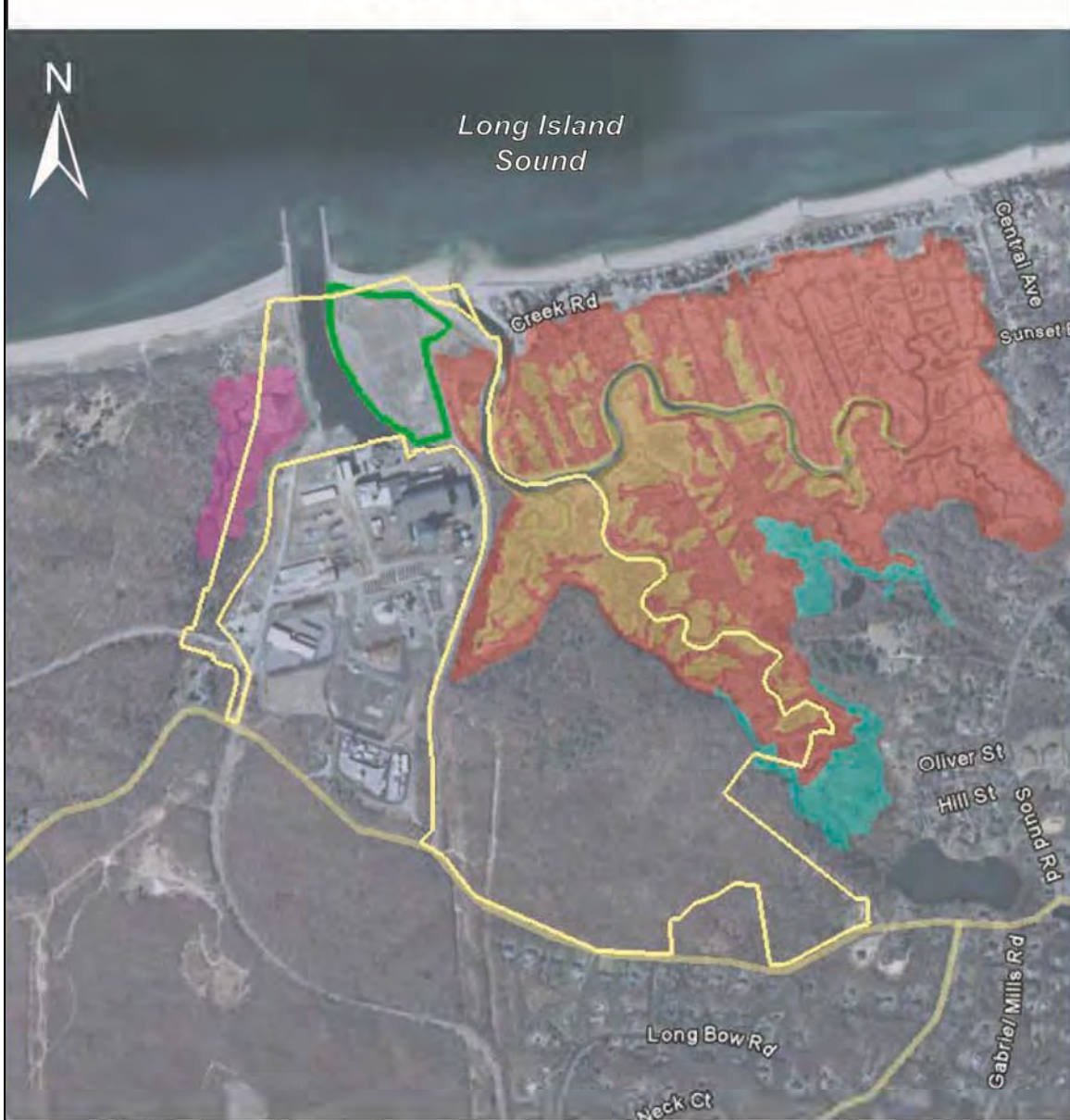
Access to shoreline from main parcel  
is via recently constructed  
ramp/roadway made with process  
material.



Parcel	BBL
1	Bronx 2604 140
2	Bronx 2604 074
3	Bronx 2604 600
4	Bronx 2604 280
5	Bronx 2604 195
6	Bronx 2604 500

**Site NY-18 Bronx, NY  
Potential Dewatering Site**

# Site NY-28 Brookhaven, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Dredged Spoil
	Formerly Connected Tidal Wetlands
Mapped Habitat	
	Fresh Marsh
	High Marsh
	Intercoastal Marsh
	Coastal Shoals, Bars and Mudflats
	Federal/State Listed Species Habitat *(Covers Entire Site)
	Dewatering Site

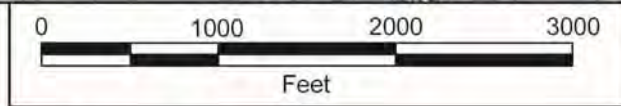



Image Source: Google©2009  
 Image Date: March 1, 2007  
 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)  
 NYS Freshwater Wetlands (NYSDEC, 2010)  
 Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities



Date: 8-17-10  
 File: TO-0024\_LIS\_NY-28-2.ai

# Site NY-28 Brookhaven, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px dashed black; margin-right: 5px;"></span> Federal/State Listed Species Habitat *(Covers Entire Site)</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">719</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;"><b>US Army Corps of Engineers</b></p>
<p>Image Source: Google© 2009                  Image Date: March 1, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p> <p><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area     <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Berm     <span style="display: inline-block; width: 15px; height: 10px; background-color: #6A5ACD; border: 1px solid black; margin-right: 5px;"></span> Staging Area</p>	<p>Date: 9-7-10                  File: TO-0024_LIS_NY-28-4.ai</p>	

**Site NY-28**  
**Brookhaven, NY**

<b>Site Address</b>	North County Rd., Brookhaven, NY
<b>General Description</b>	The site is located on the north shore of Long Island at the location of the decommissioned Shoreham nuclear power plant. The site is currently operating a 100 MW gas turbine power plant.
<b>Ownership/POC</b>	Long Island Power Authority (LIPA) Edmund Petrocelli, LIPA Project Manager (631) 744-8207
<b>Zoning</b>	L4 50 acre Electric Utility; A1 Residential 1-family 40,000 sq ft; A2 Residential 1-family 80,000 sq ft
<b>Surrounding Land Use</b>	Open space to the west and south; marsh and tidal creek to the east; residential properties to the east and southeast.
<b>Wetlands</b>	No. Mapped wetlands adjacent to the dewatering area to the west and east.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers entire site.
<b>Mapped Soils</b>	Tidal marsh (Tm); northern portion Fill land, dredged material (Fd); northern edge Beaches (Bc).
<b>Staging area</b>	Potential staging could be developed at the end of Lilco Rd., in the northeast corner of the dewatering site. Lilco Rd. is accessible from North County Rd. The area is covered with grasses and would not require the removal of any trees.
<b>Dewatering Capacity</b>	42,600 cy
<b>Land Access</b>	North County Rd. to Lilco Rd.
<b>Water Access</b>	Water access could be gained from the power plant intake channel located west of the site. The channel entrance is protected by two stone jetties; a wide area of rip rap armoring protects the shoreline of the intake channel adjacent to the dewatering site. Controlling depths in the intake channel are 7-10 ft; suitable for shallow draft barges.
<b>Additional Considerations</b>	Site has been used previously as a dewatering area for material dredged during installation of submarine power cables from New Haven, CT.; geobags were used for dewatering and the dried material was trucked offsite; construction was limited to M-F between the hours of 8 AM and 5 PM to minimize impacts to nearby residential area. Seaward side of the site transitions into a low lying coastal dune and a beach; past Piping Plover nesting site. Security at the site is governed by MARSEC; this would impose strict security measures on use of the site as a dewatering area. Site is in FEMA VE-Zone and AE-Zone. Site "Potentially Viable in the Future" for dewatering.

**Site NY-28**  
**Brookhaven, NY**

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**Date:** July 15, 2010

**Direction:** North

**Description:**

Existing conditions at site showing flat topography and vegetation consisting of weeds and grasses.



**Date:** July 15, 2010

**Direction:** Northwest

**Description:**

Rip rap armoring along power plant intake channel adjacent to dewatering site shoreline (dewatering site to right of photo).



## Site NY-28 Brookhaven, NY

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**Date:** July 15, 2010

**Direction:** Northwest

**Description:**

Low lying coastal dune and beach along seaward side of dewatering site, with jetties protecting intake channel in the background.



**Date:** July 15, 2010

**Direction:** North

**Description:**

Power plant intake channel showing potential water access for barges (dewatering site to right of photo).




Parcel	DSBL	Parcel	DSBL
1	0200039000100001002	14	0600029000100001000
2	0200039000100002000	15	0600029000200001000
3	0200039000200002000	16	0600035000100013005
4	0200040000100001000	17	0200083000200001090
5	0200040000200001000	18	0200083000200001002
6	0200040000300001000	19	0200083000200001091
7	0200083000100003004	20	0200083000200001092
8	0200083000200001003	21	0600035000300010006
9	0200083000200001004	22	0200082000100005002
10	0200083000200001006	23	0200083000100003003
11	0200083000200001007	24	0200083000200001005
12	0200083000200001086	25	0200083000100002000
13	0200083000200001095	26	0600029000200002000

**Site NY-28 Brookhaven, NY  
Potential Dewatering Site**

# Site NY-7-A Glen Cove, NY





<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #ffc107; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #28a745; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      250      500      750</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
	<p>Image Source: Google ©2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-17-10                  File: TO-0024_LIS_NY-7-A-2.ai</p>

# Site NY-7-A Glen Cove, NY



Mosquito  
Cove

<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">935</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;"><b>US Army Corps of Engineers</b></p>
<p>Image Source: Google© 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-17-10                  File: TO-0024_LIS_NY-7-A-4.ai</p>	

**Site NY-7A**  
**Glen Cove, NY**

<b>Site Address</b>	Garvies Point Rd., Glen Cove, NY
<b>General Description</b>	The site is located on the east shore of Hempstead Harbor in northwestern Long Island. It is the location of the Li Tungsten Superfund Site which has undergone remediation. The site is currently used as a waterfront park as part of the Glen Cove waterfront revitalization effort.
<b>Ownership/POC</b>	Glen Cove Industrial Development Agency Kelly Morris, IDA Executive Director (516) 676-1625
<b>Zoning</b>	MW-3Marine waterfront district 3
<b>Surrounding Land Use</b>	Open space and residential properties to the north; industrial properties to the west; marinas to the south.
<b>Wetlands</b>	None mapped within the dewatering area; mapped wetlands along the shoreline areas adjacent to the site include coastal shoals, bars, mudflats, and intertidal marsh.
<b>State and Federally Listed Species Habitat</b>	No mapped habitat on site.
<b>Mapped Soils</b>	Udorthents, refuse substratum (Uf).
<b>Staging Area</b>	Equipment staging possible in grassy field adjacent to paved access road at the southwest corner of the site.
<b>Dewatering Capacity</b>	27,300 cy
<b>Land Access</b>	Garvies Point Rd.
<b>Water Access</b>	Hempstead Harbor to Glen Cove Creek; controlling water depths in the creek at approx. 10 ft. Portions of the shoreline adjacent to the site are protected with a sheet pile bulkhead; the structure is in excellent condition; bulkhead height is approx. 6 to 10 ft above the level of Hempstead Harbor.
<b>Additional Considerations</b>	The northwest corner of the site contains a large basin used previously for dewatering sediment dredged from Glen Cove Creek; the depression is approx. 10 ft deep at the center and vegetated with grasses, weeds, and low growing shrubs. Remediation of the site was complete as of Summer 2008. Area is currently developed as waterfront park with a paved walking trail, interior ponds, and a educational fishing vessel display; northern end of the site is currently being developed for Glen Cove Ferry Terminal and Boat Basin. Existing plans for the remainder of the site include open space, harbor buildings, restaurant, and landscaping. Near-term (1-4 yrs) use of this site for dewatering is feasible, but coordination with the Glen Cove Industrial Development Agency's ongoing plans for waterfront revitalization would be necessary. Cultural resources present. Site "Potentially Viable in the Future" for dewatering.

**Site NY-7A**  
**Glen Cove, NY**

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**Date:** July 13, 2010

**Direction:** Northeast

**Description:**

View of remediation site showing existing basin used for sediment dewatering.



**Date:** July 13, 2010

**Direction:** South

**Description:**

View of remediation site showing existing vegetation and disturbed areas.

**Site NY-7A**  
**Glen Cove, NY**

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**Date:** July 13, 2010

**Direction:** Southeast

**Description:**

Upland park area with walking paths, showing typical bulkhead shore protection along much of the shoreline.



**Date:** July 13, 2010

**Direction:** Southwest

**Description:**

Unprotected portion of shoreline showing tidal flats, salt marsh, and vegetated coastal bank.




Parcel	SBL
1	21-A-504
2	21-A-489
3	21-A-442
4	21-259-4
5	21-259-3
6	21-259-2
7	21-A-643
8	21-A-12

**Site NY-7-A Glen Cove, NY  
Potential Dewatering Site**



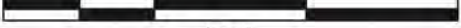

# Site NY-1 Mattituck, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c6c8ca; border: 1px solid #c6c8ca; margin-right: 5px;"></span> DS = Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #c6c8ca; margin-right: 5px;"></span> FC = Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c6c8ca; margin-right: 5px;"></span> FM = Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff3cd; border: 1px solid #c6c8ca; margin-right: 5px;"></span> HM = High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c6c8ca; margin-right: 5px;"></span> IM = Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c6c8ca; margin-right: 5px;"></span> SM = Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">3000</span></p>  <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-25-10                  File: TC-0024_LIS_NY-1-2.ai</p>

# Site NY-1 Mattituck, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p style="text-align: center;">0 <span style="float: right;">3997</span></p>  <p style="text-align: center;">Feet</p> <p>Image Source: Google © 2009              Image Date: February 28, 2007              Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)              Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p> <p><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area     <span style="display: inline-block; width: 15px; height: 10px; background-color: #FF6347; border: 1px solid black; margin-right: 5px;"></span> Berm     <span style="display: inline-block; width: 15px; height: 10px; background-color: #8A2BE2; border: 1px solid black; margin-right: 5px;"></span> Staging Area</p>	 <p style="text-align: center;">US Army Corps of Engineers</p> <p>Date: 9-3-10 File: TO-0024_LIS_NY-1-4.ai</p>
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**Site NY-1**  
**Mattituck, NY**

<b>Site Address</b>	Oregon Rd. (between Elijahs Rd and Duck Pond Rd.), Mattituck, NY
<b>General Description</b>	Site includes agricultural fields on multiple parcels located on the north side of Long Island in Mattituck.
<b>Ownership/POC</b>	Multiple (16) private properties James McMahon, Southold Dept. of Public Works (631) 765-1283
<b>Zoning</b>	AC Agricultural preservation
<b>Surrounding Land Use</b>	Commercial agricultural properties and residential properties surround the site.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Haven loam, 0 to 2% slopes (HaA). Small portions of Haven loam, 2 to 6% slopes (HaB), Plymouth loamy sand, 3 to 8% slopes (PIB), Plymouth loamy sand, 8 to 15% slopes (PIC), Riverhead sandy loam, 0 to 3% slopes (RdA), Riverhead sandy loam, 3 to 8% slopes (RdB), Riverhead sandy loam, 8 to 15% slopes (RdC), and Scio silt loam, sandy substratum, 0 to 2% slopes (SdA).
<b>Staging Area</b>	Staging areas for equipment do not currently exist; however they could be developed in areas of the site adjacent to Oregon Rd.
<b>Dewatering Capacity</b>	2,085,000 cy
<b>Land Access</b>	Oregon Rd. Small paved road running through farmland. Approximately 10 miles to Rte 495.
<b>Water Access</b>	No direct water access to site. Abutting private residential parcels north of the site can be accessed via LIS, but a high bluff (>60 ft) lies at the edge of these parcels. Material would need to be pumped up and over the bluff, and across the private parcels.
<b>Additional Considerations</b>	Most of the site is currently in agricultural use (corn, field crops, vineyard, nursery stock, sod); 7 of the 16 parcels have Transferred Development Rights (TDR) to the Town of Southold; per Chapter 70 of the Town Code TDR restricts future uses of the site to agriculture only. Dewatering areas could potentially be constructed on the remaining parcels; however water access to site would be challenging (see above). Several of the shore front properties have shore protection structures on the bluff, however, erosion of the bluff is ongoing and would be concern if a pumping system was utilized. In addition parcels on the shore are residential, and owners would need to grant a right-of-way for a pipeline. Cultural resources present. Site "Potentially Viable in the Future" for dewatering.

**Site NY-1**  
**Mattituck, NY**

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**Date:** July 12, 2010

**Direction:** North

**Description:**

Current use of site looking to the north from Oregon Rd. showing agricultural field.



**Date:** July 12, 2010

**Direction:** Northeast

**Description:**

Current use of site looking to the northeast from Oregon Rd showing vineyard.

## Site NY-1 Mattituck, NY

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**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile adjacent to NY-1 site, showing high coastal bluff with bulkheads for shore protection.



**Date:** July 12, 2010

**Direction:** West

**Description:**

Beach profile adjacent to NY-1 site, showing narrow beach and high eroding coastal bluffs.



\*Parcel numbers on next page

# Site NY-1 Mattituck, NY Potential Dewatering Site

Parcel	DSBL	Parcel	DSBL
1	1000082000200002000	59	1000100000400008001
2	1000082000200003002	60	1000100000400008002
3	1000082000200003003	61	1000101000100005002
4	1000082000200003004	62	1000095000100004003
5	1000083000100026000	63	1000095000300003005
6	1000083000100027000	64	1000100000400005004
7	1000083000100028000	65	1000094000200005000
8	1000083000100029000	66	1000095000300001000
9	1000083000100032003	67	1000094000300001011
10	1000083000100033000	68	1000094000300002000
11	1000083000100034000	69	1000094000300003002
12	1000094000100017000	70	1000094000300004002
13	1000094000100018000	71	1000095000100001001
14	1000094000100019000	72	1000095000100004002
15	1000094000200006000	73	1000095000100004004
16	1000094000200007000	74	1000095000100007001
17	1000094000300001008	75	1000095000300004001
18	1000094000300001012	76	1000095000300009001
19	1000094000300003001	77	1000100000200005005
20	1000094000300003003	78	1000094000100020000
21	1000094000300004001	79	1000095000300003006
22	1000094000400001000	80	1000095000400008000
23	1000094000400002000	81	1000094000300001013
24	1000095000100001002	82	1000083000100016000
25	1000095000100002000	83	1000083000100022000
26	1000095000100003001	84	1000083000100023000
27	1000095000100003002	85	1000083000100024000
28	1000095000100005002	86	1000083000100025000
29	1000095000100006000	87	1000083000100030000
30	1000095000100007002	88	1000083000100036001
31	1000095000100008002	89	1000083000200019009
32	1000095000100008003	90	1000083000200019012
33	1000095000100009000	91	1000083000200019013
34	1000095000100010000	92	1000083000200020001
35	1000095000100011002	93	1000083000400001000
36	1000095000100011003	94	1000083000400002000
37	1000095000100012000	95	1000083000400004000
38	1000095000300002000	96	1000083000400007000
39	1000095000300003004	97	1000083000400008000
40	1000095000300007000	98	1000083000400010000
41	1000095000300008001	99	1000083000400011000
42	1000095000400001000	100	1000083000400012000
43	1000095000400005003	101	1000083000400015000
44	1000095000400006001	102	1000095000200001001
45	1000095000400006002	103	1000100000400005002
46	1000095000400009002	104	1000083000400009000
47	1000095000400014002	105	1000083000400016000
48	1000095000400014003	106	1000083000400003000
49	1000095000400021000	107	1000083000100021000
50	1000100000200006001	108	1000083000100031000
51	1000100000200006002	109	1000083000200019007
52	1000100000200006003	110	1000083000200019011
53	1000100000200007000	111	1000083000400017000
54	1000100000200008000	112	1000082000200001000
55	1000100000400005003	113	1000082000200003001
56	1000100000400006002	114	1000094000300001010
57	1000100000400006003	115	1000094000100016003
58	1000100000400007001		

**Site NY-1 Mattituck, NY  
Potential Dewatering Site**

# Site NY-10 North Hempstead, NY



Legend	
Mapped Wetlands	
	Freshwater Wetland
	Dredged Spoil
	Formerly Connected Tidal Wetlands
Mapped Habitat	
	Fresh Marsh
	High Marsh
	Intercoastal Marsh
	Coastal Shoals, Bars and Mudflats
	Federal/State Listed Species Habitat
	Dewatering Site

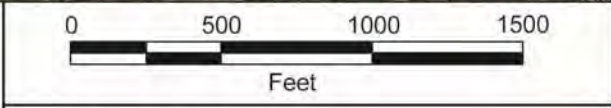



Image Source: Google © 2009  
 Image Date: June 18, 2010  
 Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)  
 NYS Freshwater Wetlands (NYSDEC, 2010)  
 Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities



US Army Corps of Engineers

Date: 8-24-10  
 File: TO-0024\_LIS\_NY-10-2.ai



**Site NY-10**  
**North Hempstead, NY**

<b>Site Address</b>	802 West Shore Rd., Port Washington, NY
<b>General Description</b>	The site is located on the eastern portion of Manhasset Neck and is bordered to the east by Hempstead Harbor. It contains the closed and capped Port Washington landfill.
<b>Ownership/POC</b>	Town of North Hempstead Igor Sikiric, Commissioner Solid Waste Management Authority (516) 883-6241
<b>Zoning</b>	R AAA - Residence AAA
<b>Surrounding Land Use</b>	Industrial park abuts the site to the south; municipal and private golf courses are located to the west and north; residential areas surround the golf courses; Hempstead Harbor is located to the east across West Shore Rd. from the site.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Pits, sand and gravel (Pk).
<b>Staging Area</b>	Minimal room for staging on site.
<b>Dewatering Capacity</b>	Not available – closed and capped landfill.
<b>Land Access</b>	West Shore Rd. to landfill site and Solid Waste Management Authority offices. Access roads surround the landfill and allow equipment access across the top of the landfill.
<b>Water Access</b>	Hempstead Harbor; south of Bar Beach water depths range between 0.5 and 3 ft. Water access is separated from site by West Shore Rd; adjacent harbor shoreline is in a natural woodland condition; bulkheads/seawalls not present.
<b>Additional Considerations</b>	The Port Washington landfill, composed of areas L4 and L5, was used for disposal of residential, commercial and industrial solid waste, raw sewage sludge, construction and demolition debris, and incinerator residue from 1970 through 2002. Landfill area L4 was closed in 1983 and capped in 1997; landfill area L5 was closed and capped in 2002. POC notes landfill is not now, and will not be available for dewatering in the future. Cultural resources present. Site “Not Feasible” for dewatering.

**Site NY-10**  
**North Hempstead, NY**

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**Date:** July 13, 2010

**Direction:** Northwest

**Description:**

Main offices of North Hempstead Solid Waste Management Authority.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Port Washington closed and capped landfill with maintenance facilities in the foreground.





Parcel	SBL
1	6-53-1033
2	6-089-60
3	6-089-61
4	6-089-12
5	6-089-13
6	6-089-14
7	6-089-16
8	6-089-18
9	6-089-23
10	6-089-62
11	6-089-52
12	6-53-996
13	6-053-1038
14	6-053-1047
15	6-053-1048

**Site NY-10 North Hempstead, NY  
Potential Dewatering Site**

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# Site NY-29 North Hempstead, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #228B22; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFDAB9; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">2500</span></p>  <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google© 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	

# Site NY-29 North Hempstead, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #228B22; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A0522D; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #808000; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      595      1190      1785</p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;"><b>US Army Corps of Engineers</b></p>
	<p>Image Source: Google © 2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	
<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #32CD32; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed red; margin-right: 5px;"></span> Berm</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed blue; margin-right: 5px;"></span> Staging Area</li> </ul>		

**Site NY-29**  
**North Hempstead, NY**

<b>Site Address</b>	West Shore Rd., Port Washington, NY
<b>General Description</b>	The site is located on the northeastern portion of Manhasset Neck and is bordered to the east by Hempstead Harbor. The property is heavily wooded, with the exception of the central portion which contains aerodrome facilities for the Hempstead Harbor Aero Modelers Society, Inc.
<b>Ownership/POC</b>	Town of North Hempstead Fred Pollack, Councilman Port Washington District, Town of North Hempstead (516) 869-7711
<b>Zoning</b>	R-AAA - Residence AAA
<b>Surrounding Land Use</b>	Residential properties and a municipal golf course abut the site to the north, west, and south. Marine industrial facilities (Barker Aggregates, Ltd.; Buchanan Marine) are located to the east across West Shore Rd.; these facilities have direct access to Hempstead Harbor.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Pits, sand and gravel (Pk); western portion Udipsamments, steep (UdE); northwestern edge Montauk fine sandy loam, 3 to 8 percent slopes (MfB).
<b>Staging Area</b>	Staging areas for equipment not currently available as the area is heavily wooded. Potential staging could be developed adjacent to West Shore Rd. and existing access road to the aerodrome.
<b>Dewatering Capacity</b>	39,900 cy
<b>Land Access</b>	West Shore Rd. to existing access road leading to aerodrome. Additional land access within the site would need to be developed.
<b>Water Access</b>	Hempstead Harbor; approximate waters depths between 10 and 15 ft. Water access is separated from site by West Shore Rd; adjacent harbor shoreline is a combination of bulkheads and naturally vegetated coastal banks.
<b>Additional Considerations</b>	The central portion of the site where the aerodrome is located has been remediated for methane gas through top soil stripping, installation of vent pipes, placement of clean top soil, and revegetation. This portion of the site is not viable for dewatering due to methane capture system underground. Heavily vegetated woodland areas are present throughout the remaining portions of the site. The site topography rises approximately 100 to 200 ft above the level of Hempstead Harbor. Cultural resources present. Site "Potentially Viable in the Future" for dewatering.

**Site NY-29**  
**North Hempstead, NY**

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**Date:** July 13, 2010

**Direction:** North

**Description:**

Remediation portion of the site showing existing aerodrome facilities.



**Date:** July 13, 2010

**Direction:** West

**Description:**

Remediation portion of the site showing surrounding woodland area.



## Site NY-29 North Hempstead, NY

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**Date:** July 13, 2010

**Direction:** West

**Description:**

Existing road access off of West Shore Rd. that leads to remediation site and aerodrome.

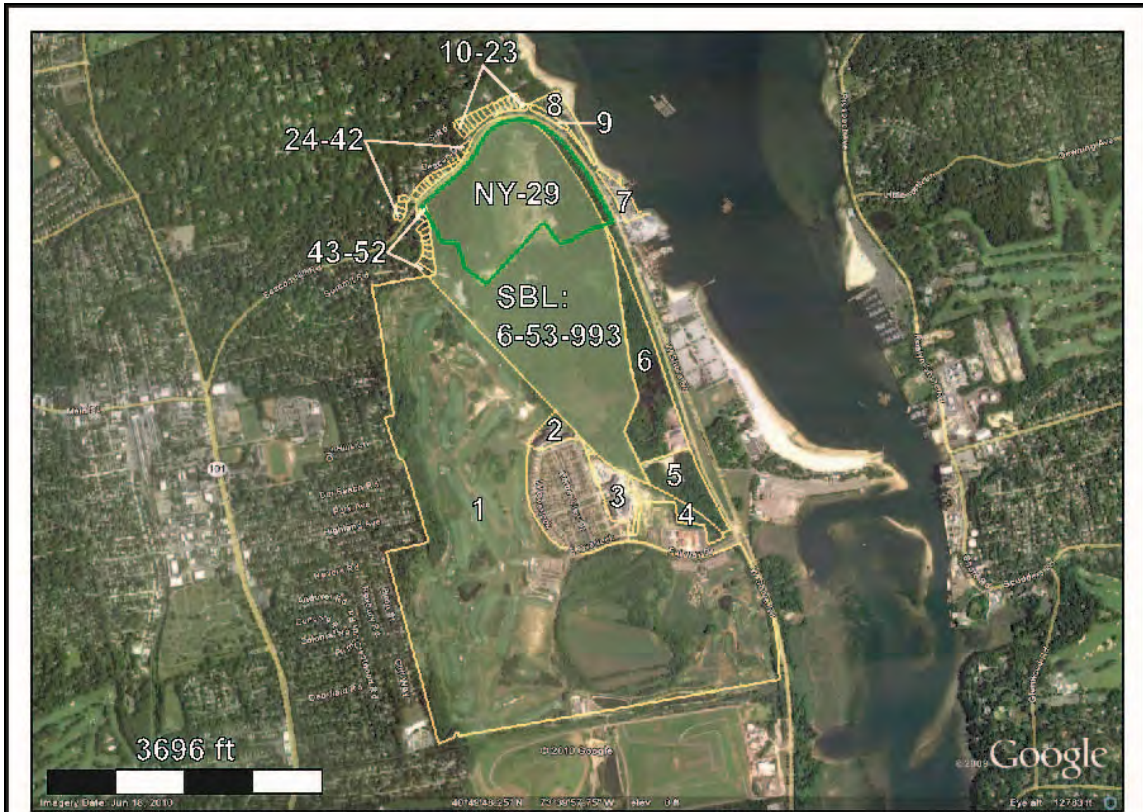


**Date:** July 13, 2010

**Direction:** South

**Description:**

Hempstead Harbor shoreline area adjacent to the site showing examples of timber bulkhead and naturally vegetated banks.




Parcel	SBL	Parcel	SBL	Parcel	SBL
1	6-53-1077	22	5-K-74	43	6-036-112
2	6-53-1067	23	5-K-71	44	6-036-113
3	6-053-1066	24	5-144-16	45	6-036-114
4	6-053-1071	25	5-144-15	46	6-036-115
5	6-053-1057	26	5-144-13	47	6-036-116
6	6-053-1058	27	5-144-14	48	6-036-117
7	6-053-57C	28	5-144-12	49	6-036-118
8	5-K-3	29	5-144-11	50	6-036-120
9	5-K-290	30	5-144-20	51	6-036-119
10	5-K-277	31	5-144-19	52	6-036-7
11	5-K-280	32	5-144-18		
12	5-K-282	33	5-144-23		
13	5-K-284	34	5-144-24		
14	5-K-285	35	5-144-25		
15	5-K-278	36	5-144-22		
16	5-K-273	37	5-144-26		
17	5-K-89	38	5-144-21		
18	5-K-95	39	5-145-1		
19	5-K-94	40	5-134-53		
20	5-K-93	41	5-134-52		
21	5-K-96	42	5-134-51		

**Site NY-29 North Hempstead, NY  
Potential Dewatering Site**

# Site CT-8 Fairfield, CT



<p><b>Legend</b></p> <p>Mapped Wetlands</p> <ul style="list-style-type: none"> <li>Tidal Wetland</li> </ul>	<p>0 500 1000 1500</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Mapped Habitat</p> <ul style="list-style-type: none"> <li>Federal/State Listed Species Habitat</li> <li>Dewatering Site</li> </ul>	<p>Image Source: Google © 2009                  Image Date: October 1, 2006                  Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)                  Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)</p>	<p>Date: 8-17-10                  File: TC-0024_LIS_CT-8-2.ai</p>

# Site CT-8 Fairfield, CT



Legend	
Mapped Wetlands	
	Tidal Wetland
Mapped Habitat	
	Federal/State Listed Species Habitat
	Dewatering Site
	Staging Area
	Berm
	Dewatering Area

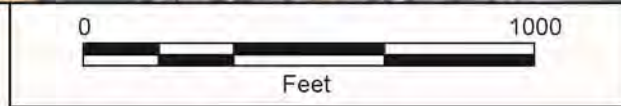


Image Source: Google © 2009  
 Image Date: October 1, 2006  
 Wetland Source: Tidal Wetlands 1990's (CT DEP, Office of LIS Programs, 2002)  
 Listed Species Habitat Source: Natural Diversity Database Areas (CT DEP, 2010)



Date: 9-3-10  
 File: TO-0024\_LIS\_CT-8-4.ai

**Site CT-8**  
**Fairfield, CT**

<b>Site Address</b>	183 One Rod Highway, Fairfield, CT
<b>General Description</b>	Site is town property. Area of interest is used for material recycling, asphalt processing. Larger town parcel also includes DPW offices, wastewater treatment plant, and construction materials storage.
<b>Ownership/POC</b>	Town of Fairfield, CT Steve Bartlett, Assistant Director, Fairfield DPW (203) 256-3010
<b>Zoning</b>	Town of Fairfield Flood Plain District
<b>Surrounding Land Use</b>	Wetland/open space; closed & capped landfill; residential.
<b>Wetlands</b>	Yes. Mapped wetlands adjacent to, and on parcel on south, east, and north sides.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Dumps (302); southwestern portion Westbrook mucky peat (98); small northeastern portion Udorthents - Urban land complex (306).
<b>Staging Area</b>	Room for staging areas at the end of access roads on the north and east sides.
<b>Dewatering Capacity</b>	47,800 cy
<b>Land Access</b>	One Rod Highway provides access to the site. This is a secondary road with no limitations to heavy equipment or truck access. I-95 is approximately 2 miles from the site. MetroNorth railroad is approximately 1 mile from site.
<b>Water Access</b>	Pine Creek runs along site and connects to LIS. Approximate water depths 2-10 feet. No facilities available for transferring material to shore. No docks, no bulkhead.
<b>Additional Considerations</b>	Site currently used for Town of Fairfield recycling and for a private asphalt recycling facility, and has been used in such endeavors for the past 28+ years. Site operator doesn't anticipate an ability to dewater dredged material on the site in the foreseeable future. Residential parcels on Fairfield Beach Road – generally these homeowners have voiced concern over various uses of the site. Plans are in place to establish a walking path along the edge of the parcel, on berms adjacent to the marsh. Wetlands on and adjacent to site. Setbacks required. Berm failure could potentially damage wetlands. Soils may be unstable, as site was previously used as a municipal waste site, and later for dumping brush. Sink holes and potholes appear frequently. Site is in FEMA AE-Zone. Site “Potentially Viable in the Future” for dewatering.

**Site CT 8  
Fairfield, CT**

---



**Date:** June 22, 2010

**Direction:** West

**Description:**

Current use of site for asphalt recycling.



**Date:** June 22, 2010

**Direction:** East

**Description:**

Current use of site for yard waste recycling.

**Site CT 8  
Fairfield, CT**

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**Date:** June 22, 2010

**Direction:** Southwest

**Description:**

View from top of berm alongside the asphalt recycling area, showing wetland adjacent to site.

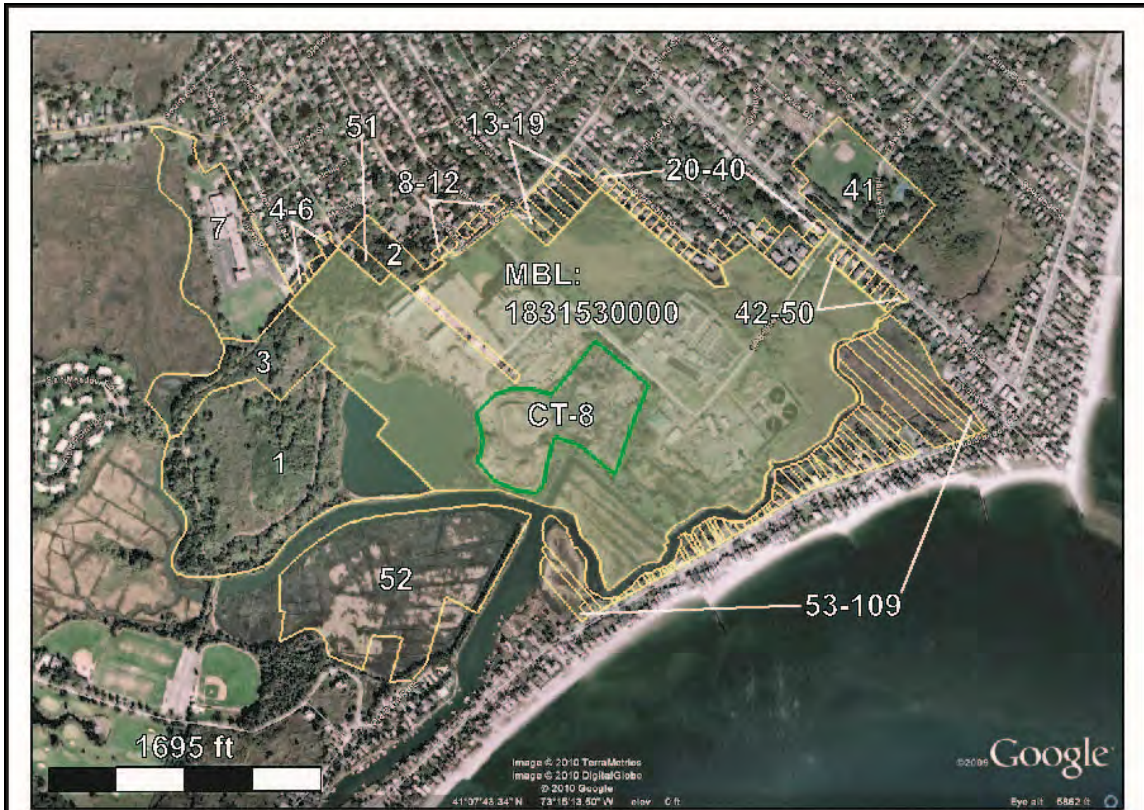


**Date:** June 22, 2010

**Direction:** South

**Description:**

View from top of berm showing adjacent salt marsh and water access via Pine Creek.



\*Parcel numbers on next page

**Site CT-8    Fairfield, CT**  
**Potential Dewatering Site**




Parcel	MBL	Parcel	MBL	Parcel	MBL
1	2342880000	37	1831560000	73	1842240000
2	1825280000	38	1831570000	74	1842230000
3	2321150000	39	183194A0000	75	1842220000
4	2320290000	40	1831940000	76	1842210000
5	2320010000	41	1830230000	77	1842200000
6	2320140000	42	1831520000	78	1842190000
7	2320440000	43	1831510000	79	1842180000
8	182597A0000	44	1831500000	80	1842170000
9	1825970000	45	1831490000	81	1842160000
10	1824850000	46	1831480000	82	1842150000
11	1825270000	47	1831470000	83	1842140000
12	1824320000	48	1831460000	84	1842130000
13	1832790000	49	1831450000	85	1842120000
14	1832780000	50	1831440000	86	1842110000
15	1832770000	51	1825300000	87	1842100000
16	1832760000	52	2342880000	88	1842090000
17	1832750000	53	1842450000	89	1842080000
18	1832740000	54	1842430000	90	1842070000
19	1832730000	55	1842420000	91	184206A0000
20	1832680000	56	1842410000	92	1842060000
21	1832670000	57	1842400000	93	1842050000
22	1832660000	58	184239A0000	94	1842040000
23	1832650000	59	1842390000	95	1842020000
24	1832640000	60	1842380000	96	1842010000
25	1832630000	61	1842370000	97	1842000000
26	1832620000	62	1842360000	98	1841990000
27	1832610000	63	1842350000	99	1841980000
28	1832600000	64	1842340000	100	1841970000
29	1832590000	65	1842330000	101	1841960000
30	1832580000	66	1842320000	102	1841930000
31	1832570000	67	1842310000	103	1841900000
32	1832560000	68	1842300000	104	1841870000
33	1832550000	69	1842290000	105	1841850000
34	1831970000	70	1842280000	106	1841840000
35	1832210000	71	1842260000	107	1841830000
36	1831550000	72	1842250000	108	1841820000
				109	1841810000

**Site CT-8      Fairfield, CT**  
**Potential Dewatering Site**

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# Site NY-3 Northville, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">2500</span></p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google © 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-25-10                  File: TO-0024_LIS_NY-3-2.ai</p>

# Site NY-3 Northville, NY



<p>Legend</p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #FFB6C1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3CB371; border: 1px solid black; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #A52A2A; border: 1px solid black; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Interoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #FF69B4; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #3CB371; margin-right: 5px;"></span> Dewatering Site</li> </ul>		<p>0 <span style="float: right;">1430</span></p> <p style="text-align: center;">Feet</p>	 US Army Corps of Engineers
<p>Image Source: Google© 2009                  Image Date: February 28, 2007                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005) NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>	<p>Date: 8-25-10                  File: TO-0024_LIS_NY-3-4.ai</p>		

**Site NY-3**  
**Northville, NY**

<b>Site Address</b>	Penny's Lane and Sound Shore Rd. Northville, NY
<b>General Description</b>	Site includes agricultural fields on multiple privately owned parcels located on the north side of Long Island in Northville. Conoco Philips owns one large parcel, and leases it to a farmer. Development rights on most of the parcels within the site have been sold and would not allow dewatering.
<b>Ownership/POC</b>	Conoco Philips and Privately owned parcels. Laura Shoenberger (832) 486-3347 POC at Conoco Philips; James McMahon, Southold Dept. of Public Works (631) 765-1283.
<b>Zoning</b>	RA 40, RA 80 - Residential
<b>Surrounding Land Use</b>	Agricultural; residential; industrial (tank farm).
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	Yes. Mapped habitat covers most of site.
<b>Mapped Soils</b>	Haven loam, 0 to 2% slopes (HaA) and Haven loam, 2 to 6 % slopes (HaB); peripheral portions consist of Carver and Plymouth sands, 3 to 15% slopes (CpC), Carver and Plymouth sands, 15 to 35% slopes (CpE), Plymouth gravelly loamy sand, 3 to 8% slopes, eroded (PmB3), Plymouth gravelly loamy sand, 8 to 15% slopes, eroded (PmC3), Riverhead sandy loam, 0 to 3% slopes (RdA), Riverhead sandy loam, 3 to 8% slopes (RdB), and Riverhead sandy loam, 8 to 15% slopes (RdC).
<b>Staging Area</b>	Room for staging area at Sound Shore Rd on the north side of parcel, though currently in agricultural use.
<b>Dewatering Capacity</b>	35,200 cy
<b>Land Access</b>	Sound Shore Rd. Small paved road running through agricultural area. Approximately 10 miles to Rte 495.
<b>Water Access</b>	No direct access to site. Abutting private residential parcels north of the site can be accessed via LIS, but a high bluff (>100 ft) lies at the edge of these parcels. Material would need to be pumped up and over the bluff, across the private parcels, and across the road to get to the site.
<b>Additional Considerations</b>	A small portion on the north side of this site could potentially become available for dewatering in future; however, development rights have been sold on most of the parcels within the site. If these north end parcels became available, water access would be challenging, as noted above. No shore protection structures occur on the bluff, and erosion would be an issue if a pumping system was put in place. Parcels on the shore are residential, and owners would need to grant a right-of-way for a pipeline. Cultural resources present. Site "Potentially Viable in the Future" for dewatering.

**Site NY-3**  
**Northville, NY**

---



**Date:** July 12, 2010

**Direction:** Southeast

**Description:**

Current use of site looking southeast.  
Agricultural field.



**Date:** July 12, 2010

**Direction:** East

**Description:**

Current use of site looking east.  
Food crops including corn, wheat,  
potatoes.

**Site NY-3**  
**Northville, NY**

---



**Date:** July 12, 2010

**Direction:** North

**Description:**

View from top of berm at the adjacent property on LIS, showing the high bluff with no shore protection/stabilization.



**Date:** July 12, 2010

**Direction:** South

**Description:**

Area alongside Sound Shore Rd., currently in agriculture but could potentially become staging if parcels became available for dewatering.



Parcel	DSBL	Parcel	DSBL
1	0600006000200004000	19	0600019000100008001
2	0600006000200005000	20	0600019000100009000
3	0600006000300001001	21	0600019000100010000
4	0600006000300001003	22	0600019000100016000
5	0600019000100012000	23	0600019000100017000
6	0600020000100003000	24	0600020000100002005
7	0600020000100002003	25	0600020000100002006
8	0600006000300001002	26	0600020000100004001
9	0600006000100005000	27	0600020000100005001
10	0600006000200001000	28	0600020000200004005
11	0600006000200002000	29	0600020000200004006
12	0600006000200003001	30	0600020000200005000
13	0600006000200003002	31	0600006000200008000
14	0600006000200003004	32	0600006000200003003
15	0600006000200006000	33	0600019000100008002
16	0600006000200009001	34	0600020000100002004
17	0600019000100005000	35	0600020000200002000
18	0600019000100006000	36	0600019000100007000


**Site NY-3 Northville, NY  
Potential Dewatering Site**



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# Site NY-16-B Queens, NY



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f8d7da; border: 1px solid #c6c8ca; margin-right: 5px;"></span> Freshwater Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d1ecf1; border: 1px solid #bee5eb; margin-right: 5px;"></span> Dredged Spoil</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Formerly Connected Tidal Wetlands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Fresh Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> High Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Intercoastal Marsh</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></span> Coastal Shoals, Bars and Mudflats</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #ffc107; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #28a745; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0      250      500      750</p> <p>Feet</p>	 <p>US Army Corps of Engineers</p>
<p>Image Source: Google©2009                  Image Date: June 18, 2010                  Wetland Source: Tidal Wetlands - New York City and Long Island (NYSDEC, 2005)                  NYS Freshwater Wetlands (NYSDEC, 2010)                  Listed Species Habitat Source: Rare Plants and Rare Animals (NYNHP, 2010); Significant Natural Communities</p>		<p>Date: 8-24-10                  File: TO-0024_LIS_NY-16-B-2.ai</p>

**Site NY-16B**  
**Queens, NY**

<b>Site Address</b>	40-22 College Pt. Blvd., Queens, NY
<b>General Description</b>	This site has been developed into a shopping center, parking garage, and residential towers. There is no capacity for dewatering dredged material.
<b>Ownership/POC</b>	Flushing Town Center III, LLC. Dave Brickman (212) 993-5706
<b>Zoning</b>	C4- General commercial districts, shopping centers and offices in more densely built areas.
<b>Surrounding Land Use</b>	Industrial; retail; Flushing River.
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Pavement & buildings, till substratum, 0 to 5 percent slopes (2)
<b>Staging Area</b>	n/a
<b>Dewatering Capacity</b>	None. Site has been developed.
<b>Land Access</b>	College Pt. Blvd.
<b>Water Access</b>	Non-navigable river (Flushing River).
<b>Additional Considerations</b>	<p>This site was developed between 2006 and 2009. The developer indicates that the entire parcel now includes a mixed-use development including shopping areas, parking, and residential towers.</p> <p>The 2009 USACE Upland Site Investigation identified the site using the available GoogleEarth images, which at the time did not show the development on this parcel. The currently available image does show the buildings on the parcel.</p> <p>Site “Not Feasible” for dewatering.</p>



Parcel	BBL	Parcel	BBL
1	Queens 5066 250	18	Queens 5060 54
2	Queens 5066 8900	19	Queens 5060 55
3	Queens 4963 7	20	Queens 5060 155
4	Queens 4962 19	21	Queens 5060 56
5	Queens 4962 4	22	Queens 5060 57
6	Queens 4973 1	23	Queens 5060 58
7	Queens 5037 8	24	Queens 5060 59
8	Queens 5060 38	25	Queens 5060 60
9	Queens 5060 37	26	Queens 5060 61
10	Queens 5060 42	27	Queens 5060 62
11	Queens 5060 46	28	Queens 5060 64
12	Queens 5060 47	29	Queens 5060 67
13	Queens 5060 149	30	Queens 5060 68
14	Queens 5060 150	31	Queens 5060 69
15	Queens 5060 151	32	Queens 5060 70
16	Queens 5060 152	33	Queens 5060 71
17	Queens 5060 53	34	Queens 5066 150

**Site NY-16-B Queens, NY  
Potential Dewatering Site**

# Site RI-4-C North Kingstown, RI



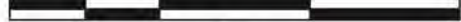

Narragansett  
Bay

<p style="text-align: center;"><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e06666; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #996633; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #669933; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff66; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #996633; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #336633; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #e06666; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid #669933; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="font-size: 2em;"> </span> 1000</p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_RI-4-C-2.ai</p>

# Site RI-4-C North Kingstown, RI



Narragansett Bay

<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fce4d6; border: 1px solid #000; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<div style="text-align: center;"> <p>0 <span style="font-size: 2em;"> </span> 1000</p>  <p>Feet</p> </div> <p>Image Source: Google©2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas (RI DEM/Nature Conservancy Natural Heritage Program, 1990)</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="display: flex; align-items: center;"> <span style="width: 15px; height: 10px; background-color: #cfe2f3; border: 1px solid #000; margin-right: 5px;"></span> Dewatering Area                 </div> <div style="display: flex; align-items: center;"> <span style="width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #000; margin-right: 5px;"></span> Berm                 </div> <div style="display: flex; align-items: center;"> <span style="width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> Staging Area                 </div> </div>	<div style="text-align: center;">  <p>US Army Corps of Engineers</p> </div> <p style="font-size: 0.8em; margin-top: 10px;">Date: 9-7-10 File: TO-0024_LIS_RI-4-C-4.ai</p>
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**Site RI - 4C**  
**North Kingstown, RI**

<b>Site Address</b>	Casey Ave., North Kingstown, RI
<b>General Description</b>	Industrial site in the Quonset Business Park, an industrial/commerce park on the former Naval base at Quonset Point. Site is currently leased to Electric Boat for submarine manufacture.
<b>Ownership/POC</b>	Quonset Development Corp. Stephen King, Managing Director (401) 295-0044 x243
<b>Zoning</b>	General Industrial
<b>Surrounding Land Use</b>	Industrial
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Site is concrete throughout. Soils are mapped as Urban Land (UL) - moderate constraints to development.
<b>Staging Area</b>	Not on site at present. Could be created.
<b>Dewatering Capacity</b>	87,800 cy. Potential capacity, site is not currently available.
<b>Land Access</b>	Rte 403/Roger Williams Ave. to Casey Ave. No limitations on access for trucks or equipment. Rail line runs through Quonset Point and track is <1 mile from parcel.
<b>Water Access</b>	Site is on Narragansett Bay. Water depths 3-11 ft near bulkhead; deeper in the channel, which is 30 ft or deeper. Bulkhead along shoreline with possible access for barges.
<b>Additional Considerations</b>	Site has been leased by Electric Boat since 1974 and is not available at present. POC for the site does not see near-term possibility of dewatering at the site. Electric Boat recently announced plans to expand at Quonset Point, adding 450 specialized jobs and \$55 million on new infrastructure at Quonset Point as part of the expansion of the Virginia Class Nuclear Sub program. Access to this parcel was not granted due to security concerns regarding Electric Boat's work on Navy Submarines. Therefore no photos are available for this site. Site is in FEMA VE-Zone and AE-Zone. Site "Potentially Viable in the Future" for dewatering.



Parcel	MBL
1	185-031
2	185-032
3	185-035
4	185-011
5	185-002
6	185-001
7	185-008

**Site RI-4-C North Kingstown, RI  
Potential Dewatering Site**




# Site RI-5 North Kingstown, RI



<p style="text-align: center;"><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0b0ff; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d2b48c; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f0e68c; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #6aa84f; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #000080; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid #008000; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">2500</span></p> <p>Feet</p>	<p>US Army Corps of Engineers</p>
<p>Image Source: Google© 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program,                  1990)</p>		<p>Date: 8-30-10                  File: TO-0024_LIS_RI-5-2.ai</p>

# Site RI-5 North Kingstown, RI



<p><b>Legend</b></p> <p><b>Mapped Wetlands</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e8f5e9; border: 1px solid black; margin-right: 5px;"></span> Estuarine Emergent Wetland</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0f2f1; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0f2f1; border: 1px solid black; margin-right: 5px;"></span> Rocky Shore</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff9c4; border: 1px solid black; margin-right: 5px;"></span> Marine/Estuarine Unconsolidated</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffe0b2; border: 1px solid black; margin-right: 5px;"></span> Palustrine Open Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0f2f1; border: 1px solid black; margin-right: 5px;"></span> Scrub-Shrub Swamp</li> </ul> <p><b>Mapped Habitat</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Federal/State Listed Species Habitat</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Dewatering Site</li> </ul>	<p>0 <span style="float: right;">1351</span></p> <p style="text-align: center;">Feet</p>	 <p style="text-align: center;">US Army Corps of Engineers</p>
	<p>Image Source: Google © 2009                  Image Date: May 1, 2010                  Wetland Source: Wetlands of RI (IEP, 1988)                  Listed Species Habitat Source: Natural Heritage Areas                  (RI DEM/Nature Conservancy Natural Heritage Program, 1990)</p>	<p>Date: 9-7-10                  File: TC-0024_LIS_RI-5-4.ai</p>
	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Dewatering Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffe0b2; border: 1px solid black; margin-right: 5px;"></span> Berm</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0f2f1; border: 1px solid black; margin-right: 5px;"></span> Staging Area</li> </ul>	

**Site RI-5**  
**North Kingstown, RI**

<b>Site Address</b>	2555 Davisville Rd, North Kingstown, RI
<b>General Description</b>	Industrial site in the Quonset Business Park, an industrial/commerce park on the former Navy base at Quonset Point. Northern part of parcel is leased to North Atlantic Distribution, an auto import firm. Autos are brought by barge from overseas, then processed and distributed to dealers from the site. South end of the parcel has a lease option with an offshore wind manufacturing facility. One small part of the parcel is also used by the Port Office.
<b>Ownership/POC</b>	Quonset Development Corp. Stephen King, Managing Director (401) 295-0044 x243
<b>Zoning</b>	Waterfront Industrial
<b>Surrounding Land Use</b>	Industrial
<b>Wetlands</b>	No.
<b>State and Federally Listed Species Habitat</b>	No.
<b>Mapped Soils</b>	Most of site classified as Urban Land (UL) - moderate constraints to development; small portion Quonset gravelly sandy loam (QoC) - moderate constraints to development. Northern section was recently paved.
<b>Staging Area</b>	None on site currently; could be constructed.
<b>Dewatering Capacity</b>	102,200 cy
<b>Land Access</b>	Rte. 403 to Davisville Rd to Ash St. No constraints to trucks or heavy equipment. Railroad runs through Quonset Point Park on the north side of the parcel.
<b>Water Access</b>	Narragansett Bay. Dock and pier just north of parcel. New bulkhead on edge of parcel (replaced in 2009 following storm damage). Approximate water depths 3-11 feet. NOAA chart indicates 7-11ft but there may be a shoal area immediately adjacent to bulkhead. Channel from Quonset Point through Narragansett Bay is at least 30 ft deep.
<b>Additional Considerations</b>	Site is currently leased to private firms. Wetland/stormwater catch basin on west side of parcel. Setbacks would be required. Surrounding area is industrial but auto import facility would be adversely affected by dust or mud, so dewatering may not be a preferred use of the site. Port Office staff note that plans are in place for a new NOAA vessel to use the dock area immediately adjacent to the site, and this could potentially conflict with site access via barge. Site is in FEMA VE-Zone and AE-Zone. Site "Potentially Viable in the Future" for dewatering.

**Site RI-5**  
**North Kingstown, RI**

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**Date:** July 15, 2010

**Direction:** North

**Description:**

Current use of site: open sandy/gravel area on south end of parcel (area with lease option); auto import terminal on north side.



**Date:** July 15, 2010

**Direction:** West

**Description:**

Newly constructed bulkhead at shoreline. Viewed from pier adjacent to the site.

**Site RI-5**  
**North Kingstown, RI**

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**Date:** July 15, 2010

**Direction:** Southeast

**Description:**

Auto import facility on northern part of parcel.



**Date:** July 15, 2010

**Direction:** East

**Description:**

Stormwater catch basin at west side of site, seen from just outside parcel on west side.



Parcel	MBL
1	193-004
2	192-005
3	192-002
4	194-020
5	194-021
6	191-072
7	191-001
8	192-006
9	191-067
10	194-018

**Site RI-5      North Kingstown, RI**  
**Potential Dewatering Site**

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**APPENDIX A. DETAILED DESCRIPTION OF SITE SOIL  
PROPERTIES**



**APPENDIX B. CULTURAL RESOURCES**



**APPENDIX C. FIELD DATA SHEETS AND SITE OPERATOR  
INTERVIEWS**



**APPENDIX D. SITE CAPACITY ESTIMATE MEMO**





**APPENDIX E. APPROACH FOR ESTIMATING BEACH  
CAPACITY**



**APPENDIX A. DETAILED DESCRIPTION OF SITE SOIL  
PROPERTIES**

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# CONNECTICUT COMPLETE

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# Map Unit Text

State of Connecticut

[Only those mapunits that have entries for the selected text kinds and categories are included in this report]

**Map unit:** 21A - Ninigret and Tisbury soils, 0 to 5 percent slopes

**Text kind/Category:** Nontechnical description/SOI

## *Ninigret And Tisbury Soils, 0 To 5 Percent Slopes*

*This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 35 to 50 inches (889 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 60 percent Ninigret soils, 25 percent Tisbury soils. 15 percent minor components.*

### *Ninigret soils*

*This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 5 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.2 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2w*

#### *Typical Profile:*

*0 to 8 inches; fine sandy loam*

*8 to 16 inches; fine sandy loam*

*16 to 26 inches; fine sandy loam*

*26 to 65 inches; stratified very gravelly coarse sand to loamy fine sand*

### *Tisbury soils*

*This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over sand and gravel. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.6 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2w*

#### *Typical Profile:*

*0 to 8 inches; silt loam*

*8 to 18 inches; silt loam*

*18 to 26 inches; silt loam*

*26 to 60 inches; stratified very gravelly sand to loamy sand*

# Map Unit Text

State of Connecticut

**Map unit:** 32A - Haven and Enfield soils, 0 to 3 percent slopes

**Text kind/Category:** Nontechnical description/SOI

## *Haven And Enfield Soils, 0 To 3 Percent Slopes*

*This map unit is in the Connecticut Valley New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 60 percent Haven soils, 25 percent Enfield soils. 15 percent minor components.*

### *Haven soils*

*This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 5.1 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 1*

#### *Typical Profile:*

*0 to 7 inches; silt loam  
7 to 14 inches; silt loam  
14 to 20 inches; silt loam  
20 to 24 inches; fine sandy loam  
24 to 60 inches; stratified very gravelly sand to gravelly fine sand*

### *Enfield soils*

*This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.8 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 1*

#### *Typical Profile:*

*0 to 3 inches; slightly decomposed plant material  
3 to 4 inches; moderately decomposed plant material  
4 to 12 inches; silt loam  
12 to 20 inches; silt loam  
20 to 26 inches; silt loam  
26 to 30 inches; silt loam  
30 to 37 inches; stratified coarse sand to very gravelly loamy sand  
37 to 65 inches; stratified very gravelly loamy sand to coarse sand*



# Map Unit Text

State of Connecticut

**Map unit:** 97 - Pawcatuck mucky peat

**Text kind/Category:** Nontechnical description/SOI

## *Pawcatuck Mucky Peat*

*This map unit is in the Connecticut Valley New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 85 percent Pawcatuck soils. 15 percent minor components.*

## *Pawcatuck soils*

*This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over sandy glaciofluvial deposits. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is greater than 60 inches. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 4.1 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 7.8 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 32 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8*

## *Typical Profile:*

*0 to 12 inches; mucky peat  
12 to 40 inches; mucky peat  
40 to 46 inches; mucky peat  
46 to 50 inches; very fine sandy loam  
50 to 60 inches; loamy sand*

**Map unit:** 98 - Westbrook mucky peat

**Text kind/Category:** Nontechnical description/SOI

## *Westbrook Mucky Peat*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 80 percent Westbrook soils. 20 percent minor components.*

## *Westbrook soils*

*This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over loamy drift or marine deposits. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is 0 to 51 inches to salic. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 8.4 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 60 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8*

## *Typical Profile:*

*0 to 10 inches; mucky peat  
10 to 40 inches; mucky peat  
40 to 48 inches; mucky peat  
48 to 64 inches; silt loam  
64 to 99 inches; silt loam*

# Map Unit Text

State of Connecticut

**Map unit:** 302 - Dumps

**Text kind/Category:** Nontechnical description/SOI

## *Dumps*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 37 to 50 inches (940 to 1270 millimeters) and the average annual air temperature is 37 to 52 degrees F. (3 to 11 degrees C.) This map unit is 95 percent Dumps. 5 percent minor components.*

## *Dumps*

*Dumps are areas of smoothed or uneven accumulations or piles of waste rock and general refuse. The slope ranges from 0 to 15 percent and the runoff class is very low. The Nonirrigated Land Capability Class is 8*

**Map unit:** 306 - Udorthents-Urban land complex

**Text kind/Category:** Nontechnical description/SOI

## *Udorthents-Urban Land Complex*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 50 percent Udorthents soils, 35 percent Urban Land. 15 percent minor components.*

## *Udorthents soils*

*This component occurs on cut (road, railroad, etc.), railroad bed, road bed, spoil pile, urban land, fill, and spoil pile landforms. The slope ranges from 0 to 25 percent and the runoff class is medium. The depth to a restrictive feature varies, but is commonly greater than 60 inches. The drainage class is typically well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.4 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table is greater than 60 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e*

## *Typical Profile:*

*0 to 5 inches; loam*

*5 to 21 inches; gravelly loam*

*21 to 80 inches; very gravelly sandy loam*

## *Urban Land*

*Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 35 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8*

**Map unit:** 307 - Urban land

**Text kind/Category:** Nontechnical description/SOI

## *Urban Land*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 38 to 50 inches (965 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Urban Land. 20 percent minor components.*

## *Urban Land*

*Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 45 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8*

# Map Unit Text

State of Connecticut

**Map unit:** 308 - Udorthents, smoothed

**Text kind/Category:** Nontechnical description/SOI

*Udorthents, Smoothed*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 80 percent Udorthents soils. 20 percent minor components.*

*Udorthents soils*

*This component occurs on leveled land and fill landforms. The slope ranges from 0 to 35 percent and the runoff class is medium. The depth to a restrictive feature varies, but is commonly greater than 60 inches. The drainage class is typically well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.4 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table is greater than 60 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e*

*Typical Profile:*

*0 to 5 inches; loam*

*5 to 21 inches; gravelly loam*

*21 to 80 inches; very gravelly sandy loam*

**Map unit:** 309 - Udorthents, flood control

**Text kind/Category:** Nontechnical description/SOI

*Udorthents, Flood Control*

*This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 80 percent Udorthents soils. 20 percent minor components.*

*Udorthents soils*

*This component occurs on river valley landforms. The slope ranges from 0 to 35 percent and the runoff class is medium. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (very high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.4 LEP (low). The flooding frequency for this component is rare. The ponding hazard is none. The minimum depth to a seasonal water table is greater than 60 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4e*

*Typical Profile:*

*0 to 5 inches; loam*

*5 to 21 inches; gravelly loam*

*21 to 80 inches; very gravelly sandy loam*

# Physical Soil Properties

State of Connecticut

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
21A:														
Ninigret	0-8	53-70	27-35	3-12	1.00-1.25	4.00-42.00	0.13-0.15	0.0-2.9	2.0-5.0	.32	.37	3	3	86
	8-16	28-70	27-60	3-12	1.35-1.60	4.00-42.00	0.13-0.20	0.0-2.9	0.5-1.5	.43	.49			
	16-26	28-70	27-60	3-12	1.35-1.60	4.00-42.00	0.13-0.20	0.0-2.9	0.0-0.5	.49	.55			
	26-65	73-100	0-25	0-2	1.45-1.70	42.00-703.00	0.01-0.11	0.0-2.9	0.0-0.5	.15	.17			
Tisbury	0-8	9-46	51-79	3-12	1.00-1.30	4.00-14.00	0.18-0.21	0.0-2.9	2.0-6.0	.43	.49	3	5	56
	8-18	9-69	28-79	3-12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.5-1.5	.55	.64			
	18-26	9-69	28-79	3-12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.0-0.5	.55	.64			
	26-60	77-100	0-20	0-3	1.40-1.65	42.00-703.00	0.01-0.08	0.0-2.9	0.0-0.5	.17	.20			
32A:														
Haven	0-7	2-44	51-80	5-18	1.10-1.40	4.00-14.00	0.16-0.21	0.0-2.9	2.0-6.0	.32	.43	3	5	56
	7-14	2-44	25-80	5-18	1.20-1.40	4.00-14.00	0.13-0.21	0.0-2.9	0.5-2.0	.49	.64			
	14-20	2-44	25-80	5-18	1.20-1.40	4.00-14.00	0.13-0.21	0.0-2.9	0.5-1.0	.49	.64			
	20-24	54-70	25-28	5-18	1.25-1.50	4.00-14.00	0.13-0.17	0.0-2.9	0.0-0.5	.37	.43			
	24-60	92-100	0-5	0-3	1.40-1.65	141.00-703.00	0.01-0.06	0.0-2.9	0.0-0.5	.10	.15			
Enfield	0-3	0	0	0	0.30-0.55	14.00-141.00	0.08-0.40	---	50-80	---	---	3	5	56
	3-4	0	0	0	0.30-0.55	14.00-141.00	0.08-0.40	---	50-80	---	---			
	4-12	8-51	51-80	3-12	1.20-1.40	4.00-14.00	0.18-0.21	0.0-2.9	2.0-6.0	.43	.49			
	12-20	8-75	22-80	3-12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.5-2.0	.55	.64			
	20-26	8-75	22-80	3-12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.5-2.0	.55	.64			
	26-30	8-75	22-80	3-12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.0-0.5	.64	.64			
	30-37	85-94	3-28	0-6	1.30-1.60	4.00-14.00	0.01-0.11	0.0-2.9	0.0-0.5	.10	.15			
	37-65	73-100	0-25	0-2	1.40-1.65	42.00-703.00	0.01-0.08	0.0-2.9	0.0-0.5	.17	.20			

# Physical Soil Properties

State of Connecticut

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
97:														
Pawcatuck	0-12	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	20-90	---	---	2	8	0
	12-40	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	20-80	---	---			
	40-46	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	20-50	---	---			
	46-50	25-69	30-65	1-10	1.40-1.65	4.00-141.00	0.02-0.20	0.0-2.9	1.0-15	.20	.28			
	50-60	70-95	5-25	0-2	1.45-1.70	141.00-703.00	0.01-0.11	0.0-2.9	0.0-2.0	.20	.28			
98:														
Westbrook	0-10	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	20-90	---	---	2	8	0
	10-40	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	20-90	---	---			
	40-48	0	0	0	0.30-0.55	4.00-141.00	0.05-0.09	0.0-20.0	15-40	---	---			
	48-64	2-60	40-80	2-35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	8.0-15	.20	.20			
	64-99	2-60	40-80	2-35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	5.0-15	.24	.24			
302:														
Dumps	0-65	---	---	0-10	---	1.40-14.00	0.00	---	0.0-2.0	.17	.20	---	---	---
306:														
Udorhents	0-5	35-50	43-50	7-15	1.00-1.70	4.00-14.00	0.14-0.18	0.0-2.9	2.0-6.0	.28	.37	3	5	56
	5-21	10-95	2-60	3-30	1.10-1.70	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
	21-80	10-95	2-60	3-30	1.20-2.00	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
Urban land	0-6	---	---	0	---	0.07-141.00	0.00	---	---	---	---	---	---	---
307:														
Urban land	0-6	---	---	0	---	0.07-141.00	0.00	---	---	---	---	---	---	---
308:														
Udorhents	0-5	35-50	43-50	7-15	1.00-1.70	4.00-14.00	0.14-0.18	0.0-2.9	2.0-6.0	.28	.37	3	5	56
	5-21	10-95	2-60	3-30	1.10-1.70	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
	21-80	10-95	2-60	3-30	1.20-2.00	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			

# Physical Soil Properties

State of Connecticut

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
309:														
Udorthents	0-5	35-50	43-50	7-15	1.00-1.70	4.00-14.00	0.14-0.18	0.0-2.9	2.0-6.0	.28	.37	5	5	56
	5-21	10-95	2-60	3-30	1.10-1.70	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
	21-80	10-95	2-60	3-30	1.20-2.00	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
W:														
Water	---	---	---	---	---	---	---	---	---	---	---	---	---	---

# Engineering Properties

State of Connecticut

[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
21A:												
Ninigret	0-8	Fine sandy loam	ML, SM	A-2, A-4	0	0	90-100	70-100	60-100	25-55	0-35	NP-5
	8-16	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	75-100	70-100	30-80	0-25	NP-5
	16-26	Fine sandy loam, silt loam, very fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	75-100	70-100	30-80	0-25	NP-5
	26-65	Stratified very gravelly coarse sand to loamy fine sand	SM, SP	A-1, A-2, A-3	0-10	0-15	70-100	35-100	5-95	1-30	0-15	NP
Tisbury												
Tisbury	0-8	Silt loam	ML	A-4	0	0	100	90-100	80-100	60-95	0-35	NP-5
	8-18	Silt loam, very fine sandy loam	ML, SM	A-4	0	0	100	90-100	85-100	45-95	0-35	NP-5
	18-26	Silt loam, very fine sandy loam	ML, SM	A-4	0	0	100	90-100	85-100	45-95	0-35	NP-5
	26-60	Stratified very gravelly sand to loamy sand	SM, SP	A-1, A-3	0-10	0-25	65-100	35-100	20-80	2-30	0-15	NP
32A:												
Haven	0-7	Silt loam	ML	A-4	0	0	90-100	75-100	70-100	50-100	15-25	NP-5
	7-14	Silt loam, very fine sandy loam	ML, SM	A-4	0	0	95-100	80-100	70-100	40-100	15-25	NP-5
	14-20	Silt loam, very fine sandy loam	ML, SM	A-4	0	0	95-100	80-100	70-100	40-100	15-25	NP-5
	20-24	Fine sandy loam, very fine sandy loam	ML, SM	A-2, A-4	0	0	90-100	75-100	70-95	30-65	15-25	NP-5
	24-60	Stratified very gravelly sand to gravelly fine sand	SM, SW, SW-SM	A-1, A-2, A-3	0	0-15	75-90	30-75	10-70	0-15	10-20	NP

# Engineering Properties

State of Connecticut

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>32A:</b>												
Enfield	0-3	Slightly decomposed plant material	PT	---	0	0	100	100	100	100	---	---
	3-4	Moderately decomposed plant material	PT	---	0	0	100	100	100	100	---	---
	4-12	Silt loam	ML	A-4	0	0	100	90-100	90-100	60-95	15-25	NP-5
	12-20	Silt loam, very fine sandy loam	ML	A-4	0	0	100	90-100	80-100	40-95	15-25	NP-5
	20-26	Silt loam, very fine sandy loam	ML	A-4	0	0	100	90-100	80-100	40-95	15-25	NP-5
	26-30	Silt loam, very fine sandy loam	ML	A-4	0	0	100	90-100	80-100	40-95	15-25	NP-5
	30-37	Stratified coarse sand to very gravelly loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0	70-100	25-100	10-95	5-25	15-25	NP-5
	37-65	Stratified very gravelly coarse sand to loamy sand	SM, SP	A-1, A-3	0	0-15	75-100	30-100	5-95	1-35	10-20	NP-5
<b>97:</b>												
Pawcatuck	0-12	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	12-40	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	40-46	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	46-50	Silt loam, sandy loam, very fine sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-100	60-95	30-80	0-20	NP-5
	50-60	Gravelly sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-4	0	0	70-100	65-100	40-75	10-40	0-15	NP



# Engineering Properties

State of Connecticut

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
98:												
Westbrook	0-10	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	10-40	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	40-48	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	48-64	Silty clay loam, silt loam, sandy loam	ML	A-4	0	0	100	100	70-100	50-100	20-35	NP-5
	64-99	Silty clay loam, silt loam, sandy loam	ML	A-4	0	0	100	100	70-100	50-100	20-35	NP-5
302:												
Dumps	0-65	Variable	---	---	---	---	---	---	---	---	---	---
306:												
Udorthents	0-5	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-10	90-100	80-100	70-100	45-75	15-25	NP-10
	5-21	Gravelly loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10
	21-80	Very gravelly sandy loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10
Urban land	0-6	Material	---	---	---	---	---	---	---	---	---	---
307:												
Urban land	0-6	Material	---	---	---	---	---	---	---	---	---	---

# Engineering Properties

State of Connecticut

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
308:												
Udorthents	0-5	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-10	90-100	80-100	70-100	45-75	15-25	NP-10
	5-21	Gravelly loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10
	21-80	Very gravelly sandy loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10
309:												
Udorthents	0-5	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-10	90-100	80-100	70-100	45-75	15-25	NP-10
	5-21	Gravelly loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10
	21-80	Very gravelly sandy loam, extremely gravelly coarse sand, silty clay loam	CL-ML, GC-GM, GM, ML, SC-SM, SM	A-1, A-2, A-3, A-4	0-20	0-25	45-100	30-100	10-100	5-95	15-30	NP-10

# Engineering Properties

State of Connecticut

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
W: Water	---	---	---	---	---	---	---	---	---	---	---	---

# Soil Features

State of Connecticut

[Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
21A:									
Ninigret	---	---	---	---	0	0	Moderate	Moderate	Moderate
Tisbury	---	---	---	---	0	0	High	Low	Moderate
32A:									
Haven	---	---	---	---	0	0	Moderate	Low	Moderate
Enfield	---	---	---	---	0	0	High	Low	Moderate
97:									
Pawcatuck	Sulfuric Salic	0-60 0-60	--- ---	Noncemented Noncemented	12-23	12-35	High	High	High
98:									
Westbrook	Sulfuric Salic	0-51 0-51	--- ---	Noncemented Noncemented	12-24	12-36	High	High	High
302:									
Dumps	---	---	---	---	0	0	None	---	---
306:									
Udorthents	---	---	---	---	0	0	Moderate	Moderate	Moderate
Urban land	---	---	---	---	---	---	None	---	---
307:									
Urban land	---	---	---	---	---	---	None	---	---

# Soil Features

State of Connecticut

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
308: Udorthents	---	---	---	---	0	0	Moderate	Moderate	Moderate
309: Udorthents	---	---	---	---	0	0	Moderate	Moderate	Moderate
W: Water	---	---	---	---	---	---	---	---	---

## Water Features

State of Connecticut

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
21A:										
Ninigret	B	Very low	January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.5-5.0	>6.0	---	---	None	---	None
			September	1.5-2.5	>6.0	---	---	None	---	None
			November	1.5-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Tisbury	B	Low	January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.5-5.0	>6.0	---	---	None	---	None
			September	1.5-2.5	>6.0	---	---	None	---	None
			November	1.5-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
32A:										
Haven	B	Low	Jan-Dec			---	---	None	---	None
Enfield	B	Low	Jan-Dec			---	---	None	---	None

## Water Features

State of Connecticut

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
97:										
Pawcatuck	D	Negligible	January	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			February	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			March	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			April	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			May	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			June	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			July	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			August	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			September	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			October	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			November	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			December	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
98:										
Westbrook	D	Negligible	January	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			February	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			March	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			April	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			May	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			June	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			July	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			August	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			September	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			October	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			November	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
			December	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Very brief	Very frequent
302:										
Dumps	---	Very low	Jan-Dec			---	---	None	---	None

## Water Features

State of Connecticut

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding				
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency			
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>							
306:													
Udorthents	B	Medium	January	4.5->6.0	>6.0	---	---	None	---	None			
			February	4.5->6.0	>6.0	---	---	None	---	None			
			March	4.5->6.0	>6.0	---	---	None	---	None			
			April	4.5->6.0	>6.0	---	---	None	---	None			
			November	4.5->6.0	>6.0	---	---	None	---	None			
			December	4.5->6.0	>6.0	---	---	None	---	None			
			Urban land	---	Very high	Jan-Dec			---	---	None	---	None
307:													
Urban land	---	Very high	Jan-Dec			---	---	None	---	None			
308:													
Udorthents	B	Medium	January	2.0-4.5	>6.0	---	---	None	---	None			
			February	2.0-4.5	>6.0	---	---	None	---	None			
			March	2.0-4.5	>6.0	---	---	None	---	None			
			April	2.0-4.5	>6.0	---	---	None	---	None			
			November	2.0-4.5	>6.0	---	---	None	---	None			
			December	2.0-4.5	>6.0	---	---	None	---	None			
			Urban land	---	Very high	Jan-Dec			---	---	None	---	None
309:													
Udorthents	B	Medium	January	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			February	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			March	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			April	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			May	---	---	---	---	None	Very brief	Rare			
			August	---	---	---	---	None	Very brief	Rare			
			September	---	---	---	---	None	Very brief	Rare			
			October	---	---	---	---	None	Very brief	Rare			
			November	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			December	2.0-4.5	>6.0	---	---	None	Very brief	Rare			
			Urban land	---	Very high	Jan-Dec			---	---	None	---	None



# Water Features

State of Connecticut

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				

W:

Water	---	---	Jan-Dec			---	---	None	---	None
-------	-----	-----	---------	--	--	-----	-----	------	-----	------

# Ponds and Embankments

State of Connecticut

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21A:							
Ninigret	60	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Very limited Cutbanks cave Depth to saturated zone	1.00 0.00
Tisbury	25	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave Depth to saturated zone	1.00 0.00
32A:							
Haven	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.39	Very limited Depth to water	1.00
Enfield	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Depth to water	1.00
97:							
Pawcatuck	85	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone Salinity Piping	1.00 1.00 1.00 1.00 1.00	Very limited Cutbanks cave Salinity and saturated zone	1.00 1.00
98:							
Westbrook	80	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone Salinity Piping	1.00 1.00 1.00 1.00 1.00	Very limited Salinity and saturated zone Cutbanks cave	1.00 0.10
302:							
Dumps	95	Very limited Slope Seepage	1.00 0.81	Not rated		Not rated	

# Ponds and Embankments

State of Connecticut

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
306:							
Udorthents	50	Very limited Seepage Slope	1.00 1.00	Very limited Piping	1.00	Very limited Depth to water	1.00
Urban land	35	Very limited Slope	1.00	Not rated		Not rated	
307:							
Urban land	80	Very limited Slope	1.00	Not rated		Not rated	
308:							
Udorthents	80	Very limited Seepage Slope	1.00 1.00	Very limited Piping Depth to saturated zone	1.00 0.22	Very limited Cutbanks cave Depth to saturated zone	1.00 0.40
309:							
Udorthents	80	Very limited Seepage Slope	1.00 1.00	Very limited Piping Depth to saturated zone	1.00 0.22	Very limited Cutbanks cave Depth to saturated zone	1.00 0.40
W:							
Water	100	Not rated		Not rated		Not rated	

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

State of Connecticut

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21A:							
Ninigret	60	Somewhat limited		Very limited			
		Frost action	0.50	Depth to saturated zone	1.00		
		Depth to saturated zone	0.19	Cutbanks cave	1.00		
Tisbury	25	Very limited		Very limited			
		Frost action	1.00	Depth to saturated zone	1.00		
		Depth to saturated zone	0.19	Cutbanks cave	1.00		
32A:							
Haven	60	Somewhat limited		Very limited			
		Frost action	0.50	Cutbanks cave	1.00		
Enfield	25	Very limited		Very limited			
		Frost action	1.00	Cutbanks cave	1.00		
97:							
Pawcatuck	85	Very limited		Very limited			
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Frost action	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Cutbanks cave	1.00		
		Shrink-swell	1.00	Organic matter content	1.00		
98:							
Westbrook	80	Very limited		Very limited			
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Frost action	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Organic matter content	1.00		
		Shrink-swell	1.00				
302:							
Dumps	95	Not rated		Not rated			

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

State of Connecticut

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
306:							
Udorthents	50	Very limited		Very limited			
		Slope	1.00	Cutbanks cave	1.00		
		Frost action	0.50	Slope	1.00		
				Depth to saturated zone	0.18		
Urban land	35	Not rated		Not rated			
307:							
Urban land	80	Not rated		Not rated			
308:							
Udorthents	80	Very limited		Very limited			
		Slope	1.00	Cutbanks cave	1.00		
		Frost action	0.50	Slope	1.00		
				Depth to saturated zone	0.89		
309:							
Udorthents	80	Very limited		Very limited			
		Slope	1.00	Cutbanks cave	1.00		
		Frost action	0.50	Slope	1.00		
		Flooding	0.40	Depth to saturated zone	0.89		
W:							
Water	100	Not rated		Not rated			

# Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

State of Connecticut

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating Class	Value	Rating class	Value
21A:					
Ninigret	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91
Tisbury	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91
32A:					
Haven	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.32	Too acid	0.91
		Droughty	0.13	Droughty	0.13
Enfield	25	Very limited		Very limited	
		Filtering capacity	1.00	Low adsorption	1.00
		Too acid	0.78	Too acid	1.00
				Filtering capacity	1.00
97:					
Pawcatuck	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Salinity	1.00
		Droughty	0.69	Flooding	1.00
98:					
Westbrook	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Salinity	1.00
		Flooding	1.00	Flooding	1.00
		Droughty	0.52	Low adsorption	1.00

# Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

State of Connecticut

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating Class	Value	Rating class	Value
302:					
Dumps	95	Not rated		Not rated	
306:					
Udorthents	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.18	Too acid	0.67
Urban land	35	Not rated		Not rated	
307:					
Urban land	80	Not rated		Not rated	
308:					
Udorthents	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.22	Too acid	0.67
		Too acid	0.18	Depth to saturated zone	0.22
309:					
Udorthents	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.22	Too acid	0.67
		Too acid	0.18	Flooding	0.40
				Depth to saturated zone	0.22
W:					
Water	100	Not rated		Not rated	

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# **NEW YORK CITY COMPLETE**

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**NEW YORK CITY  
SOIL AND WATER  
CONSERVATION DISTRICT**

## **NEW YORK CITY**



## **RECONNAISSANCE SOIL SURVEY**

**A collaborative project of:**

**U.S. Dept. of Agriculture, Natural Resources Conservation Service**

**New York City Soil and Water Conservation District**

**Cornell University Agricultural Experiment Station**

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**T**his soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal, state, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2004. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in New York City in 2004. This survey was made cooperatively by the United States Department of Agriculture-Natural Resources Conservation Service, the NYC Soil and Water Conservation District, and the Cornell University Agricultural Experimental Station.

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## Foreword

The National Cooperative Soil Survey in the U.S. marked its centennial in 1999. The first surveys were intended to help guide agricultural development and improve agricultural practices at a time when farmland in our country was expanding. According to U.S. Census figures, the proportion of our population in urban areas has increased from about 40 percent in 1900 to 75 percent in 1990. Suburban sprawl and loss of open space have now become pressing issues for most of our citizens. With growing public concern about the environment and health, and skyrocketing prices of real estate, land use decisions based on sound soils information are even more critical. A key element in the mission of the Soil Survey program is to keep the survey relevant to ever-changing needs.

New York City was selected as a pilot project for both the NRCS and the Department of Agriculture Urban Initiatives. Community leaders, non-profit organizations, city agencies, and elected officials identified local needs, issues and concerns for NRCS to address. The agency and its partners overwhelmingly agreed that a comprehensive urban soil survey was needed, one that addressed the unique characteristics of urban soils as well as the specialized needs of urban customers.

The New York City Reconnaissance Soil Survey provides a general guide to soil patterns across the city and serves as the foundation for our more detailed, high intensity surveys. It is a key component of the comprehensive urban soil survey, an important element in the assessment of the city's environmental quality, and a source of useful information for making broad-based land use decisions. Even in an area this densely populated, site suitability for redevelopment, restoration, and remediation is still an everyday concern. An inventory of the soil properties of New York City's open space can help identify wetlands and wildlife habitat, and assist in the management of the 28,000 acres of parks. Understanding the soils, drainage, runoff, and stream flow in the urban environment is necessary for long-term improvements in water quality.

Soils perform essential functions in the urban ecosystem. Along with providing the growth medium for landscape plants, community gardens, and urban forests, they support our buildings, roads, and athletic fields. Soils control water flow, remove and treat non-point source pollutants from runoff, cycle and store nutrients. Maintaining soil quality is a fundamental part of the health and well being of the urban environment. Understanding the effects of anthropogenic disturbance on the natural environment is a major new scientific frontier. This document can provide an introduction to urban soils, and serve to increase public awareness and appreciation of a valuable resource.

Almost thirty years ago, our agency issued the Soil Survey of the District of Columbia, a landmark in urban soil mapping, with the belief that the information provided would help the users to "a better environment and a better life." It is with similar intentions that we have prepared the New York City Reconnaissance Soil Survey.

For additional information or assistance in using this document, please contact the USDA-NRCS New York City Soil Survey Office.



Joseph R. DelVecchio  
State Conservationist  
Natural Resources Conservation Service

## **New York City Reconnaissance Soil Survey**

This is a general soil map of New York City; it was prepared to show broad soil patterns across the city, and serve as a starting point for more intensive surveys. Most of the map units are complexes, two or more components occurring in a regularly repeating pattern, which cannot be separated at the mapping scale. **Please take note that this mapping scale is 1:62,500; about 1 inch to the mile. Map unit boundaries were determined at this scale, and the detail indicated is inadequate upon enlargement of the map to a larger scale.** At this scale, areas smaller than 40 acres are generally not delineated, no matter how different they may be from their surroundings. **Soil survey maps are never intended to replace a site assessment**, and in many urban areas human disturbance has resulted in highly variable soil composition, often at a scale beyond the resolution of this map. For site specific soils information, you may need to hire a soil scientist.

Soils were surveyed by Jack Bricker, Steve Carlisle, Stephen Dadio, Tyrone Goddard, Luis A. Hernandez, Richard Kruzansky, Steve Seifried, Richard K. Shaw, Philip Smith, Robert Tunstead, Olga Vargas, and Yiyi Wong, USDA-NRCS; Joe Anderson and John Galbraith, Cornell University; and Kaled Alamarie, NYC Soil and Water Conservation District.

Soils were sampled by Jack Bricker, Rebecca Burt, Steve Carlisle, Stephen Dadio, Luis A. Hernandez, Steven Indrick, Edwin Muniz, Steve Seifried, Richard K. Shaw, Robert Tunstead and Michael A. Wilson, NRCS; John Galbraith, Kendall Galbraith, and Patricia Gossett, Cornell University; Dean Dizcensa and Richard Kruzansky, Central Park Conservancy; David Diaz, NYC Department of Parks and Recreation, and Kaled Alamarie, NYC Soil and Water Conservation District.

Soils were correlated by Steven W. Fischer, Luis A. Hernandez, and Richard K. Shaw, NRCS. The soil map was digitized by Olga Vargas, with map layout design by Olga Vargas and Philip Smith. The manuscript was written by Richard K. Shaw, Olga Vargas, Philip Smith, Yiyi Wong, and Lindsay Reinhardt. This soil survey publication is a result of joint efforts by the USDA - NRCS and the NYC Soil and Water Conservation District. Specific program leadership, guidance, and support came from Tyrone Goddard, Steven Indrick, and Bruce Thompson of USDA-NRCS. Other agencies and universities that were instrumental in this project include:

- Cornell University
- USDI-National Park Service - Gateway National Recreation Area - Division of Natural Resources
- New York City Department of Parks and Recreation
- New York City Department of Environmental Protection
- Columbia University, Lamont-Doherty Earth Observatory
- USDA-NRCS - National Soil Survey Center (Lincoln, NE) and MO-12 Staff (Amherst, MA)

Thanks also to the following people for their assistance and support: Dr. George Frame, Kathryn Mellander of USDI-National Park Service; Steve Carlisle, Joseph DeVecchio, Robert Dibble, George Cisco, and Gerald Smith of USDA-NRCS.

## **The New York City Soil Survey Program**

The USDA-NRCS began its New York City Soil Survey Program in 1995. The project first began under the direction of Tyrone Goddard and Jack Bricker in cooperation with the NYC Soil and Water Conservation District and numerous USDA-NRCS and Cornell staff. Field work was initiated by John Galbraith and Luis Hernandez, and continued under those listed above.

The program is dedicated to providing customers in urban areas with useful soils information. Soil surveys are conducted for resource inventory, including identification and protection of important habitat areas; for site suitability for redevelopment, remediation, restoration, for parkland, community gardens, and landscape architecture; and for soil-related water quality issues such as erodible lands, runoff and infiltration, and aquifer recharge. Mapping products range from this general soil map of the city at 1:62,500 to the more intensive surveys of South Latourette Park in Staten Island at 1:6000, Gateway National Recreation Area at 1:4800, and the Bronx River Watershed at 1:6000.

NYC Soil Scientists perform site investigations, hold soils training sessions, and conduct soils-based research projects in the urban environment.

## The Survey Area

"The land is the finest for cultivation that I ever in my life set foot upon, and it also abounds in trees of every description."  
Henry Hudson, 1609

New York City is surrounded by numerous waterways, and four of five boroughs in the city are situated on islands. Extensive suburban areas border the city on the north, east, and west. Parts of three physiographic units are included: the New England Upland on the north and northwest, the Triassic Lowland on the southwest, and the Atlantic Coastal Plain along the southeast.

New York City's complex geology includes layers of crystalline bedrock, sedimentary rocks with associated igneous intrusives, coastal plain sediments, glacial deposits from several episodes, and scattered post-glacial materials. In many places, these natural features are topped off with various human-transported or anthropogenic deposits, more commonly known as fill.

The crystalline basement rocks, known as the Manhattan Prong of the New England Upland physiographic province, consist predominantly of gneiss, schist, and marble from the Precambrian and early Paleozoic. The original sedimentary and igneous rocks were folded, faulted, and, in some places, melted and recrystallized during several cycles of mountain building. Bedrock exposures are common in Manhattan and the Bronx, but for the most part these rocks are buried beneath younger deposits in the rest of the city. Serpentinite, a greenish, metamorphosed, magnesium and iron-rich crystalline rock forms the backbone and the highest point in Staten Island. Triassic and Jurassic sedimentary rocks of the Newark Group overlie the basement rocks in the northwestern part of Staten Island. These are red beds of sandstone, siltstone and shale, a wedge of continental sediments deposited in an elongate basin. Softer and more erodible than the crystalline rocks, outcrops of these strata are rare, but the materials are an important component of the glacial deposits on Staten Island. The red beds are intruded with a band of coarse-grained Palisades Diabase, an igneous rock which is much better exposed along the west bank of the Hudson in northern New Jersey. Similarly, diabase fragments are commonly found in glacial deposits in Staten Island, as well as Manhattan.

Coastal plain materials in New York City consist of unconsolidated deposits of Late Cretaceous age, eroded from the uplifted New England Upland to the west, and deposited in low-lying coastal areas. On Staten Island, these deposits extend from Fort Wadsworth southwestward into New Jersey, overlying the Triassic strata. In Brooklyn and Queens, these materials sit atop the eroded crystalline rock surface. In most of Staten Island and Long Island, however, the Cretaceous materials lie beneath younger glacial deposits.

Most of New York City is blanketed by deposits from the Pleistocene, the ice age which began around 1.6 million years ago. These unconsolidated materials were left behind after several advances and retreats of the ice sheets in the northern hemisphere. Glacial deposits are commonly divided into two types: till and outwash. Glacial till refers to those materials deposited directly by the flowing ice. Because till characteristically exhibits a wide range in particle size, from clay to boulder, it is described as unsorted. Till deposits also lack stratification, or layering, and can be as much as several hundred feet deep, or shallow, in areas where the ice has done more scraping and abrading of the bedrock. The latter is more common with harder, more resistant types of rock. Glacial outwash is deposited by glacial meltwater. Outwash deposits are generally characterized by a narrower range of particle size, related to the energy of the depositional environment, from a fast moving stream at one extreme, to the slow sedimentation in a glacial lake at the other. Stratification, or layering, is common in outwash deposits.

Glaciation of the metropolitan area has not only provided most of our surficial materials, but has shaped the landscape as well. In general, till areas are more rolling and sloping than outwash areas, and are occasionally marked by bedrock outcrops. The southernmost extent of the ice sheet is marked by a ridge, or east-west trending band of rolling hills, called a terminal moraine, formed by the material dropped at the melting edge of the glacier. New York City has two such moraines, forming the spines of the two eastern forks of Long Island. The southernmost, and older of the two is called the Ronkonkoma Moraine. The northernmost, which overrides the Ronkonkoma in north central Long Island, is the Harbor Hill, extending across Queens and Brooklyn and over into Staten Island at Fort Wadsworth. Material in the terminal moraine ranges from unsorted till to local bodies of roughly stratified and sorted sand and gravel. South of the



terminal moraine in Long Island and Staten Island, streams of glacial meltwater flowed south creating a gently sloping outwash plain of stratified and sorted gravel, sand, and silt. Till deposits cover most of Staten Island, whereas Long Island is predominantly outwash.

When the climate warmed approximately 11,000 years ago the Holocene, or post-glacial epoch, began. The ice sheet retreated to its present location, and sea level rose to its current elevation. Erosional forces have since modified the outwash plain to create the present day shoreline. Wave action has created barrier islands, and offshore winds have piled up sand into dunes. Organic materials and tide-carried sediments have accumulated to form tidal marshes.

According to Rosenzweig and Solecki (2001), projected global warming rates may bring about a sea level rise from 9.5 to 42.5 inches by the 2080's, which would have a dramatic effect on low-lying coastal landscapes.

Glacial till and outwash and post-glacial deposits, including marine sediments, eolian, and organic materials, as well as human deposited "fill," all serve as the parent materials for soil formation.

### **Introduction to Soils**

Soil is defined as a natural body; a mixture of mineral and organic materials, which forms on the surface of the earth, and changes, or has changed, in response to climate and organisms. Soil is composed of solid matter and pore space. Mineral material and organic material make up the former, and air and water fill the latter. The proportion of each of these components can vary from one soil to another. An "ideal" agricultural soil contains 50% solid space and 50% pore space.

Why should we know our soils? First and foremost, soils perform important functions in our environment. Furthermore, soils are variable; which means their capability to perform these important functions also varies. Soil distribution is related to geology, and it plays an important role in determining land use. Soils can also be degraded, e.g., through erosion, compaction, and contamination, which can affect their ability to function. Knowledge of soil distribution patterns and soil properties can help us to put our soils to their best use and keep them functioning optimally.

Important environmental functions performed by soil include:

- Sustaining biological activity, diversity, and productivity
- Regulating and partitioning water and solute flow
- Filtering, buffering, degrading, immobilizing and detoxifying organic & inorganic materials
- Storing and cycling nutrients and other elements
- Providing support for socioeconomic structures

Why are soils variable? There are 5 soil forming factors:

- *Parent material*: is the raw material or 'geologic substratum' for soil formation, it influences the physical, chemical and mineralogical properties, and, to a large extent, the rate at which soil formation takes place;
- *Topography* influences erosion and deposition, water movement, as well as micro climate (e.g., north vs south-facing slope);
- *Climate* affects physical, chemical, and biological reactions in soils;
- *Organisms* affect soil through their activity, and in the decomposition of their wastes and residues;
- Soil formation is a function of *Time*.

Upon interaction, these 5 factors set in motion the soil forming processes:

- *Additions* include organic matter accumulation and other surficial inputs.
- *Losses* occur through "leaching" of soluble constituents downward through (and out of) the soil profile by water, and removal of soil material by erosion.
- *Translocations* involve redistribution of constituents within the soil profile (e.g., clay and/or iron).
- *Transformations* are physical and chemical changes (e.g., in minerals or organic compounds)

The soil forming factors and the soil forming processes are expressed in the soil properties: horizonation, texture, color, structure, consistence, mineralogy, pH and nutrient supply. Soils vary in physical and chemical properties.

### **Soil Properties**

A soil profile is a sequence of horizons. Soil horizons form naturally as a result of soil forming processes. Horizon nomenclature reflects the dominant process(es). Horizons may also be the result of natural or anthropogenic deposition. Horizons are separated when there is any difference in the appearance (color, texture, coarse fragments, structure, roots) or feel (texture, consistence) of a soil layer.

#### Description of Master Horizons

**O horizons** are dominantly organic soil material. Organic matter is composed of original and decomposed plant, animal, and microbial components. It is very important in soils as it helps aggregate and loosen soil, provides nutrients, and holds water and nutrients.

Definition: Organic horizon

Process: accumulation of slightly to highly decomposed plant & animal residues

ID: surface material, lighter in weight and darker in color than mineral material,

Comment: not found in all soils

O horizons can be found in wooded areas, or in wet areas, as organic material accumulates significantly in very wet or waterlogged conditions, where decomposition is slower. See

***Processes in Saturated Soils*** in the Glossary.

**A horizons** are mineral layers that formed at the surface or below an O horizon, that show an accumulation of humified organic matter intimately mixed with the mineral fraction.

Definition: organically enriched mineral horizon (topsoil)

Process: incorporation or mixing of organic material into mineral soil

ID: darker mineral horizon at the soil surface

**E horizons** are layers in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these, leaving a concentration of sand and silt particles.

Definition: horizon characterized by the loss of some component

Process: eluviation (washing out) of iron or clay

ID: paler color or lighter texture than below, just below A

Comments: not found in all soils.

**B horizons** are layers that formed below an A or E and show one or more of the following:

(1) lighter, brighter, or redder colors than above;

(2) more clay than above;

(3) subangular blocky, prismatic, or columnar structure.

Definition: horizon of accumulation, or development of structure or color

Process: development of structure or color, illuviation (moving in) of iron or clay

ID: noticeable structure, brighter or redder color, more clay or iron than above

**C horizons** are layers which are not bedrock and are little affected by soil forming processes and lack properties of O, A, E or B horizons.

Definition: parent material

Process: no evidence of soil forming processes (can be weathered)

ID: unconsolidated material below B; no structure

**R horizons** are layers of hard bedrock.

Definition: bedrock

Process: no soil forming processes, little evidence of weathering

ID: hard, consolidated bedrock

Comment: Not found in all soils

*Vertical Subdivisions* are used to subdivide a master horizon to denote differences in texture, color, structure, etc., using arabic numerals, e.g., C1, C2, C3; Bt1, Bt2, Bt3.

*Transition Horizons* are horizons dominated by properties of one horizon, but having subordinate properties of another, e.g., AB or BA. The first letter denotes the dominant process.

*Combination Horizons* are horizons with two distinct parts, with recognizable properties of two master horizons, e.g., E/B, where E is dominant and surrounds B.

*Discontinuities* are used to indicate a significant change in particle size distribution or mineralogy that implies a difference in the material from which the horizons have formed (e.g., loess/till), and/or a significant difference in age. The 1 is omitted, e.g., A, B1, 2B2, 2B3, 2BC, 2C.

#### Kinds of Master Horizons

Lower case letters are used as suffixes to designate specific kinds of master horizons. More than one suffix can be used.

- a* highly decomposed organic material (*sapric*); used with O
- b* buried genetic horizon
- d* physical root restriction, dense
- e* intermediately decomposed organic material (*hemic*); used with O
- g* strongly gleyed (from anaerobic conditions), chroma of matrix or ped faces 2 or less
- h* illuvial accumulation of organic matter; used with B
- i* slightly decomposed organic material (*fibric*); used with O
- p* tillage or other disturbance; used with A
- r* weathered (soft) bedrock that has retained rock structure (saprolite); used with C
- s* illuvial accumulation of sesquioxides (Fe and Al oxides); used with B
- t* illuvial accumulation of silicate clay; used with B
- w* development of color or structure; used with B
- x* fragipan character; used with B

#### Soil Color

Important coloring agents in soil include:

- 1) *Organic matter* darkens the soil, depending on the content, and the extent of decomposition;
- 2) *Iron* gives soil a brown, yellow, or red color, even shades of blue or green depending upon its amount, oxidation state, and hydration state. When soil is saturated, iron can become soluble and can be removed, leaving the soil with "mottled" brown and gray colors, or complete gray depending on the extent of the wetness. See ***Processes in Saturated Soils*** in the Glossary.

Other factors affecting soil color include:

- Parent material
- Extent of leaching

Why is soil color important?

- It can be an indicator of soil wetness.
- It can be indicative of source, or parent material;
- Color differences in a profile may reflect soil forming processes;

Soil color is described with the Munsell system:

*Hue* is the dominant spectral wavelength. Pages in the color book are arranged by hue.

*Value* is the degree of darkness/lightness. Columns range from black, 0, at the bottom of the page, to white 10, at the top.




*Chroma* is the purity of spectral color. Rows range from neutral, 0, on the left, to bright colors, up to 8, on the right. A low chroma (<2) color can sometimes be indicative of soil wetness.

Soil Structure is the combination or arrangement of primary soil particles into secondary units or aggregates. Organic materials and clay are important binding agents, and wetting & drying cycles are important in creating structure. Soil structure influences pore space and water movement in soils.


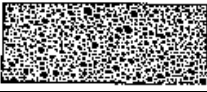
#### *Types of Soil Structure*



***Granular*** – roughly spherical, like grape nuts. Usually 1-10 mm in diameter. Most common in A horizons, where plant roots, microorganisms, and sticky products of organic matter decomposition bind soil grains into granular aggregates.

	<p><b>Platy</b> – flat peds that lie horizontally in the soil. Platy structure can be found in A and B horizons. It commonly occurs in an A horizon as the result of compaction.</p>
	<p><b>Blocky</b> – roughly cube-shaped, with more or less flat surfaces. If edges and corners remain sharp, we call it <i>angular blocky</i>. If they are rounded, we call it <i>subangular blocky</i>. Sizes commonly range from 5-50 mm across. Blocky structures are typical of B horizons, especially those with a high clay content. They form by repeated expansion and contraction of clay minerals.</p>
	<p><b>Prismatic</b> – larger, vertically elongated blocks, often with five sides. Sizes are commonly 10-100mm across. Prismatic structures commonly occur in fragipans.</p>

#### Structureless Soil Types

	<p><b>Massive</b> – compact, coherent soil not separated into aggregates of any kind. Massive structures in clayey soils usually have very small pores, slow permeability, and poor aeration.</p>
	<p><b>Single grain</b> – in some very sandy soils, every grain acts independently, and there is no binding agent to hold the grains together into peds. Permeability is rapid, but fertility and water holding capacity are low.</p>

Soil Consistence is the ease with which a lump of soil can be crushed by the fingers. It can also describe the difficulty of excavating the soil. Soil consistence, and its description, depends on soil moisture content. Terms commonly used to describe consistence in a moist soil are:

- Loose* –noncoherent when dry or moist; does not hold together in a mass; intact specimen not obtainable.
- Friable* –when moist, crushed easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.
- Firm* –crushed under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.
- Very Firm* –needs considerable pressure to crush between thumb and forefinger

#### Soil pH

The most important effect of pH in the soil is on ion solubility, which in turn affects microbial and plant growth. A pH range of 6.0 to 6.8 is ideal for most crops because it coincides with optimum solubility of the most important plant nutrients. Most of the micronutrients for plant growth, and most heavy metals are more soluble at lower pH. Management of pH is important in controlling movement of heavy metals (and potential groundwater contamination) in soil. In humid areas such as the eastern US, soils become naturally acidic over time as rainwater replaces basic cations (Ca, K, Mg, Na) with hydrogen. Some types of vegetation, particularly conifers, produce organic acids, which can also contribute to lower soil pH values. Addition of certain fertilizers to soil can also produce hydrogen ions. Liming the soil adds calcium, which replaces exchangeable and solution  $H^+$  and raises soil pH.

## Soil Quality

Soil quality is defined as the capacity of a soil to function. Soil quality includes both inherent properties and dynamic properties. Inherent properties, those which are not readily altered, include soil mineralogy and soil texture. Dynamic properties, such as topsoil thickness, organic matter content, soil structure, bulk density, and pH, may change with use and management. These changes can affect a soil's capability to function.

It can take up to 500 years to form an inch of soil – is this a renewable resource?

The quality of a soil can be degraded rather quickly by: erosion, contamination, and compaction.

## Soils in Urban Areas

Although there are different types of land use in urban areas (e.g., commercial, industrial, residential, recreational), because of the high population density, most of the soils are disturbed in some manner. This disturbance can include:

- cutting and filling or grading of areas to level landscapes (for homes, buildings, ballfields);
- filling of areas that are wet or possess other undesirable soil characteristics;
- filling of areas to dispose of materials such as dredge spoils, coal ash;
- mixing of soil horizons or removal of topsoil;
- adding plant growth media;
- atmospheric deposition of airborne materials.

Fill is any material used to 'fill in' an area. It can be natural soil material (derived locally or not), waste materials (e.g., coal ash, construction debris, dredged spoils) or a mixture of both. Soils in urban areas often contain non-soil materials or human artifacts such as glass, brick, metal, wood, and various waste products.

In mapping soils, a soil scientist will associate a particular soil with a particular landscape. Because of the high chance of disturbance, urban soils are less predictable and more difficult to map. Other potential problems with soils in urban areas include:

- *Greater variability in horizonation*; original horizons may be mixed up or removed; new ones may be added.
- *Little or no addition of natural organic matter*; areas with sparse or no vegetation receive limited amounts of plant material.
- *Presence of artifacts*; human created or altered materials (construction debris, coal ash, garbage, etc.) can affect soil chemical and physical properties; take up rooting volume or water and nutrient storage space.
- *Modified soil temperatures*; studies by the New York City Soil Survey have shown higher average soil temperatures, and a greater range in soil temperatures in bare soil areas such as playgrounds compared to similar soils in wooded vegetation.
- *High probability of compaction and contamination*;
- *Modified soil reaction*. In general, soils in urban areas have been found to have higher pH values than undisturbed natural soils, due to additions of basic cations from road salts, concrete, plaster and other "anthropogenic" materials.

## Soil Map Units, New York City Reconnaissance Soil Survey

Most of the map units in this survey are complexes, a mixture of two or more components occurring in a regularly repeating pattern. The components in a complex are listed in order of their areal extent in the map unit, from highest to lowest. There are also four Pavement & buildings consociations, where a single component is dominant. For these units, a substratum phase was added to provide additional information about the area.

The map units, their numerical symbols used in the map, and the acreage for each are included in the following table. This is followed by brief descriptions of the map units, and more detailed information on the map unit components.

### Legend, NYC Reconnaissance Soil Survey

Symbol and Map unit	Acres
1. Pavement & buildings, postglacial substratum, 0 to 5 percent slopes	512
2. Pavement & buildings, till substratum, 0 to 5 percent slopes	24301
3. Pavement & buildings, outwash substratum, 0 to 5 percent slopes	8073
4. Pavement & buildings, wet substratum, 0 to 5 percent slopes	4987
5. Beaches	1025
6. Ipswich-Pawcatuck-Matunuck mucky peats	4049
7. Laguardia-Ebbets-Pavement & buildings, wet substratum complex, 0 to 8 percent slopes	7021
8. Laguardia-Ebbets-Pavement & buildings complex, 0 to 8 percent slopes	1359
11. Water, fresh	630
12. Greenbelt-Pavement & buildings, 0 to 8 percent slopes	210
25. Water, salt	160
64. Montauk-Foresthills complex, 0 to 8 percent slopes	1721
67. Pavement & buildings-Foresthills-Montauk complex, 0 to 8 percent slopes	19745
68. Pavement & buildings-Foresthills-Canarsie complex, 8 to 15 percent slopes	2950
69. Montauk-Foresthills complex, 15 to 35 percent slopes	308
77. Flatbush-Riverhead-Pavement & buildings complex, 0 to 8 percent slopes	1720
79. Riverhead-Flatbush complex, 0 to 8 percent slopes	100
92. Pavement & buildings, wet substratum-Bigapple-Verrazano complex, 0 to 8 percent slopes	4549
98. Greatkills-Freshkills complex, 3 to 25 percent slopes	1052
99. Bigapple-Fortress complex, 0 to 8 percent slopes	3125
100. Inwood-Laguardia-Ebbets complex, 0 to 8 percent slopes	3064
101. Pavement & buildings, wet substratum-Laguardia-Ebbets complex, 0 to 8 percent slopes	8443
106. Bigapple-Verrazano-Pavement & buildings complex, 0 to 8 percent slopes, wet subsoil	384
123. Freshkills, geotextile liner substratum-Kleinekill sandy loams, 3 to 25 percent slopes	1739
128. Pavement & buildings-Laguardia-Ebbets complex, 0 to 8 percent slopes	1263
129. Hooksan-Dune land complex, 0 to 25 percent slopes	757
134. Charlton-Greenbelt complex, 0 to 8 percent slopes	248
135. Charlton-Greenbelt-Pavement & buildings complex, 15 to 50 percent slopes	334
137. Charlton-Sutton complex, 0 to 8 percent slopes	718
138. Charlton-Sutton complex, 8 to 15 percent slopes	314
139. Charlton-Sutton complex, 15 to 50 percent slopes	423
165. Montauk-Foresthills complex, 8 to 15 percent slopes	1345
171. Pavement & buildings-Chatfield-Greenbelt complex, 8 to 15 percent slopes	560
175. Centralpark-Canarsie complex, 0 to 8 percent slopes	30
204. Pavement & buildings-Charlton-Greenbelt complex, 0 to 8 percent slopes	5255
206. Pavement & buildings-Chatfield-Greenbelt complex, 15 to 50 percent slopes	871
207. Chatfield-Charlton complex, 15 to 50 percent slopes	673
208. Pavement & buildings-Hooksan-Verrazano complex, 0 to 8 percent slopes	1883
210. Jamaica-Barren sands, 0 to 3 percent slopes	552
211. Pavement & buildings-Flatbush-Riverhead complex, 0 to 8 percent slopes	30889
212. Pavement & buildings-Chatfield-Greenbelt complex, 0 to 8 percent slopes	3670
219. Chatfield-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes	1400
223. Chatfield-Greenbelt-Pavement & buildings complex, 15 to 50 percent slopes	1058
225. Plymouth-Flatbush-Pavement & buildings complex, 0 to 8 percent slopes	695
226. Pavement & buildings-Plymouth-Flatbush complex, 0 to 8 percent slopes	677
228. Foresthills-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes	830
230. Chatfield-Charlton complex, 0 to 8 percent slopes	220

231. Chatfield-Charlton complex, 8 to 15 percent slopes	687
232. Leicester-Sutton complex, 0 to 3 percent slopes	258
234. Pavement & buildings-Canarsie-Greenbelt complex, 15 to 50 percent slopes	340
235. Charlton-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes	1563
236. Shea-Pavement & buildings complex, 0 to 8 percent slopes	681
237. Charlton-Greenbelt-Pavement & buildings complex, 8 to 15 percent slopes	43
238. Windsor-Windsor, loamy substratum-Deerfield loamy sands, 0 to 8 percent slopes	241
240. Windsor-Verrazano-Pavement & buildings complex, 0 to 8 percent slopes	742
242. Hooksan-Verrazano-Pavement & buildings complex, 0 to 8 percent slopes	781
243. Montauk-Foresthills-Pavement & buildings complex, 8 to 15 percent slopes	1010
244. Montauk-Foresthills-Pavement & buildings complex, 0 to 8 percent slopes	2493
245. Deerfield-Wareham-Pavement & buildings complex, 0 to 8 percent slopes	374
246. Wareham-Deerfield complex, 0 to 3 percent slopes	167
247. Riverhead-Flatbush complex, 8 to 15 percent slopes	78
249. Riverhead-Pompton complex, 0 to 8 percent slopes	272
250. Unadilla-Riverhead-Pavement & buildings complex, 0 to 8 percent slopes	456
252. Laguardia-Centralpark-Pavement & buildings complex, 0 to 8 percent slopes	254
254. Greenbelt-Foresthills-Pavement & buildings complex, 0 to 8 percent slopes	243
260. Pavement & buildings-Foresthills-Wethersfield complex, 0 to 8 percent slopes	8134
262. Wethersfield-Ludlow-Wilbraham complex, 0 to 8 percent slopes	3028
264. Wethersfield-Ludlow complex, 8 to 15 percent slopes	506
268. Gravesend and Oldmill coarse sands, 0 to 8 percent slopes	1068
269. Flatland-Fishkill sandy loams, 0 to 3 percent slopes	114
270. Branford-Pompton complex, 0 to 8 percent slopes	214
274. Pavement & buildings-Flatbush-Branford complex, 0 to 8 percent slopes	1779
278. Wethersfield-Foresthills-Pavement & buildings complex, 15 to 25 percent slopes	214
280. Wethersfield-Foresthills-Pavement & buildings complex, 0 to 8 percent slopes	4464
283. Wethersfield-Foresthills complex, 0 to 8 percent slopes	422
284. Wethersfield-Foresthills complex, 8 to 15 percent slopes	79
285. Greenbelt-North Meadow complex, 0 to 8 percent slopes	398
304. Pavement & buildings-Windsor-Verrazano complex, 0 to 8 percent slopes	908
306. Wotalf-Todthill-Cheshire loams, 15 to 50 percent slopes	317
311. Wethersfield-Ludlow complex, 15 to 50 percent slopes	188
314. Greenbelt-Cheshire-Pavement & buildings complex, 0 to 8 percent slopes	476
322. Ludlow-Wilbraham complex, 0 to 8 percent slopes	110
324. Pavement & buildings-Greenbelt-Cheshire complex, 0 to 8 percent slopes	1274
344. Wotalf-Todthill-Pavement & buildings complex, 15 to 50 percent slopes	486
346. Wethersfield-Foresthills-Pavement & buildings complex, 8 to 15 percent slopes	375
348. Pavement & buildings-Wotalf-Todthill complex, 15 to 50 percent slopes	272
364. Haledon-Hasbrouck complex, 0 to 3 percent slopes	648
370. Boonton-Haledon complex, 0 to 8 percent slopes	417

## Map Unit Descriptions

### **1. Pavement & buildings, postglacial substratum, 0 to 5 percent slopes:**

Nearly level to gently sloping, highly urbanized areas with more than 80 percent of the surface covered by impervious pavement and buildings, over dunes and dune sand; generally located in urban centers.

### **2. Pavement & buildings, till substratum, 0 to 5 percent slopes:**

Nearly level to gently sloping, highly urbanized areas with more than 80 percent of the surface covered by impervious pavement and buildings, over glacial till; generally located in urban centers.

### **3. Pavement & buildings, outwash substratum, 0 to 5 percent slopes:**

Nearly level to gently sloping, highly urbanized areas with more than 80 percent of the surface covered by impervious pavement and buildings, over glacial outwash; generally located in urban centers.

### **4. Pavement & buildings, wet substratum, 0 to 5 percent slopes:**

Nearly level to gently sloping, highly urbanized areas with more than 80 percent of the surface covered by impervious pavement and buildings, over filled swamp, tidal marsh, or water; generally located in urban centers.

### **5. Beaches:**

Nearly level to gently sloping areas of sand or sand and gravel adjacent to the Atlantic Ocean, inundated by saltwater twice each day at high tide. Frequently reworked by wave and wind action, these areas do not support vegetation.

### **6. Ipswich-Pawcatuck-Matunuck mucky peats (photo):**

Low lying areas of tidal marsh that are inundated by salt water twice each day at high tide, with a mixture of very poorly drained soils which vary in the thickness of organic materials over sand.



### **7. Laguardia-Ebbets-Pavement & buildings, wet substratum complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water; a mixture of anthropogenic soils which vary in coarse fragment content, with more than 15 percent impervious pavement and buildings covering the surface.

### **8. Laguardia-Ebbets-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas filled with a mixture of natural soil materials and construction debris; a mixture of anthropogenic soils which vary in coarse fragment content, with more than 15 percent impervious pavement and buildings covering the surface.

### **11. Water, fresh:**

Fresh water bodies, generally greater than 10 acres.

### **12. Greenbelt-Pavement & buildings, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping areas that have been filled with natural soil materials for athletic fields or roadways; anthropogenic soils with more than 15 percent impervious pavement and buildings covering the surface; located in Van Cortland Park in the Bronx.

### **25. Water, salt:**

Salt water bodies, generally greater than 40 acres.

### **64. Montauk-Foresthills complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and moraines that have been only partially filled with natural soil materials for cemeteries, golf courses, or athletic fields, with some patches of woods; a mixture of gneissic till soils and anthropogenic soils; located in Brooklyn and Queens.

### **67. Pavement & buildings-Foresthills-Montauk complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of till plains and moraines that have been substantially cut and filled with natural soil materials, mostly for residential use; a mixture of anthropogenic soils and gneissic till soils, with up to 80 percent impervious pavement and buildings covering the surface; located from the terminal moraine northward in Brooklyn and Queens.

### **68. Pavement & buildings-Foresthills-Canarsie complex, 8 to 15 percent slopes:**

Strongly sloping urbanized areas of till plains that have been cut and filled with natural soil materials, mostly for residential use; a mixture of anthropogenic soils which vary in the depth to a



root limiting layer, with up to 80 percent impervious pavement and buildings covering the surface; located from the terminal moraine northward in Brooklyn, Queens, and Staten Island.

**69. Montauk-Foresthills complex, 15 to 35 percent slopes:**

Moderately steep to steep areas of till plains and moraines that are mostly wooded and have been only partially filled with natural soil materials for roads; a mixture of gneissic till soils and anthropogenic soils; located from the terminal moraine northward in Brooklyn and Queens.

**77. Flatbush-Riverhead-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains that have been partially filled with natural soil materials for athletic fields, cemeteries, and low density residential use; a mixture of anthropogenic soils and gneissic outwash soils, with more than 15 percent impervious pavement and buildings covering the surface; located south of the terminal moraine in Brooklyn and Queens.

**79. Riverhead-Flatbush complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains that have been only partially filled with natural soil materials for athletic fields and golf courses, with some patches of woods; a mixture of gneissic outwash soils and anthropogenic soils; located south of the terminal moraine in Brooklyn and Queens.

**92. Pavement & buildings, wet substratum-Bigapple-Verrazano complex, 0 to 8 percent slopes:** Nearly level to gently sloping urbanized areas where sandy dredged materials and loamy fill have been placed over swamp, tidal marsh, or water; a mixture of sandy and loamy-capped anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located along coastal waterways in Staten Island, Brooklyn, and Queens.

**98. Greatkills-Freshkills complex, 3 to 25 percent slopes:**

Gently sloping to moderately steep areas where household landfill material is capped by loamy fill of variable thickness.

**99. Bigapple-Fortress complex, 0 to 8 percent slopes (photo):** Nearly level to gently sloping areas that have been filled with sandy dredged materials; a mixture of well drained and moderately well drained anthropogenic soils; located along coastal waterways.



**100. Inwood-Laguardia-Ebbets complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas that have been filled with a mixture of natural soil materials and construction debris; a mixture of anthropogenic soils which vary in coarse fragment content.

**101. Pavement & buildings, wet substratum-Laguardia-Ebbets complex, 0 to 8 percent slopes:** Nearly level to gently sloping urbanized areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water; a mixture of anthropogenic soils which vary in coarse fragment content, with up to 80 percent impervious pavement and buildings covering the surface.

**106. Bigapple-Verrazano-Pavement & buildings, wet substratum complex, 0 to 8 percent slopes:** Nearly level to gently sloping areas where sandy dredged materials and loamy fill have been placed over swamp, tidal marsh, or water; a mixture of sandy and loamy-capped anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located along coastal waterways in Brooklyn and Queens.

**123. Freshkills, geotextile liner substratum-Kleinekill sandy loams, 3 to 25 percent slopes:** Gently sloping to moderately steep areas where household landfill material is capped with either a geotextile or a clay liner.

**128. Pavement & buildings-Laguardia-Ebbets complex, 0 to 8 percent slopes:** Nearly level to gently sloping urbanized areas filled with a mixture of natural soil materials and construction debris; a mixture of anthropogenic soils which vary in coarse fragment content, with up to 80 percent impervious pavement and buildings covering the surface.

**129. Hooksan-Dune land complex, 0 to 25 percent slopes (photo):**

Nearly level to moderately steep areas of sandy soils formed in eolian and marine deposits, and sand in hills or ridges and intervening troughs, drifted and piled up by the wind, and either actively shifting or so recently stabilized that no soil horizons have developed. Located along coastal waterways in Staten Island, Brooklyn, and Queens.



**134. Charlton-Greenbelt complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains that have been only partially filled for cemeteries and golf courses; a mixture of gneissic till soils and anthropogenic soils; located in the Bronx.

**135. Charlton-Greenbelt-Pavement & buildings complex, 15 to 50 percent slopes:**

Moderately steep to very steep areas of till plains and hills that have been partially filled for parks and cemeteries; a mixture of gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in the Bronx.

**137. Charlton-Sutton complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains that are relatively undisturbed and mostly wooded; a mixture of well drained and moderately well drained gneissic till soils; located in the Bronx.

**138. Charlton-Sutton complex, 8 to 15 percent slopes:**

Strongly sloping areas of till plains and hills that are relatively undisturbed; a mixture of well drained and moderately well drained gneissic till soils; located in the Bronx.

**139. Charlton-Sutton complex, 15 to 50 percent slopes:**

Moderately steep to very steep areas of till plains and hills that are relatively undisturbed; a mixture of well drained and moderately well drained gneissic till soils; located in Manhattan and the Bronx.

**165. Montauk-Forest Hills complex, 8 to 15 percent slopes:**

Strongly sloping areas of till plains and moraines that have been only partially filled for parks; a mixture of gneissic till soils and anthropogenic soils; located from the terminal moraine northward in Brooklyn and Queens.

**171. Pavement & buildings-Chatfield-Greenbelt complex, 8 to 15 percent slopes:**

Strongly sloping urbanized areas of bedrock controlled hills and ridges modified by glacial action that have been substantially cut and filled, mostly for residential use; a mixture of moderately deep gneissic till soils and anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located in the Bronx.

**175. Centralpark-Canarsie complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains that have been cut and filled with natural soil materials; a mixture of anthropogenic soils which vary in their coarse fragment content; located in Central Park in Manhattan.

**204. Pavement & buildings-Charlton-Greenbelt complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of till plains that have been substantially cut and filled, mostly for residential use; a mixture of gneissic till soils and anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located in Manhattan and the Bronx.

**206. Pavement & buildings-Chatfield-Greenbelt complex, 15 to 50 percent slopes:**

Moderately steep to very steep urbanized areas of bedrock controlled hills and ridges modified by glacial action, that have been substantially cut and filled, mostly for residential use; a mixture of moderately deep gneissic till soils and anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located in Manhattan and the Bronx.

**207. Chatfield-Charlton complex, 15 to 50 percent slopes:**

Moderately steep to very steep areas of bedrock controlled hills and ridges modified by glacial action that are relatively undisturbed and mostly wooded; a mixture of moderately deep and deep gneissic till soils; located in Manhattan and the Bronx.

**208. Pavement & buildings-Hooksan-Verrazano complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of sandy sediments that have been substantially cut and filled mostly for residential use; a mixture of sandy soils and loamy-capped anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located along the southern shorelines of Brooklyn and Queens.

**210. Jamaica-Barren sands, 0 to 3 percent slopes:**

Nearly level to concave areas that have been filled with sandy dredged materials; a mixture of poorly drained and somewhat poorly drained anthropogenic soils; located along coastal waterways in southern Brooklyn and Queens.

**211. Pavement & buildings-Flatbush-Riverhead complex, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping urbanized areas of outwash plains that have been substantially cut and filled, mostly for residential use; a mixture of anthropogenic and gneissic outwash soils, with up to 80 percent impervious pavement and buildings covering the surface.



**212. Pavement & buildings-Chatfield-Greenbelt complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of bedrock controlled hills and ridges modified by glacial action that have been partially cut and filled with natural soil materials, mostly for residential use; a mixture of moderately deep gneissic till soils and anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface.

**219. Chatfield-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of bedrock controlled hills and ridges modified by glacial action that have been partially cut and filled, mostly for parks and low density residential use; a mixture of moderately deep gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Manhattan and the Bronx.

**223. Chatfield-Greenbelt-Pavement & buildings complex, 15 to 50 percent slopes:**

Moderately steep to very steep areas of bedrock controlled hills and ridges modified by glacial action that have been partially cut and filled, mostly for parks and low density residential use; a mixture of moderately deep gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Manhattan and the Bronx.

**225. Plymouth-Flatbush-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains that have been partially disturbed, mostly for parks and cemeteries; a mixture of sandy outwash soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located south of the terminal moraine in Queens.

**226. Pavement & buildings-Plymouth-Flatbush complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of urbanized outwash plains that have been substantially cut and filled, mostly for residential use; a mixture of sandy outwash soils and anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located south of the terminal moraine in Queens.

**228. Foresthills-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas that have been filled with natural soil materials; a mixture of anthropogenic soils that vary in depth of fill, with more than 15 percent impervious pavement and buildings covering the surface.

**230. Chatfield-Charlton complex, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping areas of bedrock controlled hills and ridges modified by glacial action that are relatively undisturbed and mostly wooded; a mixture of moderately deep and deep gneissic till soils; located in the Bronx.



**231. Chatfield-Charlton complex, 8 to 15 percent slopes:**

Strongly sloping areas of bedrock controlled hills and ridges modified by glacial action that are relatively undisturbed and mostly wooded; a mixture of moderately deep and deep gneissic till soils; located in the Bronx.

**232. Leicester-Sutton complex, 0 to 3 percent slopes:**

Nearly level to concave areas on till plains and hills that are relatively undisturbed and mostly wooded; a mixture of poorly drained and moderately well drained gneissic till soils; located in the Bronx.

**234. Pavement & buildings-Canarsie-Greenbelt complex, 15 to 50 percent slopes:**

Moderately steep to very steep urbanized areas on till plains and hills that have been partially cut and filled, mostly for residential use; a mixture of anthropogenic soils that vary in depth of fill, with up to 80 percent impervious pavement and buildings covering the surface.

**235. Charlton-Greenbelt-Pavement & buildings complex, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping areas of till plains that have been partially cut and filled for athletic fields, cemeteries, and light residential use; a mixture of gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in the Bronx and Manhattan.

**236. Shea-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of impermeable asphalt or concrete that have been covered with a thin mantle of natural fill for parkland; anthropogenic soils with an impermeable layer within 20 inches, and more than 15 percent of the surface still covered by pavement and buildings; located in Flushing Meadows, Queens.

**237. Charlton-Greenbelt-Pavement & buildings complex, 8 to 15 percent slopes (photo):**

Strongly sloping to moderately steep areas of till plains and hills that have been partially cut and filled for roads, cemeteries, and light residential use; a mixture of gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Manhattan and the Bronx.



**238. Windsor-Windsor, loamy substratum-Deerfield loamy sands, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of sandy outwash plains and dunes that are relatively undisturbed and mostly wooded; a mixture of excessively drained and moderately well drained sandy outwash soils; located in western Staten Island.

**240. Windsor-Verrazano- Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of sandy outwash plains and dunes that have been partially filled; a mixture of sandy outwash soils and loamy-capped anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in western Staten Island and Brooklyn.

**242. Hooksan-Verrazano-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of dunes that have been partially cut and filled, mostly for parkland and light residential use; a mixture of sandy soils and loamy-capped anthropogenic soils with more than 15 percent impervious pavement and buildings covering the surface; located on Coney Island and the Rockaway peninsula.

**244. Montauk-Foresthills-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and moraines that have been partially cut and filled, mostly for parks and light residential use; a mixture of gneissic till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located from the terminal moraine northward in Brooklyn and Queens.

**245. Deerfield-Wareham-Pavement & buildings complex, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping areas of outwash plains that are partially wooded and partially developed; a mixture of moderately well drained and poorly drained sandy outwash soils, with more than 15 percent impervious pavement and buildings covering the surface; located in western Staten Island.



**246. Wareham-Deerfield complex, 0 to 3 percent slopes:**

Nearly level to concave areas of outwash plains, relatively undisturbed and mostly wooded; a mixture of poorly drained and moderately well drained sandy outwash soils; located in western Staten Island.

**247. Riverhead-Flatbush complex, 8 to 15 percent slopes:**

Strongly sloping to moderately steep areas of outwash terraces that have been partially filled for parkland; a mixture of gneissic outwash soils and anthropogenic soils; located in Riverdale Park in the Bronx.

**249. Riverhead-Pompton complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains that are relatively undisturbed; a mixture of well and moderately well drained gneissic outwash soils.

**250. Unadilla-Riverhead-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains that are partially developed for parks, hospitals, and cultural facilities; a mixture of silty and loamy outwash soils, with more than 15 percent impervious pavement and buildings covering the surface.

**252. Laguardia-Centralpark-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of urbanized till plains that have been cut and filled with natural soil materials and construction debris; a mixture of anthropogenic soils that vary in artifact content, with more than 15 percent impervious pavement and buildings covering the surface; located in Central Park in Manhattan.

**260. Pavement & buildings-Foresthills-Wethersfield complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of urbanized till plains that have been cut and filled for residential use; a mixture of anthropogenic and red till soils, with up to 80 percent impervious pavement and buildings covering the surface; located in Staten Island.

**262. Wethersfield-Ludlow-Wilbraham complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains, relatively undisturbed and mostly wooded; a mixture of well drained, moderately well drained, and poorly drained soils developed in red till; located in Staten Island.

**264. Wethersfield-Ludlow complex, 8 to 15 percent slopes:**

Strongly sloping to moderately steep areas of till plains and hills, relatively undisturbed and mostly wooded; a mixture of well drained and moderately well drained soils developed in red till; located in Staten Island.

**268. Gravesend and Oldmill coarse sands, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of household landfill materials capped by sandy fill of variable thickness.

**269. Flatland-Fishkill sandy loams, 0 to 3 percent slopes:**

Nearly level to concave areas that have been filled with fly ash; a mixture of somewhat poorly drained and poorly drained anthropogenic soils; located in Floyd Bennett Field in Brooklyn.

**270. Branford-Pompton complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of outwash plains, relatively undisturbed; a mixture of well drained and moderately well drained soils formed in red outwash materials; located in southern Staten Island.

**274. Pavement & buildings-Flatbush-Branford complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of outwash plains that have been cut and filled for residential use; a mixture of anthropogenic soils and red outwash soils, with up to 80 percent impervious pavement and buildings covering the surface; located in southern Staten Island.

**278. Wethersfield-Foresthills-Pavement & buildings complex, 15 to 25 percent slopes:**

Moderately steep to steep areas of till plains and hills that have been partially filled for residential use; a mixture of red till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Staten Island.

**280. Wethersfield-Foresthills-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and hills that have been partially filled for cemeteries and residential use; a mixture of red till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Staten Island.

**283. Wethersfield-Foresthills complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and hills that have been partially cut and filled for parkland and golf courses; a mixture of red till soils and anthropogenic soils; located in Staten Island.

**284. Wethersfield-Foresthills complex, 8 to 15 percent slopes:**

Strongly sloping to moderately steep areas of till plains and hills that have been partially cut and filled for golf courses; a mixture of red till soils and anthropogenic soils; located in Staten Island.

**285. Greenbelt-North Meadow complex, 0 to 8 percent slopes (photo):**

Nearly level to gently sloping areas of urbanized till plains that have been filled with natural soil materials for parkland; a mixture of well drained and moderately well drained anthropogenic soils; located in Central Park in Manhattan.



**304. Pavement & buildings-Windsor-Verrazano complex, 0 to 8 percent slopes:**

Nearly level to gently sloping urbanized areas of sandy outwash plains and dunes that have been partially filled for residential and commercial use; a mixture of sandy outwash soils and loamy-capped anthropogenic soils, with up to 80 percent impervious pavement and buildings covering the surface; located in Staten Island.

**306. Wotalf-Todthill-Cheshire loams, 15 to 50 percent slopes:**

Moderately steep to very steep areas of bedrock controlled hills and ridges modified by glacial action, relatively undisturbed and mostly wooded; a mixture of shallow, moderately deep, and deep till soils over serpentinite; located in Staten Island.

**311. Wethersfield-Ludlow complex, 15 to 50 percent slopes:**

Moderately steep to very steep areas of till plains and hills, relatively undisturbed; a mixture of well drained and moderately well drained soils formed in red till; located in Staten Island.

**314. Greenbelt-Cheshire-Pavement & buildings complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and moraines that have been partially filled with natural soil materials, mostly for residential use; a mixture of anthropogenic soils and red till soils, with more than 15 percent impervious pavement and buildings covering the surface; located in eastern Staten Island.

**322. Ludlow-Wilbraham complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and moraines that are relatively undisturbed and mostly wooded; a mixture of moderately well drained and poorly drained soils formed in red till; located in Staten Island.

**324. Pavement & buildings-Greenbelt-Cheshire complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains and moraines that have been partially filled with natural soil materials, mostly for residential use; a mixture of anthropogenic soils and red till soils,

with up to 80 percent impervious pavement and buildings covering the surface; located in eastern Staten Island.

**344. Wotalf-Todthill-Pavement & buildings complex, 15 to 50 percent slopes:**

Moderately steep to very steep urbanized areas of bedrock controlled hills and ridges modified by glacial action that have been disturbed for residential use; a mixture of shallow and moderately deep serpentinite till soils, with more than 15 percent impervious pavement and buildings covering the surface.

**346. Wethersfield-Forest Hills-Pavement & buildings complex, 8 to 15 percent slopes:**

Strongly sloping areas of till plains and hills that have been partially filled for residential use and cemeteries; a mixture of red till soils and anthropogenic soils, with more than 15 percent impervious pavement and buildings covering the surface; located in Staten Island.

**348. Pavement & buildings-Wotalf-Todthill complex, 15 to 50 percent slopes:**

Moderately steep to very steep urbanized areas of bedrock controlled hills and ridges modified by glacial action that have been disturbed for residential use; a mixture of shallow and moderately deep serpentinite till soils, with up to 80 percent impervious pavement and buildings covering the surface.

**364. Haledon-Hasbrouck complex, 0 to 3 percent slopes:**

Nearly level to concave areas of till plains and moraines that are relatively undisturbed and mostly wooded; a mixture of somewhat poorly drained and poorly drained soils formed in red till; located in Staten Island.

**370. Boonton-Haledon complex, 0 to 8 percent slopes:**

Nearly level to gently sloping areas of till plains that are relatively undisturbed and mostly wooded; a mixture of well drained and somewhat poorly drained soils formed in red till; located in Staten Island.

### Map Unit Components

The map unit components include soil series and miscellaneous areas. In general, soils in a series have the same parent material, drainage class, and sequence of major horizons. Soil series can be further separated into phases based on surface texture, slope, and substratum type. Miscellaneous areas have little or no natural soil, are difficult to access for orderly examination, or for other reasons, are difficult to classify. They can be characterized by disturbance, recent deposition, or highly variable composition.

This survey includes impervious surfaces (Pavement & buildings) at the urban core; areas of fill, classified to the series level based on the type of materials; and natural soils, also classified to the series level, which reflect the natural geologic diversity and the soil forming factors.

### Soil Series

#### Barren series

**Parent Material:** Sandy dredge deposits, greater than 40 inches deep

**Landform:** Anthropogenic fill areas near coastal waterways

**Depth to Bedrock:** Very deep

**Drainage Class:** Somewhat poorly drained

**Permeability:** Rapid

**Soil Texture:** Fine sand, sand, or coarse sand throughout

**Coarse Fragments:** 0 to 20 percent rock fragments (including seashells); less than 10 percent artifacts

**Range in Soil pH:** Very strongly acid to slightly alkaline

**Hydrologic Soil Group:** C

#### Typical Soil Profile:

A 0 to 5 inches – very dark grayish brown (10YR 3/2) sand; weak very fine granular structure; very friable; slightly acid.

Bw 5 to 11 inches – olive brown (2.5Y 4/3) sand; weak very fine and fine subangular blocky structure; very friable; common medium distinct yellowish brown (10YR 5/6) and gray (10YR 6/1) redoximorphic features; slightly acid.

- Bg1* 11 to 17 inches – light brownish gray (2.5Y 6/2) sand; weak very fine subangular blocky structure; very friable; few medium distinct yellowish brown (10YR 5/6) redoximorphic features; slightly acid.
- Bg2* 17 to 35 inches – gray (2.5Y 6/1) fine sand; massive; very friable; few medium distinct yellowish brown (10YR 5/6) redoximorphic features; strongly acid.
- C* 35 to 65 inches – grayish brown (2.5Y 5/2) sand; massive; very friable; strongly acid.

**Bigapple series**

**Parent Material:** Sandy dredge deposits, greater than 40 inches deep

**Landform:** Anthropogenic fill areas near coastal waterways

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Rapid

**Soil Texture:** Loamy sand or coarser in the surface; fine sand, sand, or coarse sand below

**Coarse Fragments:** 0 to 20 percent rock fragments (including seashells); less than 10 percent artifacts

**Range in Soil pH:** Extremely acid to slightly alkaline

**Hydrologic Soil Group:** A

**Typical Soil Profile:**

- A* 0 to 3 inches – dark grayish brown (10YR 4/2) fine sand; single grain; loose; 1 percent gravel; extremely acid.
- E* 3 to 8 inches – brown (10YR 5/3) fine sand; single grain; loose; 1 percent gravel; extremely acid.
- Bw* 8 to 20 inches – yellowish brown (10YR 5/4) stratified sand; weak medium subangular blocky structure; very friable; 1 percent gravel; extremely acid.
- C1* 20 to 28 inches – yellowish brown (10YR 6/4) and grayish brown (10YR 5/2) stratified sand; massive; very friable; 5 percent gravel; very strongly acid.
- C2* 28 to 60 inches – grayish brown (10YR 5/2) and gray (10YR 5/1) stratified sand; massive; very friable; 2 percent gravel; very strongly acid.



**Boonton series**

**Parent Material:** Glacial till derived mainly from red sedimentary rock and basalt

**Landform:** Till plains and hills

**Depth to Bedrock:** Deep to very deep

**Drainage Class:** Well drained and moderately well drained

**Permeability:** Moderate above the fragipan; very slow throughout the fragipan

**Soil Texture:** Silt loam, loam, sandy loam in the surface and upper subsoil; loam or sandy loam below

**Coarse Fragments:** 0 to 35 percent throughout

**Range in Soil pH:** Strongly acid or very strongly acid in the upper solum; strongly acid through slightly acid in the lower solum; moderately acid through neutral in the substratum

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- Ap* 0 to 8 inches – brown (10YR 4/3) silt loam; moderate fine and medium granular structure; very friable; 1 percent gravel, 2 percent cobbles, and 3 percent stones; very strongly acid.
- BA* 8 to 15 inches – dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; 5 percent gravel and 5 percent cobbles; very strongly acid.
- Bt1* 15 to 23 inches – brown (7.5YR 4/4) gravelly loam; moderate medium subangular blocky structure; friable; 15 percent gravel and 2 percent cobbles; strongly acid.
- Bt2* 23 to 30 inches – brown (7.5YR 4/4) gravelly fine sandy loam; weak coarse and medium subangular blocky structure; friable; 20 percent gravel and 2 percent cobbles; strongly acid.



- Btx* 30 to 50 inches – dark reddish brown (5YR 3/4) gravelly sandy loam; strong very thick platy structure; very firm and brittle; 20 percent gravel and 2 percent cobbles; strongly acid.
- Cd* 50 to 65 inches - dark reddish brown (5YR 3/4) gravelly sandy loam, weak medium and thick platy structure; very firm and brittle; 25 percent gravel and 2 percent cobbles; slightly acid.

#### **Branford series**

**Parent Material:** Loamy over sandy and gravelly outwash deposits, derived mainly from red sedimentary rocks

**Landform:** Outwash plains and terraces

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately rapid in the solum; moderately rapid or rapid in the substratum

**Soil Texture:** Silt loam, loam, very fine sandy loam, or fine sandy loam in the surface and subsoil; loamy fine sand or coarser in the substratum

**Coarse Fragments:** 0 to 30 percent rock fragments in the solum; 10 to 65 percent in the substratum

**Range in Soil pH:** Strongly acid to slightly acid

**Hydrologic Group:** B

**Typical Soil Profile:**

- Ap* 0 to 8 inches – dark grayish brown (10YR 4/2) loam; weak fine granular structure; very friable; 2 percent gravel; slightly acid.
- Bw1* 8 to 16 inches – dark yellowish brown (10YR 4/4) loam; weak fine and medium subangular blocky structure; friable; 5 percent gravel; moderately acid.
- Bw2* 16 to 29 inches – strong brown (7.5YR 4/6) gravelly loam; weak fine and medium subangular blocky structure; friable; 20 percent gravel; moderately acid.
- BC* 29 to 32 inches – brown (7.5YR 4/4) very gravelly sandy loam; massive; friable; 40 percent gravel; strongly acid.
- C* 32 to 72 inches – reddish brown (5YR 4/6) stratified sand and gravel; massive; loose; 50 percent gravel; strongly acid.

#### **Canarsie series**

**Parent Material:** Loamy fill, less than 40 inches deep, over a natural glacial till soil which may be truncated; a dense root-limiting layer is present within 40 inches of the surface

**Landform:** Anthropogenic fill areas on urbanized till plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate to moderately slow in the fill; slow in the compacted subsoil or dense till substratum

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 30 percent rock fragments throughout; less than 10 percent artifacts in the loamy fill mantle

**Range in Soil pH:** Strongly acid to neutral in the fill, very strongly acid to slightly acid in the till substratum

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A* 0 to 2 inches – dark brown (7.5YR 3/2) sandy loam; moderate medium granular structure; very friable; 5 percent gravel; slightly alkaline.
- Bw* 2 to 5 inches – dark reddish brown (5YR 3/4) sandy loam; fine medium subangular blocky structure; friable; 10 percent gravel and 1 percent cobbles; moderately alkaline.
- BC* 5 to 10 inches – dark reddish brown (5YR 3/4) fine sandy loam; massive with moderately thick plate-like divisions; firm; 10 percent gravel and 1 percent cobbles; moderately alkaline.

- C 10 to 20 inches – dark red (2.5YR 3/6) gravelly sandy loam; massive with very thick plate-like divisions; very firm; 20 percent gravel and 10 percent cobbles; moderately alkaline.
- 2Cd 20 to 72 inches – dark red (2.5YR 3/6) sandy loam; massive; firm (dense glacial till); 10 percent gravel; moderately alkaline.

**Centralpark series**

**Parent Material:** Loamy fill, greater than 40 inches deep, high in rock fragments

**Landform:** Anthropogenic fill areas

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate, moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 5 to 70 percent rock fragments throughout; less than 10 percent artifacts

**Range in Soil pH:** Very strongly acid to slightly acid

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A 0 to 2 inches – dark brown (7.5YR 3/3) gravelly sandy loam; weak medium granular structure; friable; 24 percent gravel and 1 percent cobbles; neutral.
- Bw 2 to 11 inches – dark brown (7.5YR 4/3) very gravelly sandy loam; weak medium subangular blocky structure; friable; 34 percent gravel, 10 percent cobbles, and 10 percent stones; neutral.
- C1 11 to 19 inches – dark brown (7.5YR 4/3) very stony coarse sandy loam; massive; friable; 20 percent gravel, 10 percent cobbles, and 15 percent stones; slightly alkaline.
- C2 19 to 40 inches – dark reddish brown (5YR 4/3) extremely stony sandy loam; massive; firm; 26 percent gravel, 15 percent cobbles, and 20 percent stones; slightly alkaline.
- C3 40 to 55 inches – reddish brown (5YR 4/4) very stony sandy loam; massive; friable; 16 percent gravel, 15 percent cobbles, and 20 percent stones; slightly alkaline.
- Ab 55 to 56 inches – black (N 2.5/) mucky silt loam (buried soil surface); massive; friable; neutral.
- Bwb 56 to 80 inches – brown (7.5YR 4/3) loam; weak medium subangular blocky structure; friable; moderately acid.

**Charlton series**

**Parent Material:** Glacial till derived mainly from gneiss and schist

**Landform:** Till plains and hills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately rapid

**Soil Texture:** Loam or sandy loam throughout; some soils may have a loamy sand substratum

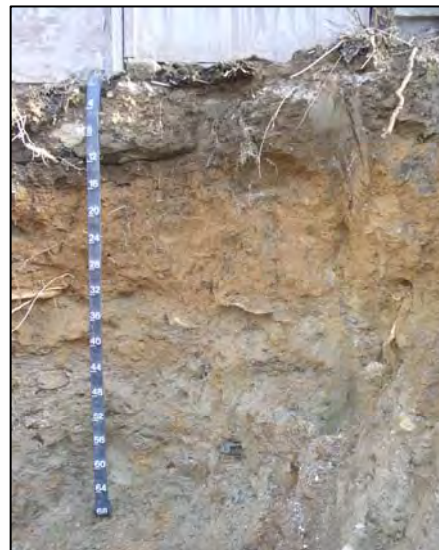
**Coarse Fragments:** 5 to 35 percent in the solum; 5 to 50 percent in the substratum

**Range in Soil pH:** Very strongly acid to moderately acid

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A1 0 to 5 inches – very dark grayish brown (10YR 3/2) loam; moderate fine granular structure; friable; 5 percent gravel; very strongly acid.
- A2 5 to 10 inches – dark brown (10YR 3/3) loam; moderate medium subangular blocky structure; friable; 5 percent gravel; very strongly acid.
- AB 10 to 14 inches – dark yellowish brown (10YR 3/4) loam; moderate medium subangular blocky structure; friable; 7 percent gravel; very strongly



- acid.
- Bw1* 14 to 24 inches – strong brown (7.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; 3 percent gravel, 4 percent cobbles, and 3 percent stones; strongly acid.
- Bw2* 24 to 33 inches – dark yellowish brown (10YR 4/6) sandy loam; weak medium subangular blocky structure; friable; 3 percent gravel, 4 percent cobbles, and 3 percent stones; strongly acid.
- C1* 33 to 45 inches – yellowish brown (10YR 5/6) stony loamy sand; massive; 3 percent gravel, 4 percent cobbles, and 8 percent stones; strongly acid.
- C2* 45 to 72 inches – light olive brown (2.5Y 5/3) stony loamy sand; massive; 3 percent gravel, 4 percent cobbles, and 8 percent stones; strongly acid.

### Chatfield series

**Parent Material:** Glacial till overlying gneiss or schist bedrock

**Landform:** Bedrock controlled hills and ridges, modified by glacial action

**Depth to Bedrock:** Moderately deep (between 20 and 40 inches to bedrock)

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately rapid

**Soil Texture:** Silt loam, loam, or sandy loam throughout; pockets or thin lenses of loamy sand may be found in the substratum

**Coarse Fragments:** 5 to 50 percent rock fragments in the surface; 5 to 35 percent in the subsoil

**Range in Soil pH:** Very strongly acid to moderately acid

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A* 0 to 2 inches – very dark grayish brown (10YR 3/2) loam; weak fine granular structure; friable; 5 percent gravel; very strongly acid.
- AB* 2 to 8 inches – dark brown (10YR 3/3) loam; weak medium subangular blocky structure; friable; 5 percent gravel; very strongly acid.
- Bw* 8 to 25 inches – brown (7.5YR 4/4) gravelly silt loam; weak fine subangular blocky structure; friable; 20 percent gravel; very strongly acid.
- 2R* 25 inches – fractured gneissic bedrock.

### Cheshire series

**Parent Material:** Glacial till derived mainly from red sedimentary rock and basalt

**Landform:** Till plains and hills, and moraines

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately rapid

**Soil Texture:** Silt loam, loam, or sandy loam throughout; pockets or thin lenses of loamy sand may be found in the substratum

**Coarse Fragments:** 5 to 35 percent rock fragments throughout

**Range in Soil pH:** Very strongly acid to moderately acid

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A* 0 to 2 inches – dark brown (7.5YR 3/2) loam; moderate fine granular structure; very friable; 8 percent gravel; very strongly acid.
- Bw1* 2 to 5 inches – reddish brown (5YR 4/3) loam; strong fine granular structure; friable; 6 percent gravel; very strongly acid.
- Bw2* 5 to 10 inches – yellowish red (5YR 4/6) fine sandy loam; moderate medium subangular blocky and weak fine platy structure; friable; 6 percent gravel and 1 percent cobbles; very strongly acid.
- Bw3* 10 to 28 inches – reddish brown (2.5YR 4/4) loam; weak coarse platy and moderate medium subangular blocky structure; friable; 7 percent gravel and 1 percent cobbles; very strongly acid.

- C 28 to 60 inches – dark reddish brown (2.5YR 3/4) gravelly sandy loam; weak coarse platy and moderate medium subangular blocky structure; 19 percent gravel and 5 percent cobbles; strongly acid.

**Deerfield series**

**Parent Material:** Sandy glaciofluvial deposits

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained

**Permeability:** Moderately rapid to rapid in the solum, rapid to very rapid in the substratum

**Soil Texture:** Fine sandy loam or coarser in the surface and upper subsoil; loamy fine sand or coarser below

**Coarse Fragments:** 0 to 15 percent in the solum; 0 to 20 percent in the substratum

**Range in Soil pH:** Extremely acid to strongly acid

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- Oi* 0 to 3 inches – black (10YR 2/1) slightly decomposed organic material.
- A 3 to 5 inches – very dark grayish black (10YR 3/2) loamy sand; weak fine and medium granular structure; very friable; extremely acid.
- Bhs* 5 to 10 inches – dark brown (7.5YR 3/3) loamy sand; moderate fine and medium subangular blocky structure; friable; extremely acid.
- Bw1* 10 to 15 inches – brown (7.5YR 4/4) loamy sand; weak medium and fine subangular blocky structure; friable; very strongly acid.
- Bw2* 15 to 19 inches – dark yellowish brown (10YR 4/4) loamy sand; weak medium and fine subangular blocky structure; friable; strongly acid.
- BC* 19 to 25 inches – dark yellowish brown (10YR 4/6) loamy sand; weak medium and coarse subangular blocky structure; friable; many coarse prominent yellowish red (5YR 4/6) and many coarse distinct light yellowish brown (10YR 6/4) redoximorphic features; very strongly acid.
- C 37 to 60 inches – olive gray (5Y 5/2) loamy sand; massive; friable; very strongly acid.



**Ebbets series**

**Parent Material:** Loamy fill, greater than 40 inches deep, with construction debris

**Landform:** Anthropogenic urban fill plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate, moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 10 to 34 percent, with more than 10 percent artifacts

**Range in Soil pH:** Very strongly acid to moderately alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A 0 to 4 inches – very dark grayish brown (10YR 3/2) loam; weak fine subangular blocky structure; friable; 5 percent gravel-sized artifacts; slightly acid.

- Bw* 4 to 8 inches – dark yellowish brown (10YR 4/4) gravelly sandy loam; weak fine subangular blocky structure; friable; 25 percent gravel-sized artifacts; moderately alkaline.
- C* 8 to 60 inches – dark yellowish brown (10YR 4/4) gravelly sandy loam; massive; friable; 30 percent gravel-sized artifacts; moderately alkaline.

#### **Fishkill series**

**Parent Material:** Incinerator fly ash, greater than 40 inches deep

**Landform:** Anthropogenic fill areas

**Depth to Bedrock:** Very deep

**Drainage Class:** Poorly drained

**Permeability:** Moderate

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** Natural rocks and artifacts combined can range up to 35 percent

**Range in Soil pH:** Slightly acid to slightly alkaline

**Hydrologic Soil Group:** D

**Typical Soil Profile:**

- A* 0 to 3 inches – very dark gray (10YR 3/1) sandy loam; weak very fine granular structure; very friable; 4 percent gravel-sized artifacts and 1 percent gravel; neutral.
- C1* 3 to 13 inches – brown (10YR 4/3) coarse sandy loam; massive; friable; few fine distinct yellowish brown (10YR 5/8) redoximorphic concentrations; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C2* 13 to 25 inches – gray (10YR 6/1) coarse sandy loam; massive; friable; few coarse prominent yellowish brown (10YR 5/8) redoximorphic concentrations; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C3* 25 to 37 inches – grayish brown (10YR 5/2) coarse sandy loam; massive; friable; few fine distinct yellowish brown (10YR 5/8) redoximorphic features; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C4* 37 to 65 inches – pale brown (10YR 6/3) coarse sandy loam; common coarse prominent yellowish brown (10YR 5/8) redoximorphic features; 9 percent gravel-sized artifacts and 1 percent gravel; neutral.

#### **Flatbush series**

**Parent Material:** Loamy fill, less than 40 inches deep, over glacial outwash materials

**Landform:** Anthropogenic urban fill plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately slow in the solum; rapid or very rapid in the substratum

**Soil Texture:** Silt loam, loam, or sandy loam; loamy sand or sand in the substratum

**Coarse Fragments:** 0 to 35 percent in the solum; 5 to 60 percent in the substratum

**Range in Soil pH:** Very strongly acid to slightly alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A* 0 to 13 inches – very dark grayish brown (10YR 3/2) fine sandy loam; weak fine subangular blocky structure; friable; 5 percent gravel; slightly acid.
- Ab* 13 to 21 inches – brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; 1 percent gravel; slightly acid.
- Bwb* 21 to 50 inches – yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; 1 percent gravel; slightly acid.
- 2C* 50 to 79 inches – dark yellowish brown (10YR 4/6) sand; massive; friable; 10 percent gravel; moderately acid.

#### **Flatland series**

**Parent Material:** Incinerator fly ash, greater than 40 inches deep

**Landform:** Anthropogenic landforms/filled areas

**Depth to Bedrock:** Very deep

**Drainage Class:** Somewhat poorly drained

**Permeability:** Moderate

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** Natural rocks and artifacts combined can range up to 35 percent

**Range in Soil pH:** Slightly acid to slightly alkaline

**Hydrologic Soil Group:** D

**Typical Soil Profile:**

- A* 0 to 6 inches – brown (10YR 4/3) sandy loam; weak very fine granular structure; very friable; 4 percent gravel-sized artifacts and 1 percent gravel; neutral.
- C1* 6 to 16 inches – yellowish brown (10YR 5/4) coarse sandy loam; massive; friable; few coarse prominent strong brown (7.5YR 4/6) redoximorphic features; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C2* 16 to 30 inches – yellowish brown (10YR 5/4) sandy loam; massive; friable; common fine distinct dark yellowish brown (10YR 4/6) and few fine distinct grayish brown (10YR 5/2) redoximorphic features; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C3* 30 to 37 inches – yellowish brown (10YR 5/4) coarse sandy loam; massive; friable; many fine distinct dark yellowish brown (10YR 4/6) and common fine distinct grayish brown (10YR 5/2) redoximorphic features; 8 percent gravel-sized artifacts and 2 percent gravel; neutral.
- C4* 37 to 65 inches – light brownish gray (10YR 6/2) gravelly coarse sandy loam; massive; friable; few fine distinct dark yellowish brown (10YR 4/6) redoximorphic features 14 percent gravel-sized artifacts and 1 percent gravel; neutral.

#### **Foresthills series**

**Parent Material:** Loamy fill, less than 40 inches deep, over an intact or truncated glacial till soil

**Landform:** Anthropogenic fill areas on urbanized till plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate; moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 20 percent throughout; less than 10 percent artifacts

**Range in Soil pH:** Very strongly acid to slightly acid in the loamy fill; very strongly acid to neutral in the underlying soil

**Hydrologic Group:** B

**Typical Soil Profile:**

- A* 0 to 2 inches – very dark grayish brown (10YR 3/2) loam; weak coarse subangular blocky structure; very friable; 5 percent gravel, 1 percent cobbles, and 1 percent stones; moderately acid.
- Bw* 2 to 15 inches – 60 percent brown (7.5YR 4/4) silt loam, 25 percent yellowish red (5YR 4/6) loam, and 15 percent black (10YR 2/1) loam; weak coarse subangular blocky structure; friable; 5 percent gravel and 1 percent cobbles; strongly acid.
- Ab* 15 to 17 inches – black (10YR 2/1) loam; weak medium subangular blocky structure; very friable; 1 percent gravel and 1 percent cobbles; moderately acid.
- BAb* 17 to 28 inches – brown (7.5YR 4/3) loam; weak medium subangular blocky structure; friable; 5 percent gravel and 1 percent cobbles; strongly acid.
- Bwb* 28 to 42 inches – reddish brown (5YR 4/4) loam; weak medium subangular blocky structure; friable; 5 percent gravel and 1 percent cobbles; strongly acid.
- Cd* 42 to 60 inches – yellowish red (5YR 4/6) loam; weak coarse platy structure; firm; 5 percent gravel and 1 percent cobbles; strongly acid.

#### **Fortress series**

**Parent Material:** Sandy dredge deposits, more than 40 inches deep

**Landform:** Anthropogenic fill areas near coastal waterways

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained

**Permeability:** Rapid

**Soil Texture:** Loamy fine sand or coarser throughout

**Coarse Fragments:** 0 to 20 percent rock fragments (including seashells); less than 10 percent artifacts

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A 0 to 8 inches – grayish brown (2.5Y 5/2) sand; weak very fine granular structure; very friable; neutral.
- Bw 8 to 12 inches – light olive brown (2.5Y 5/6) sand; weak very fine subangular blocky structure; very friable; few fine faint brownish yellow (10YR 6/8) redoximorphic features; neutral.
- C1 12 to 48 inches – light gray (2.5Y 7/2) sand; massive; friable; many fine distinct brownish yellow (10YR 6/8) redoximorphic features; neutral.
- C2 48 to 65 inches – olive gray (5Y 5/2) sand; massive; friable; common medium distinct gray (5Y 5/2) and brownish yellow (10YR 6/8) redoximorphic features; neutral.

### **Freshkills series**

**Parent Material:** Loamy fill, more than 25 inches deep, over household landfill material

**Landform:** Anthropogenic landfills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate; moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 20 percent in the loamy cap; 35 to 75 percent combined rock fragments and artifacts in the garbage layers

**Range in Soil pH:** Slightly acid to neutral

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A 0 to 6 inches – dark brown (10YR 3/3) sandy loam; weak fine subangular blocky structure; friable; 2 percent gravel-sized artifacts, 5 percent gravel, and 1 percent cobbles; neutral.
- Bw 6 to 13 inches – dark yellowish brown (10YR 4/4) sandy loam; moderate medium subangular blocky structure; friable; 2 percent gravel-sized artifacts, 5 percent gravel, and 1 percent cobbles; neutral.
- C 13 to 33 inches – brown (7.5YR 4/4) gravelly sandy loam; massive; friable; 15 percent gravel-sized artifacts, 15 percent gravel, and 2 percent cobbles; neutral.
- 2C 33 to 80 inches – brown (7.5YR 4/4) extremely cobbly sandy loam; massive; friable; 20 percent cobble-size biodegradable artifacts, 45 percent cobble-sized non-biodegradable artifacts, and 5 percent cobbles; neutral.

### **Gravesend series**

**Parent Material:** Sandy fill, less than 25 inches deep, over household landfill material

**Landform:** Anthropogenic landfills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Rapid

**Soil Texture:** Fine sand, sand, or coarse sand throughout

**Coarse Fragments:** 1 to 30 percent rock fragments in the sandy cap; 35 to 75 percent combined rock fragments and artifacts in the garbage layers

**Range in Soil pH:** Extremely acid to slightly alkaline

**Hydrologic Soil Group:** A

**Typical Soil Profile:**

- A 0 to 2 inches – very dark gray (10YR 3/1) coarse sand; weak fine and medium subangular blocky structure; loose; 5 percent gravel; strongly acid.

- Bw* 2 to 8 inches – light yellowish brown (2.5Y 6/4) coarse sand; single grain; loose; 5 percent gravel; moderately acid.
- C1* 8 to 20 inches – grayish brown (2.5Y 5/2) coarse sand; massive; friable; very strongly acid.
- 2C2* 20 to 80 inches – very dark grayish brown (2.5Y 3/2) extremely cobbly coarse sand; massive; loose; 15 percent gravel, 15 percent cobble-sized biodegradable artifacts, and 40 percent cobble-sized non-biodegradable artifacts; neutral.

**Greatkills series**

**Parent Material:** Loamy fill, less than 25 inches deep, over household landfill material

**Landform:** Anthropogenic landfills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate; moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 30 percent rock fragments in the loamy cap; 35 to 75 percent combined rock fragments and artifacts in the garbage layers

**Range in Soil pH:** Strongly acid to moderately alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A* 0 to 2 inches – dark brown (7.5YR 3/2) sandy loam; weak medium granular structure; very friable; 10 percent gravel; slightly acid.
- Bw* 2 to 7 inches – dark reddish brown (5YR 3/4) gravelly sandy loam; weak medium subangular blocky and platy structure; friable; 20 percent gravel; neutral.
- C1* 7 to 12 inches – dark reddish brown (5YR 3/4) gravelly sandy loam; weak medium platy structure; firm; 5 percent gravel-sized artifacts and 20 percent gravel; moderately alkaline.
- 2C2* 12 to 80 inches – brown (7.5YR 4/4) extremely cobbly sandy loam; massive; friable; 15 percent cobble-sized biodegradable artifacts, 40 percent cobble-sized non-biodegradable artifacts, and 5 percent cobbles; neutral.

**Greenbelt series**

**Parent Material:** Loamy fill, greater than 40 inches deep

**Landform:** Anthropogenic fill areas on urbanized till plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate; moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 20 percent rock fragments throughout; less than 10 percent artifacts

**Range in Soil pH:** Extremely acid to moderately alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A* 0 to 3 inches – brown (7.5YR 4/4) loam; medium subangular blocky structure; very friable; 5 percent gravel, 2 percent cobbles, and 2 percent stones; very strongly acid.
- Bw* 3 to 13 inches – yellowish red (5YR 4/6) loam; moderate medium subangular blocky and platy structure; friable; 2 percent gravel, 1 percent cobbles, and 1 percent stones; moderately acid.
- C* 13 to 57 inches – reddish brown (2.5YR 4/4) gravelly loam; massive; firm; 15 percent gravel, 5 percent cobbles, and 2 percent stones; moderately acid.
- Ab* 57 to 58 inches – dark brown (7.5YR 3/2) loam; weak medium granular structure; very friable; 5 percent gravel and 5 percent cobbles; extremely acid.
- Bwb* 58 to 65 inches – yellowish red (5YR 4/6) loam; moderate medium subangular blocky structure; very friable; 5 percent gravel and 5 percent cobbles; very strongly acid.



### Haledon series

**Parent Material:** Glacial till derived mainly from red sedimentary rock and basalt; often eroded glacial materials that have been redeposited

**Landform:** Low positions on undulating till plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Somewhat poorly

**Permeability:** Moderately rapid to moderate above the fragipan, slow to very slow within the fragipan

**Coarse Fragments:** 5 to 15 percent rock fragments in the solum, 15 to 35 percent in the substratum

**Soil Texture:** Silt loam or loam in the surface; silt loam, loam, or sandy loam in the upper subsoil; loam or sandy loam in the lower subsoil (fragipan) and substratum

**Range in Soil pH:** Extremely acid to slightly acid in the solum and moderately acid to neutral in the substratum

**Hydrologic Soil Group:** D

**Typical Soil Profile:**

- A* 0 to 3 inches – black (10YR 2/1) loam; moderate fine granular structure; very friable; 5 percent gravel; extremely acid.
- BE* 3 to 11 inches – yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; common fine faint brownish yellow (10YR 5/8) and few fine faint pale brown (10YR 6/3) redoximorphic features; 5 percent gravel; extremely acid.
- Bt1* 11 to 17 inches – brownish yellow (10YR 5/8) loam; moderate coarse subangular blocky structure; friable; few faint patchy clay films on ped faces and coarse fragments; many medium distinct light brownish gray (10YR 6/2) redoximorphic features; 5 percent gravel; extremely acid.
- Bt2* 17 to 27 inches – brownish yellow (10YR 6/8) silt loam; moderate medium subangular blocky structure; friable; few faint patchy clay films on ped faces and coarse fragments; many medium distinct light brownish gray (10YR 6/2) and common medium distinct brownish yellow (10YR 5/8) redoximorphic features; 5 percent gravel; very strongly acid.
- 2Btx* 27 to 38 inches – yellowish red (5YR 4/6) loam; moderate coarse prismatic structure; firm and brittle; few faint patchy clay films on ped faces and coarse fragments; common medium distinct yellowish red and (5YR 5/8) and light gray (10YR 7/1) redoximorphic features; 15 percent gravel and 1 percent cobbles; very strongly acid.
- 2Cd* 38 to 65 inches – yellowish red (5YR 4/6) loam; massive; firm and brittle; 20 percent gravel and 1 percent cobbles; very strongly acid.

### Hooksan series

**Parent Material:** Eolian sands and marine deposits

**Landform:** Dunes adjoining coastal beaches

**Drainage Class:** Excessively drained

**Permeability:** Very rapid

**Soil Texture:** Fine sand, sand, or coarse sand throughout

**Coarse Fragments:** 0 to 10 percent rock fragments throughout; mostly seashells

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Soil Group:** A

**Typical Soil Profile:**

- A* 0 to 3 inches – olive brown (2.5Y 4/4) fine sand; single grain; loose; extremely acid.
- C1* 3 to 29 inches – light olive brown (2.5Y 5/3) fine sand; single grain; loose; very strongly acid.
- C2* 29 to 80 inches – light olive brown (2.5Y 5/3) fine sand; single grain; loose; moderately acid.



### **Inwood series**

**Parent Material:** Construction debris and rubble mixed with natural soil; greater than 75 percent coarse fragments

**Landform:** Anthropogenic urban cut and fill plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderately rapid

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** Greater than 75 percent (average)

**Range in Soil pH:** Strongly acid to neutral.

**Hydrologic Soil Group:** B

#### **Typical Soil Profile:**

- A* 0 to 6 inches – yellowish brown (10YR 5/4) gravelly sandy loam; weak fine platy structure; friable; 10 percent gravel-sized artifacts and 5 percent gneissic gravel; neutral.
- Bw* 6 to 12 inches – yellowish brown (10YR 5/4) very gravelly sandy loam; weak fine subangular blocky structure; friable; 35 percent gravel-sized artifacts and 5 percent gneissic gravel; neutral.
- C1* 12 to 16 inches – yellowish brown (10YR 5/6) very gravelly sandy loam; massive; friable; 35 percent gravel-sized artifacts and 10 percent gneissic gravel; neutral.
- C2* 16 to 65 inches – yellowish brown (10YR 5/6) extremely stony sandy loam; massive; friable; 80 percent stone-sized artifacts (concrete, asphalt, wood, metal) and 10 percent gneissic stones; neutral.



### **Ipswich series**

**Parent Material:** Organic deposits

**Landform:** Tidal marsh

**Depth to Bedrock:** Very deep

**Drainage Class:** Very poorly drained

**Permeability:** Moderate to rapid

**Thickness of organic material:** Greater than 51 inches

**Salt Content:** 5000 to 35000 ppm

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Soil Group:** D

#### **Typical Soil Profile:**

- Oe1* 0 to 20 inches – brown (10YR 4/3) mucky peat; 85 percent fibers, 30 percent after rubbed; 5 percent mineral material; neutral.
- Oe2* 20 to 40 inches – very dark grayish brown (2.5Y 3/2) mucky peat; 70 percent fibers, 20 percent after rubbed; 10 percent mineral material; neutral.
- Oa* 40 to 72 inches – dark gray (5Y 4/1) mucky peat; 70 percent fibers, 25 percent after rubbed; 25 percent mineral material; slightly alkaline.

### **Jamaica series**

**Parent Material:** Sandy dredge or eolian sand

**Landform:** Anthropogenic fill areas near coastal waterways

**Depth to Bedrock:** Very deep

**Drainage Class:** Poorly drained

**Permeability:** Rapid

**Soil Texture:** Fine sand, sand, or coarse sand throughout

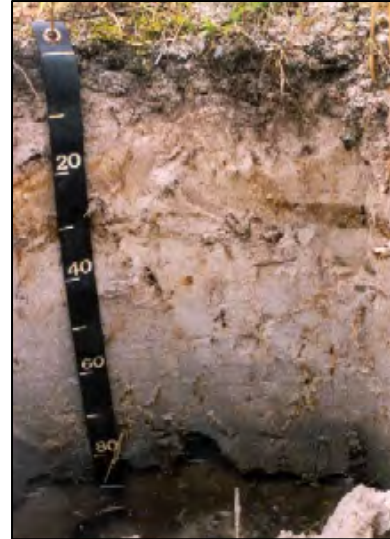
**Coarse Fragments:** Generally absent, some seashells may be present

**Range in Soil pH:** Extremely acid to neutral

**Hydrologic Soil Group:** D

**Typical Soil Profile:**

- A 0 to 3 inches – black (10YR 2/1) sand; moderate fine granular structure; friable; strongly acid.
- C1 3 to 11 inches – gray (2.5Y 6/1) sand; massive; friable; few fine distinct brown (7.5YR 4/4) redoximorphic features; strongly acid.
- C2 11 to 27 inches – grayish brown (2.5Y 5/2) fine sand; massive; friable; common coarse distinct brown (7.5YR 4/4) redoximorphic features; slightly acid.
- C3 27 to 65 inches – light gray (2.5Y 7/1) fine sand; massive; friable; many fine distinct brown (10YR 5/3) redoximorphic features; moderately acid.



### **Kleinekill series**

**Parent Material:** Loamy fill over a clay liner above household landfill material

**Landform:** Anthropogenic landfills

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained

**Permeability:** Moderate or moderately slow in the loamy material; impermeable in the clay

**Soil Texture:** Silt loam, loam, or sandy loam in the cap; silty clay, or clay, sandy clay in the liner

**Coarse Fragments:** 1 to 30 percent in the loamy cap; less than 15% in the clay liner; 35 to 75 percent combined rock fragments and artifacts in the garbage layers

**Range in Soil pH:** Extremely acid to neutral

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A 0 to 3 inches – dark grayish brown (10YR 4/2) sandy loam; weak very fine granular and weak very fine subangular blocky structure; very friable; 10 percent gravel; slightly acid.
- CA 3 to 9 inches – dark grayish brown (10YR 4/2) gravelly sandy loam; weak very fine subangular blocky structure; friable; 25 percent gravel; neutral.
- 2C1 9 to 24 inches – yellowish brown (10YR 5/4) gravelly sandy loam; weak very fine subangular blocky structure; massive: firm; 15 percent gravel; moderately alkaline.
- 3C2 24 to 40 inches – dark greenish gray (10Y 3/1) clay; massive; firm; neutral.
- 4C3 40 to 65 inches - brown (10YR 5/3) extremely cobbly sandy loam, 15 percent cobble-size biodegradable artifacts, 40 percent cobble-sized non-biodegradable artifacts, 5 percent cobbles, and 2 percent stone-sized non-biodegradable artifacts; neutral.

### **Laguardia series**

**Parent Material:** Loamy fill, greater than 40 inches deep, with construction debris

**Landform:** Anthropogenic urban fill plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 35 to 75 percent (average)

**Range in Soil pH:** Very strongly acid to neutral

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- Ap* 0 to 8 inches – brown (10YR 4/3) gravelly sandy loam, weak very fine subangular blocky structure; friable; 25 percent gravel-sized artifacts and 5 percent cobbles; neutral.
- Bw* 8 to 26 inches – brown (10YR 4/3) very gravelly coarse sandy loam; weak very fine subangular blocky structure; friable; 40 percent gravel-sized artifacts and 5 percent cobbles; neutral.
- C* 26 to 79 inches – brown (10YR 4/3) very gravelly coarse sandy loam; moderate thick platy structure; friable; 50 percent gravel-sized artifacts and 7 percent cobbles; neutral.

**Leicester series****Parent Material:** Glacial till derived mainly from gneiss and schist**Depth to Bedrock:** Very deep**Drainage Class:** Poorly drained**Permeability:** Moderate or moderately rapid in the solum; moderate to rapid in the substratum**Soil Texture:** Loam or sandy loam in the solum; sandy loam in the substratum where pockets or thin lenses of loamy sand may be found**Coarse Fragments:** 5 to 35 percent in the upper 40 inches; 5 to 50 percent below 40 inches**Range in Soil pH:** Very strongly acid to moderately acid**Hydrologic Soil Group:** C**Typical Soil Profile:**

- A* 0 to 7 inches – black (10YR 2/1) fine sandy loam; moderate medium granular structure; friable; 5 percent gravel and 5 percent cobbles; strongly acid.
- Bg1* 7 to 10 inches – grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable; 5 percent gravel and 5 percent cobbles; common medium prominent yellowish red (5YR 5/6) redoximorphic features; strongly acid.
- Bg2* 10 to 18 inches; light brownish gray (2.5Y 6/2) fine sandy loam; weak medium subangular blocky structure; friable; 5 percent gravel and 5 percent cobbles; common fine prominent yellowish brown (10YR 5/6) redoximorphic features; strongly acid.
- BC* 17 to 23 inches; pale brown (10YR 6/3) fine sandy loam; massive; friable; 5 percent gravel and 5 percent cobbles; many medium distinct yellowish brown (10YR 5/6) and yellowish red (5YR 4/6) redoximorphic features; strongly acid.
- C1* 23 to 42 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 10 percent gravel and 5 percent cobbles; many medium distinct yellowish brown (10YR 5/6) and many medium prominent pinkish gray (7.5YR 6/2) redoximorphic features; strongly acid.
- C2* 42 to 65 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 10 percent gravel and 5 percent cobbles; few fine distinct yellowish brown (10YR 5/6) redoximorphic features; strongly acid.

**Ludlow series****Parent Material:** Dense basal till derived mainly from red sedimentary rocks and basalt**Depth to Bedrock:** Very deep**Drainage Class:** Moderately well drained**Permeability:** Moderate in the solum; slow or very slow in the substratum**Soil Texture:** Loam or sandy loam in the solum; sandy loam in the substratum where pockets or thin lenses of loamy sand may be found**Coarse Fragments:** 5 to 25 percent in the solum; 5 to 35 percent in the substratum**Range in Soil pH:** Very strongly acid to moderately acid**Hydrologic Soil Group:** C**Typical Soil Profile:**

- Ap* 0 to 8 inches; dark brown (7.5YR 3/2) silt loam; weak coarse granular structure; friable; 8 percent gravel; strongly acid.
- Bw1* 8 to 20 inches – reddish brown (5YR 4/4) silt loam; weak coarse subangular blocky structure; friable; 10 percent gravel; strongly acid.
- Bw2* 20 to 26 inches – dark reddish brown (5YR 3/4) silt loam; weak coarse subangular blocky structure; friable; 12 percent gravel; common medium distinct pinkish gray (5YR 6/2) and common medium prominent strong brown (7.5YR 5/8) redoximorphic features; strongly acid.
- Cd* 26 to 65 inches – dark reddish brown (2.5YR 3/4) gravelly loam; weak thick platy structure; very firm and brittle; thin patchy silt films and black (10YR 2/1) manganese coatings on some plates; 15 percent gravel and 5 percent cobbles; few fine distinct reddish gray (5YR 5/2) redoximorphic features; strongly acid.

#### Matunuck series

**Parent Material:** Organic deposits overlying sandy marine sediments

**Landform:** Tidal marsh

**Depth to Bedrock:** Very deep

**Drainage Class:** Very poorly drained

**Permeability:** Rapid in the organic surface to very rapid in the substratum

**Thickness of organic material:** 8 to 16 inches; loamy sand or coarser beneath

**Salt Content:** 1000 to 40000 ppm

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Soil Group:** D

**Physical and Chemical Properties:**

**Typical Soil Profile:**

*Oe* 0 to 8 inches – black (10YR 2/1) mucky peat; 80 percent fibers, 20 percent after rubbed; neutral.

*C1* 8 to 72 inches – dark gray (2.5Y 4/1) sand; single grain; loose; neutral.

#### Montauk series

**Parent Material:** Glacial till derived mainly from granitic materials

**Landform:** Till plains and moraines

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate or moderately rapid in the solum; slow or moderately slow in the substratum

**Soil Texture:** Silt loam, loam, or sandy loam in the solum; fine sandy loam or coarser in the substratum

**Coarse Fragments:** 3 to 35 percent in the solum; 5 to 50 percent in the substratum

**Range in Soil pH:** Extremely acid to moderately acid

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

*A* 0 to 2 inches – brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; strongly acid.

*Bw* 2 to 27 inches – yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure becoming weak medium platy in lower two inches; friable; 5 percent gravel; strongly acid.

*2Cd1* 27 to 40 inches – brown (7.5YR 4/4) sandy loam; weak thick platy structure; firm and brittle; 10 percent gravel; strongly acid.

*3Cd2* 40 to 65 inches - reddish brown (5YR 4/4) loamy sand; massive; firm and brittle; 10 percent gravel; strongly acid.



### North Meadow series

**Parent Material:** Loamy fill, less than 40 inches deep

**Landform:** Anthropogenic fill areas on urbanized till plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained

**Permeability:** Moderate; moderately slow where the surface has been compacted

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 1 to 20 percent rock fragments throughout; less than 10 percent artifacts

**Range in Soil pH:** Extremely acid to moderately alkaline

**Hydrologic Soil Group:** B

#### Typical Soil Profile:

- A 0 to 6 inches – dark grayish brown (10YR 3/2) loam; weak very fine granular structure; friable; slightly acid.
- C1 6 to 12 inches – dark brown (10YR 3/3) and dark yellowish brown (10YR 4/4) loam; massive; friable; moderately acid.
- C2 12 to 18 inches – brown (7.5YR 5/4) loam; few very dark grayish brown (10YR 3/2) organic stains and few pockets of brown (10YR 4/3); massive; friable; moderately acid.
- Ab 18 to 24 inches – pale brown (10YR 6/3) silt loam; massive; firm; few fine faint light brownish gray (10YR 6/2) redoximorphic features; 5 percent gravel; slightly acid.
- C3 24 to 40 inches – pale brown (10YR 6/3) loam; massive; friable; many fine faint light brownish gray (10YR 6/2) redoximorphic features; slightly acid.

### Oldmill series

**Parent Material:** Sandy fill, greater than 25 inches deep, over household landfill material

**Landform:** Anthropogenic landfills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Rapid to moderately rapid

**Soil Texture:** Fine sand, sand, or coarse sand throughout

**Coarse Fragments:** 1 to 30 percent in the sandy cap; 35 to 75 percent in the garbage horizons

**Range in Soil pH:** Extremely acid to slightly alkaline

**Hydrologic Soil Group:** A

#### Typical Soil Profile:

- A 0 to 2 inches – very dark grayish brown (2.5Y 3/2) gravelly fine sand; weak very fine subangular blocky structure; very friable; 15 percent gravel-sized non-biodegradable artifacts; strongly acid.
- Bw 2 to 11 inches – light olive brown (2.5Y 5/3) gravelly fine sand; single grain; loose; 20 percent gravel-sized non-biodegradable artifacts; moderately acid.
- C1 11 to 18 inches – light yellowish brown (2.5Y 6/4) gravelly fine sand; single grain; loose; 20 percent gravel-sized non-biodegradable artifacts; moderately acid.
- C2 18 to 33 inches – yellow (2.5Y 7/6) gravelly fine sand; single grain; loose, few coarse prominent strong brown (7.5YR 5/6) redoximorphic features; 20 percent gravel-sized non-biodegradable artifacts; moderately acid.
- 2C3 33 to 65 inches – black (10YR 2/1) extremely cobbly fine sand; single grain; loose, common coarse prominent strong brown (7.5YR 5/6) redoximorphic features; 20 percent cobble-sized biodegradable artifacts and 40 percent cobble-sized non-biodegradable artifacts; neutral.

### Pawcatuck series

**Parent Material:** Organic deposits overlying sandy marine sediments

**Landform:** Tidal marsh

**Depth to Bedrock:** Very deep

**Drainage Class:** Very poorly drained

**Permeability:** Moderate to rapid in the organic layers; very rapid in the underlying sandy sediments

**Thickness of organic material:** 16 to 51 inches; with predominantly loamy sand or coarser beneath

**Salt Content:** 1000 to 40000 ppm

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Group:** D

**Typical Soil Profile:**

- Oe1* 0 to 8 inches – very dark gray (5Y 3/1) mucky peat; 80 percent fibers, 30 percent after rubbed; neutral.
- Oe2* 8 to 24 inches – dark gray (2.5Y 4/1) mucky peat; 50 percent fibers, 20 percent after rubbed; neutral.
- 2C* 24 to 72 inches – dark gray (N 4/) loamy sand; single grain; loose; neutral.

### **Plymouth series**

**Parent Material:** Sandy glacial outwash deposits

**Landform:** Outwash plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Excessively drained

**Permeability:** Rapid in the solum; very rapid in the substratum

**Soil Texture:** Sandy loam or loamy sand in the surface; loamy fine sand or coarser in the subsoil; sand or coarse sand in the substratum

**Coarse Fragments:** 2 to 30 percent in the solum; 15 to 50 percent in the substratum

**Hydrologic Soil Group:** A

**Range in Soil pH:** Extremely acid to strongly acid

**Typical Soil Profile:**

- A* 0 to 4 inches; very dark grayish brown (10YR 3/2) loamy sand; very weak medium granular structure; very friable; 5 percent fine gravel; very strongly acid.
- Bw1* 4 to 17 inches – yellowish brown (10YR 5/6) loamy sand; single grain; loose; 5 percent fine gravel; very strongly acid.
- Bw2* 17 to 27 inches – brown (7.5YR 5/4) loamy sand; massive; very friable; 10 percent fine gravel; very strongly acid.
- 2C* 27 to 70 inches – yellowish brown (10YR 5/6) gravelly coarse sand; single grain; loose; 30 percent gravel; very strongly acid.

### **Pompton series**

**Parent Material:** Glacial outwash

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained and somewhat poorly drained

**Soil Texture:** Silt loam, loam, or sandy loam in the surface; sandy loam in the subsoil; sandy loam or coarser in the substratum

**Coarse Fragments:** 0 to 35 percent in the solum; 0 to 75 percent in the substratum

**Permeability Class:** Moderately rapid in the solum; rapid or very rapid in the substratum

**Hydrologic Soil Group:** B

**Range in Soil pH:** Very strongly acid to moderately acid

**Typical Soil Profile:**

- Ap* 0 to 10 inches - very dark grayish brown (10YR 3/2) loam; weak fine granular parting to weak fine subangular blocky structure; very friable; 3 percent gravel; moderately acid.
- Bw1* 10 to 20 inches - brown (7.5YR 5/4) loam; moderate medium subangular blocky structure; very friable; common medium faint strong brown (7.5YR 5/6) and few medium distinct yellowish brown (10YR 5/8) redoximorphic features; 3 percent gravel; moderately acid.
- Bw2* 20 to 40 inches; strong brown (7.5YR 4/6) loam; moderate medium and coarse subangular blocky structure; very friable; common fine and medium faint brown (7.5YR 5/4) and few fine distinct pinkish gray (7.5YR 6/2) redoximorphic features; 5 percent gravel; moderately acid.

- C 40 to 72 inches; strong brown (7.5YR 4/6) sandy loam; weak medium subangular blocky structure; very friable; few fine distinct light gray (10YR 7/2) silt lenses; common fine faint strong brown (7.5YR 5/6) redoximorphic features; moderately acid.

#### Riverhead series

**Parent Material:** Glacial outwash derived mainly from granitic materials

**Landform:** Outwash plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderately rapid in the solum; very rapid in the substratum

**Soil Texture:** Loam or sandy loam in the surface; sandy loam or loamy sand in the subsoil; loamy sand or coarser in the substratum

**Coarse Fragments:** 0 to 35 percent in the solum; 5 to 40 percent in the substratum

**Range in Soil pH:** Extremely acid to moderately acid

**Hydrologic Soil Group:** B

#### Typical Soil Profile:

- Ap* 0 to 12 inches - brown (10YR 4/3) sandy loam; weak fine granular structure; friable; strongly acid; abrupt smooth boundary.
- Bw* 12 to 27 inches - strong brown (7.5YR 5/6) sandy loam; very weak medium subangular blocky structure parting to weak fine granular; friable; 5 percent gravel; strongly acid.
- BC1* 27 to 32 inches - yellowish brown (10YR 5/4) loamy sand; very weak fine granular structure; very friable; 10 percent gravel; strongly acid.
- 2BC2* 32 to 35 inches - yellowish brown (10YR 5/4) gravelly loamy sand; massive; friable; 30 percent gravel; strongly acid.
- 2C1* 35 to 40 inches - brown (7.5YR 4/4) sand; single grain; loose; 10 percent gravel; strongly acid; abrupt smooth boundary.
- 2C2* 40 to 65 inches - very pale brown (10YR 7/4) coarse and medium sand stratified with 2-inch layers of gravel, 8 to 24 inches apart; single grain; loose; strongly acid.

#### Shea series

**Parent Material:** Loamy fill overlying an asphalt or concrete layer

**Landform:** Anthropogenic urban fill plains

**Depth to Bedrock:** Very deep to bedrock, but shallow to the paved layer

**Drainage Class:** Well drained

**Permeability:** Moderately rapid in the in the loamy cap, impermeable in the paved layer

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 0 to 25 percent

**Range in Soil pH:** Strongly acid to slightly alkaline

**Hydrologic Soil Group:** D

#### Typical Soil Profile:

- A* 0 to 3 inches - dark yellowish brown (10YR 3/4) sandy loam; weak very fine subangular blocky structure; very friable; 1 percent gravel; strongly acid.
- Bw* 3 to 11 inches - dark yellowish brown (10YR 4/4) sandy loam; weak very fine subangular blocky structure; very friable; 1 percent gravel; moderately acid.
- C* 11 to 16 inches - dark yellowish brown (10YR 4/6) sandy loam; massive; very friable; 6 percent gravel-sized artifacts and 3 percent gravel; moderately acid.
- 2R* 16 to 24 inches - unweathered impermeable asphalt; massive; rigid.
- 3C* 24 to 65 inches - dark yellowish brown (10YR 4/4) sandy loam; massive; friable; moderately acid.

#### Sutton series

**Parent Material:** Glacial till derived mainly from gneiss and schist

**Landform:** Till plains and hills

**Depth to Bedrock:** Very deep

**Drainage Class:** Moderately well drained

**Permeability:** Moderate or moderately rapid



**Soil Texture:** Loam or sandy loam throughout

**Coarse Fragments:** 5 to 35 percent in the solum; 5 to 50 percent in the substratum

**Range in Soil pH:** Very strongly acid to moderately acid

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- A* 1 to 6 inches - very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; very friable; 5 percent gravel; strongly acid.
- Bw1* 6 to 12 inches - brown (7.5YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; friable; 7 percent gravel and 3 percent cobbles; moderately acid; gradual wavy boundary.
- Bw2* 12 to 24 inches - yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium prominent light brownish gray (2.5Y 6/2) and yellowish red (5YR 5/6) redoximorphic features; 7 percent gravel and 3 percent cobbles; moderately acid.
- Bw3* 24 to 28 inches - yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common medium prominent light brownish gray (2.5Y 6/2), reddish brown (5YR 4/4), and strong brown (7.5YR 5/6) redoximorphic features; 7 percent gravel and 3 percent cobbles; moderately acid.
- C1* 28 to 36 inches - brown (10YR 5/3) gravelly fine sandy loam; weak thick platy structure; firm; common medium distinct light brownish gray (2.5Y 6/2) and common medium prominent strong brown (7.5YR 5/6) redoximorphic features; 12 percent gravel and 3 percent cobbles; moderately acid.
- C2* 36 to 65 inches - light olive brown (2.5Y 5/4) gravelly sandy loam; massive; friable; 20 percent gravel and 5 percent cobbles; moderately acid.

#### **Todthill series**

**Parent Material:** Glacial till overlying serpentinite bedrock

**Landform:** Bedrock controlled hills and ridges, modified by glacial action

**Depth to Bedrock:** Moderately deep

**Drainage Class:** Well drained

**Permeability:** Moderate

**Soil Texture:** Loam or sandy loam throughout

**Coarse Fragments:** 0 to 30 percent in the solum; 5 to 40 percent in the substratum

**Range in Soil pH:** Moderately acid to slightly alkaline

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A* 0 to 7 inches - very dark gray (10YR 3/1) loam; strong fine granular structure; very friable; 7 percent gravel and 1 percent cobbles; slightly acid.
- AB* 7 to 12 inches - dark reddish brown (5YR 3/3) loam; moderate medium subangular blocky structure; very friable; 4 percent gravel and 1 percent cobbles; neutral.
- Bw* 12 to 30 inches - dark reddish brown (5YR 3/4) very gravelly fine sandy loam; moderate medium subangular blocky structure; friable; 30 percent gravel and 5 percent cobbles; neutral.
- 2R* 30 inches - greenish gray (10YR 6/1) serpentinite bedrock.

#### **Unadilla series**

**Parent Material:** Silty glacio-lacustrine sediments or old alluvial deposits

**Landform:** Valley terraces and lacustrine plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderate in the solum; moderately rapid or rapid in the substratum

**Soil Texture:** Silt loam or very fine sandy loam in the surface and subsoil; silt loam, very fine sandy loam, or loamy very fine sand to 40 inches; fine sandy loam or coarser below

**Coarse Fragments:** 0 to 5 percent in the solum; 0 to 60 percent in the substratum

**Range in Soil pH:** Very strongly acid to slightly alkaline

**Hydrologic Soil Group:** B

**Typical Soil Profile:**

- Ap* 0 to 8 inches - brown (10YR 4/3) silt loam; moderate fine and very fine granular structure; very friable; slightly acid.
- Bw1* 8 to 12 inches - light yellowish brown (10YR 6/4) silt loam; weak medium subangular blocky structure; friable; moderately acid.
- Bw2* 12 to 18 inches - yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure - firm; strongly acid.
- Bw3* 18 to 31 inches - light yellowish brown (10YR 6/4) silt loam; moderate medium subangular blocky structure; firm; strongly acid.
- BC* 31 to 42 inches - yellowish brown (10YR 5/4) very fine sandy loam; weak medium and coarse subangular blocky structure; firm; strongly acid.
- 2C* 42 to 65 inches - dark grayish brown (10YR 4/2) stratified very gravelly sand; single grain; loose; neutral.

**Verrazano series****Parent Material:** Loamy fill over sandy sediments**Landform:** Anthropogenic fill areas near coastal waterways**Depth to Bedrock:** Very deep**Drainage Class:** Well drained**Permeability:** Moderate in the loamy fill; very rapid in the sandy substratum**Soil Texture:** Loam or sandy loam in the fill; fine sand or coarser below**Coarse Fragments:** 0 to 5 percent in the solum and 0 to 60 percent in the substratum**Range in Soil pH:** Extremely acid to slightly acid in the loamy fill; very strongly acid to slightly alkaline in the sandy substratum**Hydrologic Soil Group:** B**Typical Soil Profile:**

- A* 0 to 3 inches - very dark gray (10YR 3/1) sandy loam; moderate medium subangular blocky structure; very friable; 6 percent gravel; extremely acid.
- Bw* 3 to 17 inches - very dark grayish brown (10YR 3/2) sandy loam; moderate medium subangular blocky structure; friable; 6 percent gravel; very strongly acid.
- BC* 17 to 24 inches - very dark grayish brown (10YR 3/2) loam; moderate medium subangular blocky structure; friable; 6 percent gravel; moderately alkaline.
- 2C1* 24 to 60 inches - 95 percent light yellowish brown (2.5Y 6/3) and 5 percent reddish gray (5YR 5/2) sand; massive; very friable; 5 percent gravel; moderately acid.
- 2C2* 60 to 80 inches - light olive brown (2.5Y 5/3) sand; massive; very friable; 5 percent gravel; slightly acid.

**Wareham series****Parent Material:** Sandy glacial outwash deposits**Landform:** Outwash plains**Depth to Bedrock:** Very deep**Drainage Class:** Poorly drained**Permeability:** Rapid**Soil Texture:** Loamy sand or sand throughout**Coarse Fragments:** 0 to 15 percent to a depth of 40 inches; 0 to 60 percent below**Range in Soil pH:** Extremely acid to strongly acid throughout**Hydrologic Soil Group:** D**Typical Soil Profile:**

- Oa 0 to 1 inches - black (10YR 2/2) highly decomposed (sapric) plant material.
- A 1 to 7 inches - very dark grayish brown (10YR 3/2) loamy sand; weak medium granular structure; very friable; very strongly acid.
- Bw 7 to 17 inches - yellowish brown (10YR 5/4) loamy coarse sand; single grain; loose; common medium prominent yellowish red (5YR 5/6) and common medium distinct light brownish gray (10YR 6/2) redoximorphic features; very strongly acid.
- Cg1 17 to 37 inches - light brownish gray (2.5Y 6/2) loamy coarse sand; single grain; loose; common medium and coarse prominent strong brown (7.5YR 5/6) and common medium and coarse faint light brownish gray (10YR 6/2) redoximorphic features; very strongly acid.
- Cg2 37 to 60 inches - pale olive (5Y 6/3) coarse sand; single grain; loose; many medium and coarse prominent light olive brown (2.5Y 5/6) and brown (7.5YR 5/2) redoximorphic features; strongly acid.

**Wethersfield series**

**Parent Material:** Dense basal till derived mainly from red sedimentary rocks

**Landform:** Till plains and hills

**Depth to Bedrock:** Very deep

**Drainage Class:** Well drained

**Permeability:** Moderately rapid or moderate in the solum; slow or very slow in the dense substratum

**Soil Texture:** Silt loam, loam, or sandy loam throughout

**Coarse Fragments:** 5 to 25 percent rock fragments in the solum; 5 to 35 percent in the substratum

**Range in Soil pH:** Extremely acid to mildly alkaline

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A 0 to 3 inches - dark brown (7.5YR 3/2) loam; moderate medium granular structure; friable; 10 percent gravel; strongly acid.
- Bw1 3 to 13 inches - reddish brown (5YR 4/4) loam; weak medium subangular blocky structure; friable; 10 percent gravel; strongly acid.
- Bw2 13 to 27 inches - dark reddish brown (5YR 3/3) gravelly loam; weak medium subangular blocky structure; friable; 10 percent gravel and 5 percent cobbles; strongly acid.
- Cd 27 to 65 inches - reddish brown (2.5YR 4/4) gravelly loam; weak thick platy structure; very firm and brittle; few silt films and black coatings on some plates; 15 percent gravel and 5 percent cobbles; strongly acid.



**Wilbraham series**

**Parent Material:** Dense basal till derived mainly from red sedimentary rocks

**Landform:** Till plains and hills

**Depth to Bedrock:** Very deep

**Drainage Class:** Poorly drained

**Permeability:** Moderate in the solum; slow or very slow in the dense substratum

**Soil Texture:** Silt loam or loam in the surface; silt loam, loam, or fine sandy loam in the subsoil and substratum

**Coarse Fragments:** 5 to 25 percent rock fragments in the solum; 5 to 35 percent in the substratum

**Range in Soil pH:** Very strongly acid to moderately acid

**Hydrologic Soil Group:** D

**Typical Soil Profile:**

- A* 0 to 4 inches - very dark gray (10YR 3/1) silt loam; weak medium granular structure; very friable; 5 percent gravel; strongly acid.
- Bw1* 4 to 8 inches - dark reddish brown (5YR 3/3) silt loam; weak coarse subangular blocky structure; very friable; common medium prominent pinkish gray (7.5YR 6/2) redoximorphic features; 10 percent gravel; strongly acid.
- Bw2* 8 to 20 inches - reddish brown (5YR 4/4) silt loam; weak coarse subangular blocky structure; friable; common medium prominent reddish gray (5YR 5/2) redoximorphic features; 10 percent gravel and 3 percent cobbles; strongly acid.
- Cd* 20 to 65 inches - dark reddish brown (5YR 3/3) gravelly loam; weak thick platy structure; very firm and brittle; silt films and black (10YR 2/1) coatings on some plates; many medium distinct brown (7.5YR 5/2) and dark brown (7.5YR 4/4) redoximorphic features; 20 percent gravel and 5 percent cobbles; strongly acid.

**Windsor series**

**Parent Material:** Sandy glacial outwash

**Landform:** Outwash plains

**Depth to Bedrock:** Very deep

**Drainage Class:** Excessively drained

**Permeability:** Rapid to very rapid

**Soil Texture:** Loamy fine sand or loamy sand in the surface; loamy fine sand, loamy sand, fine sand or sand in the subsoil; loamy fine sand, loamy sand, fine sand, or sand in the substratum. The loamy substratum has textures of sandy loam through sandy clay loam beginning at a depth between 40 to 60 inches.

**Coarse Fragments:** 0 to 10 percent rock fragments in the solum; 0 to 15 percent in the substratum

**Range in Soil pH:** Very strongly acid to slightly acid

**Hydrologic Soil Group:** A

**Typical Soil Profile:**

- Oi* 0 to 2 inches – black (10YR 2/1) slightly decomposed plant material.
- A* 2 to 3 inches - black (10YR 2/1) loamy sand; weak fine granular structure; very friable; strongly acid.
- Bw1* 3 to 8 inches - brown (10YR 4/3).loamy sand; weak medium subangular blocky structure; very friable; strongly acid.
- Bw2* 8 to 13 inches - yellowish brown (10YR 5/6).loamy sand; weak medium subangular blocky structure; friable; strongly acid.
- Bw3* 13 to 27 inches - strong brown (7.5YR 5/6) loamy sand; weak medium subangular blocky structure; friable; strongly acid.
- C* 27 to 60 inches - strong brown (7.5YR 4/6) loamy sand, single grain; friable; 2 percent gravel in pockets; strongly acid.

**Woltalf series**

**Parent Material:** Glacial till overlying serpentinite bedrock

**Landform:** Bedrock controlled hills and ridges, modified by glacial action

**Depth to Bedrock:** Shallow

**Drainage Class:** Well drained

**Permeability:** Moderately rapid

**Soil Texture:** Loam or sandy loam throughout

**Coarse Fragments:** 35 to 70 percent (average)

**Range in Soil pH:** Moderately acid to slightly alkaline

**Hydrologic Soil Group:** C

**Typical Soil Profile:**

- A* 0 to 3 inches – very dark grayish brown (10YR 3/2) loam; strong medium granular structure; very friable; 4 percent gravel and 1 percent cobbles; moderately acid.
- AB* 3 to 8 inches – dark brown (7.5YR 3/2) gravelly loam; weak medium subangular blocky structure; friable; 15 percent gravel and 5 percent cobbles; slightly acid.

- Bw* 8 to 17 inches – reddish brown (5YR 4/4) very gravelly loam; weak medium subangular blocky structure; friable; 50 percent gravel and 10 percent cobbles; neutral.
- 2R* 17 inches – greenish gray (10Y 6/1) serpentinite bedrock.

### **Miscellaneous Areas**

**Beaches** consist of nearly level to gently sloping areas of sand or sand and gravel adjacent to the Atlantic Ocean. The sand may be underlain by muck and other non soil material. These areas are inundated twice each day with saltwater at high tide. Beaches are not considered soil because they do not support vegetation, and are frequently reworked by wave and wind action. Beaches can be observed along shorelines; the width and shape of Beaches can change during each major storm.

**Dune land** consists of sand in hills or ridges and intervening troughs, drifted and piled up by the wind, and either actively shifting or so recently stabilized that no soil horizons have developed.

**Pavement & buildings** consist of those areas in which 80% or more of the surface is covered by asphalt, concrete, buildings or other impervious materials. Substratum phases are added to provide additional information on the type of surficial materials present before development. The postglacial substratum refers to various types of materials (e.g., beach, stream) deposited since the retreat of the last glacier.

The till substratum phase refers to unsorted and unstratified glacial till deposits.

The outwash substratum phase refers to sorted or stratified glacial meltwater deposits.

The wet substratum and wet subsoil phases refer to areas of tidal marsh, swamp, or water which were filled for development.

### Relationship Between Parent Material and Drainage Class

Soil Characteristics and Parent Material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
<b>Soils Formed in Glacial Till</b>							
<b>Dense Basal Till or Fragipan (firm substratum)</b>							
Dense basal till from granite, gneiss, schist; sandy substratum			Montauk				
Dense basal till from red sedimentary material			Wethersfield	Ludlow		Wilbraham	
Fragipan & argillic horizon in till from red sedimentary material			Boonton	Boonton	Haledon	Hasbrouck	
<b>Ablation Till (friable substratum)</b>							
Moderately deep (20-40") till over granite, gneiss or schist bedrock		Chatfield	Chatfield				
Friable till from granite, gneiss, or schist			Charlton	Sutton		Leicester	
Shallow (10-20") till over serpentinite bedrock			Woltalf				
Moderately deep (20-40") till over serpentinite bedrock			Todthill				
Friable till from red sedimentary material			Cheshire				

Soil Characteristics and Parent Material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
<b>Soils Formed in Glacial Outwash</b>							
<b>Glacio-Fluvial</b>							
Granite, gneiss or schist; loamy with sandy substratum			Riverhead	Pompton			
Granite, gneiss or schist; sandy with mixed mineralogy	Windsor			Deerfield		Wareham	
Granite, gneiss or schist; sandy, predominantly quartz	Plymouth						
Red sedimentary; loamy over sandy			Branford				
<b>Glacio-Lacustrine or Old Alluvium</b>							
Variable lithology; silty			Unadilla				
<b>Soil Formed on Marshes or Beaches</b>							
>51" of organic matter in tidal marshes							Ipswich
16-51" of organic matter over sandy sediments in tidal marshes							Pawcatuck
8-16" of organic matter over sandy sediments in tidal marshes							Matunuck
Sandy marine or eolian deposits	Hooksan						

Soil Characteristics and Parent Material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
<b>Soil Formed on Human Constructed Landforms</b>							
<b>Clean Fill (&lt;10% human artifacts)</b>							
10 to 20" of loamy fill over paved layer			Shea				
10 to 40" of loamy fill over truncated soil; dense till within 40 inches			Canarsie				
10 to 40" of loamy fill over intact soil; dense till > 40"			Foresthills	North Meadow			
10 to 40" of loamy fill over outwash			Flatbush				
10 to 40" of loamy fill over sandy material			Verrazano				
>40" of loamy fill			Greenbelt				
>40" of loamy fill with >35% coarse fragments			Central Park				
<b>Fill with Construction Debris</b>							
>40" of loamy fill with construction debris			Ebbets				
>40" of loamy fill with construction debris; >35% coarse fragments			Laguardia				
>40" of loamy fill with construction debris; >90% coarse fragments			Inwood				



Soil Characteristics and Parent Material	Excessively drained	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
<b>Soil Formed on Human Constructed Landforms</b>							
<b>Dredge Materials</b>							
>40" of sandy dredge			Bigapple	Fortress	Barren	Jamaica	
<b>Fly Ash</b>							
>40" of fly ash					Flatland	Fishkill	
<b>Solid Waste Landfill</b>							
Sandy cap 10 to 24" thick			Gravesend				
Sandy cap 24 to 40" thick			Oldmill				
Loamy cap 10 to 24" thick			Greatkills				
Loamy cap 24 to 40" thick			Freshkills				
Loamy cap over clay liner; 36 to 48" combined thickness				Kleinekill			

## Classification of the Soils

According to *Keys to Soil Taxonomy, Ninth Edition* (2003), the soils are classified as follows:

Barren	Mixed, mesic Typic Psammaquents
Bigapple	Mixed, mesic Typic Udipsamments
Boonton	Coarse-loamy, mixed, active, mesic Typic Fragiudalfs
Branford	Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Dystrudepts
Canarsie	Coarse-loamy, mixed, superactive, nonacid, mesic Typic Udorthents
Centralpark	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Charlton	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Chatfield	Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts
Cheshire	Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts
Deerfield	Mixed, mesic Aquic Udipsamments
Ebbets	Coarse-loamy, mixed, superactive, nonacid, mesic Typic Udorthents
Fishkill	Coarse-loamy, mixed, active, nonacid, mesic Typic Endoaquents
Flatbush	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Flatland	Coarse-loamy, mixed, active, nonacid, mesic Typic Endoaquents
Foresthills	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Fortress	Mixed, mesic Aquic Udipsamments
Freshkills	Coarse-loamy, mixed, active, hyperthermic Typic Dystrudepts
Gravesend	Sandy-skeletal, mixed, hyperthermic Typic Udorthents
Greatkills	Loamy-skeletal, mixed, superactive, nonacid, hyperthermic Typic Udorthents
Greenbelt	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Haledon	Coarse-loamy, mixed, active, mesic Aquic Fragiudalfs
Hooksan	Mesic, uncoated Typic Quartzipsamments
Inwood	Fragmental, mixed, mesic Typic Udorthents
Ipswich	Euic, mesic Typic Sulfihemists
Jamaica	Mixed, mesic Typic Psammaquents
Kleinekill	Coarse-loamy over clayey, mixed, active, nonacid, hyperthermic Aquic Udorthents
Laguardia	Loamy-skeletal, mixed, active, nonacid, mesic Typic Udorthents
Leicester	Coarse-loamy, mixed, active, acid, mesic Aeric Endoaquents
Ludlow	Coarse-loamy, mixed, semiactive, mesic Aquic Dystrudepts
Matunuck	Sandy, mixed, mesic Typic Sulfaquents
North Meadow	Coarse-loamy, mixed, active, nonacid, mesic Aquic Udorthents
Oldmill	Sandy, mixed, hyperthermic Typic Udorthents
Pawcatuck	Sandy or sandy-skeletal, mixed, euic, mesic Terric Sulfihemists
Plymouth	Mesic, coated Typic Quartzipsamments
Pompton	Coarse-loamy, mixed, active, mesic Aquic Dystrudepts
Riverhead	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Shea	Coarse-loamy, mixed, active, nonacid, mesic Typic Udorthents
Sutton	Coarse-loamy, mixed, active, mesic Aquic Dystrudepts
Todthill	Coarse-loamy, mixed, superactive, mesic Dystric Eutrudepts
Unadilla	Coarse-silty, mixed, active, mesic Typic Dystrudepts
Verrazano	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid, mesic Typic Udorthents
Wareham	Mixed, mesic Humaqueptic Psammaquents
Wethersfield	Coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts
Wilbraham	Coarse-loamy, mixed, active, mesic Aquic Dystrudepts
Windsor	Mixed, mesic Typic Udipsamments
Wotalf	Loamy-skeletal, mixed, superactive, mesic Lithic Eutrudepts

**Soils Information Available Online:** NRCS Soils website (<http://soils.usda.gov>)

Under the *Soil Survey* link: Soil Surveys available online, status maps, lab and research data on selected soil series.

Under *Soil Use*: Information on *Hydric Soils* and *Soil Quality*, the latter includes *Soil Quality Assessment*, the *Soil Biology Primer*, and, under *Land Management and Soil Quality*, Urban Soil Quality Technical Notes on compaction, heavy metal contamination, and erosion and sedimentation from construction sites. Also information on Urban Soil Issues, and the *Urban Soil Primer*, an introduction to urban soils.

Under *Soil Education*: Soil Facts, a Glossary, and information for students and teachers.

Under *Technical References*: Books, manuals, guides, etc. for mapping, describing, analyzing, and investigating soils, Information on *Classification*, including Official Series Descriptions, the *Field Book for Describing and Sampling Soils*, policies and procedures for Soil Survey, a lab methods manual.

## GLOSSARY

**Artifacts** are human altered materials such as coal ash, iron ore slag, asphalt; human refuse such as garbage or sewage sludge; human processed natural materials such as lumber; and human manufactured material such as plastic, fiberglass, brick, cinder block, concrete, iron and steel, organic byproducts, and other building debris. Garbage or refuse fragments include food and household cooking waste, soiled rags and paper cleaning products, broken household objects, empty glass, paper, and plastic containers and bags, mail, magazines, and newspapers, and simple household construction materials normally disposed of by homeowners and transported to dumps and landfills. They are generally described in the coarse fragment size range (>2mm).

**Coarse Fragments** are those particles in mineral soil material greater than 2mm. USDA recognizes the following:

<b>Gravel</b>	2 to 76mm (3 inches)
<b>Cobbles</b>	76 to 250mm (10 inches)
<b>Stones</b>	250 to 600mm (24 inches)
<b>Boulders</b>	> 600mm

Coarse fragments are described / estimated in the field on a percent volume basis.

Textural modifiers are used when the volume exceeds 15 percent as follows:

15 to < 35	Use adjective for appropriate size; e.g., <i>gravelly</i> .
35 to <60	Use "very" with the appropriate size adjective; e.g., <i>very gravelly</i> .
60 to <90	Use "extremely" with the appropriate size adjective; e.g., <i>extremely gravelly</i> .
≥90	Use the appropriate noun for the dominant size class without an adjective or modifier; gravel.

**Drainage Class** refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed. Classes include:

**Excessively and somewhat excessively drained:** The seasonal high water table is rarely higher than 60 to 72 inches from the surface for any significant period during the growing season. Most of these soils are sandy or sandy skeletal.

**Well drained:** The seasonal high water table is rarely higher than 40 inches from the surface for any significant period during the growing season.

**Moderately well drained:** The seasonal high water table is between 18 and 40 inches below the surface for a significant period during the growing season.

**Somewhat poorly drained:** The seasonal high water table is between 6 and 18 inches below the surface for a significant period during the growing season.

**Poorly drained:** The seasonal high water is at, or within 6 inches below the surface for a significant period during the growing season. These soils may be ponded for brief periods outside of the growing season.

**Very poorly drained:** The seasonal water table is at, or ponded above, the surface for a significant period during the growing season.

**Dense basal till** is unconsolidated material deposited and compacted beneath a glacier, having a relatively high bulk density.

**Dredge or dredged material** is accumulated sediment removed from a subaqueous environment, usually to facilitate shipping, and redeposited by mechanical activities.

**Eluvial** refers to the process by which soil material is removed in suspension or solution from a layer, also described as leaching.

**Eolian** refers to earth material transported and deposited by the wind including dune sands, sand sheets, and loess deposits.

**Fragipan** is a natural subsurface soil horizon with very low organic matter, high bulk density and/or high mechanical strength relative to overlying and underlying horizons; has hard or very hard consistence (seemingly cemented) when dry, but shows a moderate to weak brittleness when moist. The layer is typically slowly or very slowly permeable to water and is root restrictive.

**Gleyed** refers to a soil condition resulting from prolonged soil saturation, manifested by the presence of bluish, greenish, or gray colors through the soil mass, brought about by the reduction of iron to the ferrous state. See **Processes in Saturated Soils** in the Glossary.

**Hydrologic Soil Group** is a soil interpretation or rating system for runoff potential. The chief consideration is the inherent capacity of the bare soil to permit infiltration. The soil properties that influence this potential are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. Slope and type of plant cover are not considered, but are separate factors in predicting runoff. The classes are:

**A** – Soils with low runoff potential and high infiltration rates even when thoroughly wet. Deep, well to excessively drained sand or gravel with very rapid and rapid permeability.

**B** – Soils with moderate infiltration rates when thoroughly wet; moderately deep to deep, moderately well drained to well drained soils with moderately fine to moderately coarse textures, and moderately rapid to moderate permeability.

**C** – Soils with low infiltration rates when thoroughly wet; soils with a layer that impedes downward movement of water and soils with moderately fine to fine textures and moderately slow and slow permeability.

**D** – Soils with high runoff potential and very low infiltration rates when thoroughly wet. Clayey soils with a high swelling potential, soils with a high water table, soils with a claypan or clay layer near the surface, and shallow soils over nearly impermeable materials.

**Illuvial** refers to a process in which material carried from an overlying layer has been precipitated from solution or deposited from suspension. An illuvial horizon is a horizon of accumulation.

**Muck** is highly decomposed organic soil material in which the original plant parts are not recognizable. Usually darker in color, higher in bulk density, and lower in water holding capacity than peat.

**Mucky** is a textural modifier that indicates a high organic matter content (>10 % by weight) in a mineral soil.

**Mucky peat** is organic soil material of an intermediate stage of decomposition, in which a significant part of the original plant parts are recognizable and a significant part is not.

**Particle size separates** (USDA) for mineral soil include:

**sand** - 2 to 0.05 millimeters - gritty feel - can be seen with the eye

**silt** - 0.05 to .002 millimeters - smooth feel - can be seen with a light microscope

**clay** - less than .002 millimeters - sticky feel - can be seen with an electron microscope

Sand and silt, mostly quartz, are relatively inert; they form the 'soil skeleton.' Clay particles (layer silicates & oxides) are the active portion of the mineral soil, they have an electrical charge and a high surface area resulting in a high attraction for water, nutrients, other clay particles.

**Peat** is slightly decomposed organic soil material in which the original plant parts are recognizable.

**Permeability** describes the ease with which gases, liquids, or plant roots penetrate or pass through a bulk mass of soil or a layer of soil. The permeability classes are:

	$\text{in hr}^{-1}$	$\mu\text{ms}^{-1}$
<b>Very rapid</b>	$\geq 20$	$\geq 141$
<b>Rapid</b>	6-<20	42-141
<b>Moderately rapid</b>	2-<6	14-42
<b>Moderate</b>	0.6-<2	4-14
<b>Moderately slow</b>	0.2-<0.6	1.4-4
<b>Slow</b>	0.06-<0.2	0.42-1.4
<b>Very Slow</b>	0.0015-<0.06	0.01-0.42
<b>Impermeable</b>	0.00-<0.0015	0.00-0.01

### Processes in Saturated Soils

**Hydric soils** are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic (in the absence of oxygen) conditions in the upper part of the soil. Prolonged saturation during the growing season results in a depletion of oxygen by plants and microorganisms in the soil. This lack of oxygen restricts aerobic root respiration and aerobic microbial reactions, and promotes the following biogeochemical processes: 1) a transformation of several elements from oxidized to reduced chemical forms; and 2) an accumulation of organic matter. Evidence of these processes is useful in identifying hydric soils.

The microbial breakdown of soil organic matter is an oxidation-reduction process. Under aerobic conditions, organic matter is oxidized (loses electrons), and oxygen ( $\text{O}_2$ ) is reduced (gains electrons) and combines with hydrogen to form water. The ultimate products of aerobic degradation are water and  $\text{CO}_2$ . When the soil is flooded, the amount of oxygen is decreased; with continued breakdown of organic matter the oxygen can be all used up, and the soil becomes anaerobic. Biodegradation of organic matter now continues under different conditions; different groups of microbes go to work using different electron acceptors instead of oxygen. The decomposition processes are not as efficient or as complete as the aerobic one. A sequence of oxidation-reduction (electron transfer) reactions takes place. Nitrates, manganese oxides, iron oxides, sulfates, and carbon dioxide in soil are used as electron acceptors in anaerobic microbial reactions, in that specific order. After the removal of oxygen, nitrate is the first soil component to be reduced, then manganese, then iron, and eventually sulfate and  $\text{CO}_2$ . These transformations bring about the translocation and/or accumulation of these elements, which can result in morphological features useful in the identification of saturated zones in soil.

Nitrogen transformations in hydric soils can make the nutrient less available for plant uptake. However, excessive amounts of nitrate, the mobile form of nitrogen, can be reduced to prevent leaching losses.

Iron is one of the most important coloring agents in soil. Oxidized, or ferric ( $\text{Fe}^{+3}$ ), iron compounds are responsible for the brown, yellow, and red colors in soil. When iron is reduced to the ferrous ( $\text{Fe}^{+2}$ ) form, it becomes mobile, and can be removed from certain areas of the soil. When the iron is removed, a gray color remains, or the reduced iron color persists in shades of green or blue. Upon aeration, reduced iron can be re-oxidized and re-deposited, sometimes in the same horizon, resulting in a variegated or mottled color pattern. These soil color patterns resulting from saturation, or **redoximorphic features**, can indicate the duration of the anaerobic state, ranging from brown with a few mottles, to complete gray or **gleization** of the soil. Soils that are dominantly gray with brown or yellow mottles immediately below the surface horizon are usually hydric.

Manganese transformations are similar to iron in that manganic ( $Mn^{+4}$ ) compounds are reduced to more soluble manganous ( $Mn^{+2}$ ) forms. Re-oxidized and re-deposited manganic oxides appear as black films or coats on soil particles.

Sulfates in soils are reduced to sulfides when soils are nearly permanently saturated. The presence of hydrogen sulfide can be detected by the “rotten egg” odor, which is used as a hydric soil indicator. Sulfides can be toxic to microbes and plants, and upon re-oxidation, can lead to extremely acid conditions in soils when sulfuric acid is formed. Sulfides are more common in coastal wetlands than freshwater because of higher amounts of sulfate in seawater.

Certain bacteria can use  $CO_2$  as an electron acceptor, resulting in the formation of methane ( $CH_4$ ), or “swamp gas.” Methane production is generally higher in freshwater environments.

As the decomposition of organic residues proceeds in a very inefficient and slow manner when the soil surface is saturated, eventually the amount of organic matter can accumulate significantly. Nearly all soils have some organic matter, but when the content exceeds 20 to 35% (on a dry weight basis), it is considered organic soil material. Organic soil materials have a lower bulk density and a higher water and nutrient holding capacity than mineral soils. The term **peat** (or **fibric** organic material) has been used to refer to organic material in which the plant parts are still recognizable, and **muck** (**sapric** organic material) for that which is more decomposed, with no recognizable plant parts. **Mucky peat** (or **hemic** organic material) is intermediate between the two. As decomposition increases, organic material decreases in water holding capacity and bulk density, and becomes darker in color. If 16 inches or more of the upper 32 inches of a soil is organic material, the soil is considered an organic soil or **histosol**. Wet mineral soils that do not have a sufficient thickness of organic materials to be classified as histosols can have an organic surface horizon 8 inches or more thick called a **histic epipedon**.

Soil wetness can result from either a perched or a regional water table. A **perched water table** is caused by a hydraulically restrictive horizon, usually underlain by a more permeable horizon. A **regional water table** extends vertically without interruption, and is usually located in a low-lying area of the landscape.

**Redoximorphic features** are soil properties associated with wetness that result from the reduction and oxidation of iron and manganese compounds in the soil after saturation with water and desaturation, respectively. See **Processes in Saturated Soils** in the Glossary.

**Soil Depth Classes** denote the depth to bedrock:

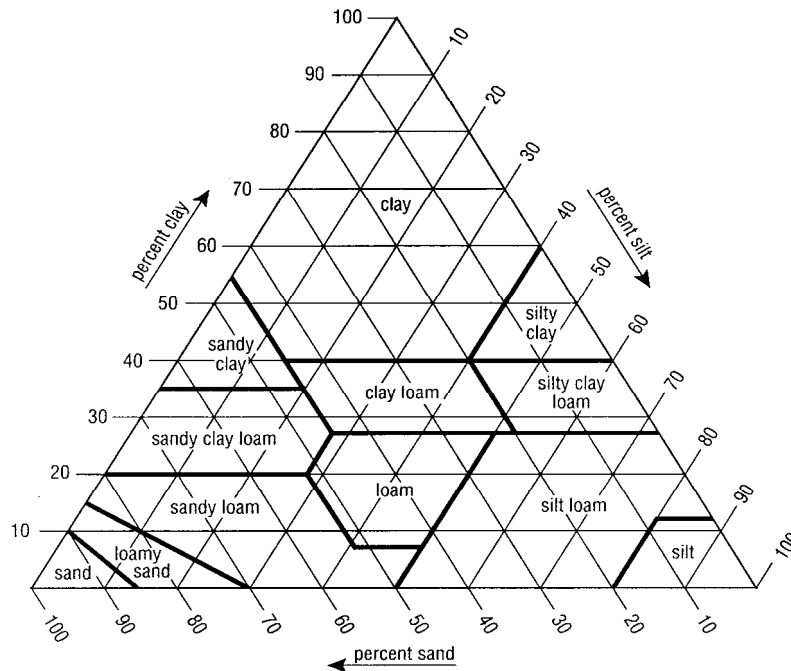
<b>Very Deep</b>	≥ 150cm	≥60 inches
<b>Deep</b>	100 to 150cm	40 to 60 inches
<b>Moderately Deep</b>	50 to 100cm	20 to 40 inches
<b>Shallow</b>	25 to 50cm	10 to 20 inches
<b>Very Shallow</b>	<25cm	<10 inches

**Soil pH or reaction** is a measure of acidity or alkalinity of a soil, expressed in pH values. The reaction classes are:

<b>Extremely acid</b>	< 4.5
<b>Very Strongly acid</b>	4.5 to 5.0
<b>Strongly acid</b>	5.1 to 5.5
<b>Moderately acid</b>	5.6 to 6.0
<b>Slightly acid</b>	6.1 to 6.5
<b>Neutral</b>	6.6 to 7.3
<b>Mildly alkaline</b>	7.4 to 7.8
<b>Moderately alkaline</b>	7.9 to 8.4
<b>Strongly alkaline</b>	8.5 to 9.0
<b>Very strongly alkaline</b>	≥ 9.1

**Structure (soil)** is the combination or arrangement of primary soil particles into secondary units or peds. The size, shape, and grade are all used to describe soil structure.

**Soil texture** refers to the relative amounts of the three particle size separates in mineral soil material. Varying proportions of each size give the soil a 'texture.' Soil scientists use 12 textural classes (see triangle below):



There are 12 subclasses, based on sand size distribution, which subdivide the sand, loamy sand, and sandy loam classes as follows:

**Coarse sand:** A total of 25 percent or more very coarse and coarse sand and less than 50 percent of any other single grade of sand.

**Sand:** A total of 25 percent or more very coarse, coarse, and medium sand, a total of less than 25 percent very coarse and coarse sand, and less than 50 percent fine sand and less than 50 percent very fine sand.

**Fine sand:** 50 percent or more fine sand; or a total of less than 25 percent very coarse, coarse, and medium sand and less than 50 percent very fine sand.

**Very fine sand:** 50 percent or more very fine sand.

**Loamy coarse sand:** A total of 25 percent or more very coarse and coarse sand and less than 50 percent of any other single grade of sand.

**Loamy sand:** A total of 25 percent or more very coarse, coarse, and medium sand and a total of less than 25 percent very coarse and coarse sand, and less than 50 percent fine sand and less than 50 percent very fine sand.

**Loamy fine sand:** 50 percent or more fine sand; or less than 50 percent very fine sand and a total of less than 25 percent very coarse, coarse, and medium sand.

**Loamy very fine sand:** 50 percent or more very fine sand.

**Coarse sandy loam:** A total of 25 percent or more very coarse and coarse sand and less than 50 percent of any other single grade of sand.

**Sandy loam:** A total of 30 percent or more very coarse, coarse, and medium sand, but a total of less than 25 percent very coarse and coarse sand and less than 30 percent fine sand and less than 30 percent very fine sand; or a total of 15 percent or less very coarse, coarse, and medium sand, less than 30 percent fine sand and less than 30 percent very fine sand with a total of 40 percent or less fine and very fine sand.

**Fine sandy loam:** 30 percent or more fine sand and less than 30 percent very fine sand; or a total of 15 to 30 percent very coarse, coarse, and medium sand; or a total of more than 40

percent fine and very fine sand, one half or more of which is fine sand, and a total of 15 percent or less very coarse, coarse, and medium sand.

**Very fine sandy loam:** 30 percent or more very fine sand and a total of less than 15 percent very coarse, coarse, and medium sand; or more than 40 percent fine and very fine sand, more than one half or which is very fine sand, and a total of less than 15 percent very coarse, coarse, and medium sand.

**Redoximorphic features** are concentrations or depletions of iron or manganese which form in response to extended periods of saturation during the growing season. They are often used to interpret depth to water table in soil.

**Sand size separates** include the following:

<b>Very coarse sand:</b>	2.0 to 1.0mm
<b>Coarse sand:</b>	1.0 to 0.5mm
<b>Medium sand:</b>	0.5 to 0.25mm
<b>Fine sand:</b>	0.25 to 0.10mm
<b>Very fine sand:</b>	0.10 to 0.05mm

**Solum** is the upper part of a soil profile, including the A, E, and B horizons, in which the processes of soil formation are active.

**Subsoil** is that portion of the soil profile below the topsoil and above the parent material. It includes the E and B soil horizons.

**Substratum** includes the C horizons and R layers below the depth of noticeable soil development; often the parent material of the soil above.

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**NEW YORK NASSAU COMPLETE**

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# Component Text

Nassau County, New York

[Only those components that have entries for the selected text kinds and categories are included in this report. This report shows only the major soils in each map unit]

**Map unit:** MfB - Montauk fine sandy loam, 3 to 8 percent slopes

**Componet:** Montauk

**Text kind/Category:** Nontechnical description/GENSOIL

*The Montauk component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines. The parent material consists of loamy till over firm sandy till, derived mainly from crystalline rock. Depth to a root restrictive layer, densic material, is 24 to 38 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 28 inches during February, March, April, May. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.*

**Map unit:** Pk - Pits, sand and gravel

**Componet:** Pits, sand and gravel

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Pits is a miscellaneous area.*

**Map unit:** RdD - Riverhead sandy loam, 15 to 25 percent slopes

**Componet:** Riverhead

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead component makes up 80 percent of the map unit. Slopes are 15 to 25 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 90 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.*

**Map unit:** UdE - Udipsamments, steep

**Componet:** Udipsamments, steep

**Text kind/Category:** Nontechnical description/GENSOIL

*The Udipsamments, steep component makes up 95 percent of the map unit. Slopes are 25 to 50 percent. Depth to a root restrictive layer, bedrock, lithic, is 40 to 80 inches. The natural drainage class is somewhat excessively drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

# Component Text

Nassau County, New York

**Map unit:** Ue - Udipsamments, wet substratum

**Componet:** Udipsamments, wet substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Udipsamments, wet substratum component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. Depth to a root restrictive layer, bedrock, lithic, is 40 to 80 inches. The natural drainage class is moderately well drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Map unit:** Uf - Udorthents, refuse substratum

**Componet:** Udorthents, refuse substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Udorthents, refuse substratum component makes up 100 percent of the map unit. Slopes are 0 to 15 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, April, May, November, December. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Map unit:** UpB - Urban land-Plymouth complex, 3 to 8 percent slopes

**Componet:** Urban land

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.*

**Componet:** Plymouth

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth component makes up 20 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 90 percent. This soil does not meet hydric criteria.*

**Map unit:** Uw - Urban land-Udipsamments, wet substratum complex

**Componet:** Urban land

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.*

## Component Text

Nassau County, New York

**Map unit:** Uw - Urban land-Udipsamments, wet substratum complex

**Componet:** Udipsamments, wet substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Udipsamments, wet substratum component makes up 25 percent of the map unit. Slopes are 0 to 3 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria.*

# Physical Soil Properties

Nassau County, New York

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>MfB:</b>														
Montauk	0-7	44-85	0-49	0-17	1.30-1.60	4.00-42.00	0.10-0.16	0.0-2.9	2.0-6.0	.20	.24	4	8	0
	7-34	15-85	0-80	0-17	1.40-1.70	4.00-42.00	0.06-0.12	0.0-2.9	0.0-2.0	.24	---			
	34-60	44-91	0-49	0-17	1.70-1.95	0.42-4.00	0.02-0.08	0.0-2.9	0.0-1.0	.24	---			
<b>Pk:</b>														
Pits, sand and gravel	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>RdD:</b>														
Riverhead	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.50	0.0-2.9	80-100	---	---	3	8	0
	1-4	44-85	0-49	0-17	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20			
	4-25	44-85	0-49	0-17	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	25-36	44-91	0-49	0-17	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	36-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
<b>UdE:</b>														
Udipsamments, steep	---	---	---	---	---	---	---	---	---	---	---	---	8	0
<b>Ue:</b>														
Udipsamments, wet substratum	---	---	---	---	---	---	---	---	---	---	---	---	8	0
<b>Uf:</b>														
Udortherents, refuse substratum	---	---	---	---	---	---	---	---	---	---	---	---	8	0
<b>UpB:</b>														
Urban land	---	---	---	---	---	---	---	---	---	---	---	---	---	---



# Physical Soil Properties

Nassau County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
UpB:														
Plymouth	0-2	---	---	---	0.10-0.40	1.40-42.00	0.20-0.50	0.0-2.9	80-100	---	---	2	8	0
	2-7	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17			
	7-28	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	28-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
Uw:														
Urban land	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Udipsamments, wet substratum	---	---	---	---	---	---	---	---	---	---	---	8	0	

# Engineering Properties

Nassau County, New York

[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>MfB:</b>												
Montauk	0-7	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0-5	85-98	75-95	40-90	20-80	15-20	NP-4
	7-34	Fine sandy loam, gravelly sandy loam, silt loam	CL-ML, ML, SC-SM, SM	A-1, A-2, A-4	0-1	0-15	65-98	50-95	30-90	15-80	15-20	NP-4
	34-60	Gravelly loamy sand, sandy loam	GM, GP-GM, SM, SP-SM	A-1-b, A-2	0-2	0-15	60-95	50-92	25-65	10-35	15	NP-2
<b>Pk:</b>												
Pits, sand and gravel	---	---	---	---	---	---	---	---	---	---	---	---
<b>RdD:</b>												
Riverhead	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-4	Sandy loam	ML, SM	A-2-4, A-4	0	0-5	90-100	85-100	45-95	25-75	14-18	1-3
	4-25	Fine sandy loam, gravelly sandy loam, sandy loam	GM, SM	A-1-b, A-2, A-4	0	0-5	75-96	65-95	35-75	15-50	14-18	1-3
	25-36	Fine sandy loam, gravelly loamy sand, loamy sand	SM, SP-SM	A-1-b, A-2, A-4	0	0-5	75-96	65-95	30-75	10-45	0-28	NP-11
	36-60	Stratified gravelly sand	SP, SP-SM, SW	A-1-b	0	0-10	65-95	50-92	25-65	0-15	0-22	NP-6
<b>UdE:</b>												
Udipsamments, steep	---	---	---	---	---	---	---	---	---	---	---	---

# Engineering Properties

Nassau County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
Ue:												
Udipsamments, wet substratum	---	---	---	---	---	---	---	---	---	---	---	---
Uf:												
Udorthents, refuse substratum	---	---	---	---	---	---	---	---	---	---	---	---
UpB:												
Urban land	---	---	---	---	---	---	---	---	---	---	---	---
Plymouth	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	2-7	Loamy sand	SM	A-1-b, A-2, A-3	0	0-5	75-100	65-96	30-70	5-30	0-35	NP-10
	7-28	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2-4, A-3	0	0-5	75-100	65-96	30-70	5-30	0-26	NP-10
	28-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP-SM, SW	A-1-b	0	0-5	50-95	35-85	15-55	0-10	0-22	NP-6
Uw:												
Urban land	---	---	---	---	---	---	---	---	---	---	---	---
Udipsamments, wet substratum	---	---	---	---	---	---	---	---	---	---	---	---

## Soil Features (NY)

Nassau County, New York

[Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <i>In</i>	Thickness <i>In</i>	Hardness	Initial <i>In</i>	Total <i>In</i>		Uncoated steel	Concrete
MfB: Montauk	Dense material	24-38	---	---	---	---	Moderate	Low	High
Pk: Pits, sand and gravel	---	---	---	---	---	---	---	---	---
RdD: Riverhead	---	---	---	---	---	---	Moderate	Low	High
UdE: Udipsamments, steep	Lithic bedrock	40-80	---	---	---	---	Low	Low	High
Ue: Udipsamments, wet substratum	Lithic bedrock	40-80	---	---	---	---	Low	Low	High
Uf: Udorthents, refuse substratum	---	---	---	---	---	---	High	High	High
UpB: Urban land	---	---	---	---	---	---	---	---	---
Plymouth	---	---	---	---	---	---	Low	Low	High
Uw: Urban land	---	---	---	---	---	---	---	---	---
Udipsamments, wet substratum	---	---	---	---	---	---	Low	Low	High

# Water Features

Nassau County, New York

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
MfB:										
Montauk	C	---	February	2.0-2.5	2.0-3.1	---	---	None	---	None
			March	2.0-2.5	2.0-3.1	---	---	None	---	None
			April	2.0-2.5	2.0-3.1	---	---	None	---	None
			May	2.0-2.5	2.0-3.1	---	---	None	---	None
Pk:										
Pits, sand and gravel	---	---	Jan-Dec			---	---	None	---	None
RdD:										
Riverhead	B	---	Jan-Dec			---	---	None	---	None
UdE:										
Udipsamments, steep	A	---	Jan-Dec			---	---	None	---	None
Ue:										
Udipsamments, wet substratum	A	---	Jan-Dec			---	---	None	---	None
Uf:										
Udortheents, refuse substratum	---	---	January	3.0->6.0	>6.0	---	---	None	---	None
			February	3.0->6.0	>6.0	---	---	None	---	None
			March	3.0->6.0	>6.0	---	---	None	---	None
			April	3.0->6.0	>6.0	---	---	None	---	None
			May	3.0->6.0	>6.0	---	---	None	---	None
			November	3.0->6.0	>6.0	---	---	None	---	None
			December	3.0->6.0	>6.0	---	---	None	---	None
UpB:										
Urban land	---	---	Jan-Dec			---	---	None	---	None

## Water Features

Nassau County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
UpB: Plymouth	A	---	Jan-Dec			---	---	None	---	None
Uw: Urban land	---	---	Jan-Dec			---	---	None	---	None
Udipsamments, wet substratum	A	---	Jan-Dec			---	---	None	---	None

# Ponds and Embankments

Nassau County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>MfB:</b>							
Montauk	85	Very limited Seepage Slope	1.00 0.68	Somewhat limited Depth to saturated zone Seepage	0.93 0.30	Very limited Depth to water	1.00
<b>Pk:</b>							
Pits, sand and gravel	100	Not rated		Not rated		Not rated	
<b>RdD:</b>							
Riverhead	80	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>UdE:</b>							
Udipsamments, steep	95	Not rated		Not rated		Not rated	
<b>Ue:</b>							
Udipsamments, wet substratum	90	Not rated		Not rated		Not rated	
<b>Uf:</b>							
Udorthents, refuse substratum	100	Not rated		Not rated		Not rated	
<b>UpB:</b>							
Urban land	65	Not rated		Not rated		Not rated	
Plymouth	20	Very limited Seepage Slope	1.00 0.68	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>Uw:</b>							
Urban land	70	Not rated		Not rated		Not rated	
Udipsamments, wet substratum	25	Not rated		Not rated		Not rated	

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Nassau County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>MfB:</b>							
Montauk	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.07
		Depth to saturated zone	0.02	Unstable excavation walls	1.00	Depth to saturated zone	0.02
				Dense layer	0.50		
<b>Pk:</b>							
Pits, sand and gravel	100	Not rated		Not rated		Not rated	
<b>RdD:</b>							
Riverhead	80	Very limited		Very limited		Not rated	
		Too steep	1.00	Too steep	1.00		
		Frost action	0.50	Unstable excavation walls	1.00		
<b>UdE:</b>							
Udipsamments, steep	95	Not rated		Not rated		Not rated	
<b>Ue:</b>							
Udipsamments, wet substratum	90	Not rated		Not rated		Not rated	
<b>Uf:</b>							
Udorthents, refuse substratum	100	Not rated		Not rated		Not rated	
<b>UpB:</b>							
Urban land	65	Not rated		Not rated		Not rated	
Plymouth	20	Not limited		Very limited		Not rated	
				Unstable excavation walls	1.00		
<b>Uw:</b>							
Urban land	70	Not rated		Not rated		Not rated	
Udipsamments, wet substratum	25	Not rated		Not rated		Not rated	



# Selected Soil Interpretations

Nassau County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The table shows only the top five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

\*This soil interpretation was designed as a "limitation" as opposed to a "potential" or "suitability". The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the potential limitation.

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*					
		Rating class and limiting features	Value				
<b>MfB:</b>							
Montauk	85	Most limited					
		Depth to saturation	1.00				
		Low permeability	0.50				
<b>Pk:</b>							
Pits, sand and gravel	100	Not rated					
<b>RdD:</b>							
Riverhead	80	Most limited					
		Excessive permeability	1.00				
		Slope	1.00				
<b>UdE:</b>							
Udipsamments, steep	95	Most limited					
		Slope	1.00				
		Depth to bedrock	0.50				
<b>Ue:</b>							
Udipsamments, wet substratum	90	Somewhat limited					
		Depth to bedrock	0.50				
<b>Uf:</b>							
Udortherents, refuse substratum	100	Not rated					
<b>UpB:</b>							
Urban land	65	Not rated					
<b>Plymouth</b>							
	20	Most limited					
		Excessive permeability	1.00				
<b>Uw:</b>							
Urban land	70	Not rated					

# Selected Soil Interpretations

Nassau County, New York

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*					
		Rating class and limiting features	Value				

Uw: Udipsammments, wet substratum	25	Least limited
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**NEW YORK SUFFOLK COMPLETE**

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# Component Text

Suffolk County, New York

[Only those components that have entries for the selected text kinds and categories are included in this report. This report shows only the major soils in each map unit]

**Map unit:** Bc - Beaches

**Componet:** Beaches

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Beaches is a miscellaneous area.*

**Map unit:** Bd - Berryland mucky sand

**Componet:** Berryland

**Text kind/Category:** Nontechnical description/GENSOIL

*The Berryland component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions. The parent material consists of acid sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, October, November, December. Organic matter content in the surface horizon is about 90 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.*

**Map unit:** BgA - Bridgehampton silt loam, 0 to 2 percent slopes

**Componet:** Bridgehampton

**Text kind/Category:** Nontechnical description/GENSOIL

*The Bridgehampton component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of silty glaciolacustrine or eolian deposits underlain by contrasting glacial drift, derived mainly from gneiss, granite, and schist with some sandstone, conglomerate, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.*

**Map unit:** BgB - Bridgehampton silt loam, 2 to 6 percent slopes

**Componet:** Bridgehampton

**Text kind/Category:** Nontechnical description/GENSOIL

*The Bridgehampton component makes up 80 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of silty glaciolacustrine or eolian deposits underlain by contrasting glacial drift, derived mainly from gneiss, granite, and schist with some sandstone, conglomerate, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** CpC - Carver and Plymouth sands, 3 to 15 percent slopes

**Component:** Carver

**Text kind/Category:** Nontechnical description/GENSOIL

*The Carver component makes up 40 percent of the map unit. Slopes are 3 to 15 percent. This component is on moraines, outwash plains. The parent material consists of coarse sandy glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Component:** Plymouth, sand

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, sand component makes up 40 percent of the map unit. Slopes are 3 to 15 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Map unit:** CpE - Carver and Plymouth sands, 15 to 35 percent slopes

**Component:** Carver

**Text kind/Category:** Nontechnical description/GENSOIL

*The Carver component makes up 40 percent of the map unit. Slopes are 15 to 35 percent. This component is on moraines, outwash plains. The parent material consists of coarse sandy glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Component:** Plymouth, sand

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, sand component makes up 40 percent of the map unit. Slopes are 15 to 35 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** CuB - Cut and fill land, gently sloping

**Componet:** Cut and fill, gently sloping

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Cut and fill is a miscellaneous area.*

**Map unit:** CuE - Cut and fill land, steep

**Componet:** Cut and fill, steep

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Cut and fill is a miscellaneous area.*

**Map unit:** De - Deerfield sand

**Componet:** Deerfield

**Text kind/Category:** Nontechnical description/GENSOIL

*The Deerfield component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on deltas, outwash plains, terraces. The parent material consists of sandy glaciofluvial or deltaic deposits derived mainly from granite, gneiss, or sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.*

**Map unit:** Du - Dune land

**Componet:** Dune land

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Dune land is a miscellaneous area.*

**Map unit:** Es - Escarpments

**Componet:** Escarpments

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Escarpments is a miscellaneous area.*

# Component Text

Suffolk County, New York

**Map unit:** Fd - Fill land, dredged material

**Componet:** Fill land, dredged material

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Fill land is a miscellaneous area.*

**Map unit:** Fs - Fill land, sandy

**Componet:** Fill land, sandy

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Fill land is a miscellaneous area.*

**Map unit:** Gp - Gravel pits

**Componet:** Pits, gravel

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Pits is a miscellaneous area.*

**Map unit:** HaA - Haven loam, 0 to 2 percent slopes

**Componet:** Haven

**Text kind/Category:** Nontechnical description/GENSOIL

*The Haven component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.*

**Map unit:** HaB - Haven loam, 2 to 6 percent slopes

**Componet:** Haven

**Text kind/Category:** Nontechnical description/GENSOIL

*The Haven component makes up 80 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.*



# Component Text

Suffolk County, New York

**Map unit:** HaC - Haven loam, 6 to 12 percent slopes

**Componet:** Haven

**Text kind/Category:** Nontechnical description/GENSOIL

*The Haven component makes up 80 percent of the map unit. Slopes are 6 to 12 percent. This component is on outwash plains. The parent material consists of loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.*

**Map unit:** Ma - Made land

**Componet:** Made land

**Text kind/Category:** Nontechnical description/GENSOIL

*Generated brief soil descriptions are created for major soil components. The Made land is a miscellaneous area.*

**Map unit:** MfC - Montauk fine sandy loam, 8 to 15 percent slopes

**Componet:** Montauk

**Text kind/Category:** Nontechnical description/GENSOIL

*The Montauk component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on moraines. The parent material consists of loamy till over firm sandy till, derived mainly from crystalline rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.*

**Map unit:** Mu - Muck

**Componet:** Muck

**Text kind/Category:** Nontechnical description/GENSOIL

*The Muck component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on swamps, marshes. The parent material consists of organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 8w. This soil meets hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** PIB - Plymouth loamy sand, 3 to 8 percent slopes

**Component:** Plymouth

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth component makes up 80 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria.*

**Map unit:** PIC - Plymouth loamy sand, 8 to 15 percent slopes

**Component:** Plymouth

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.*

**Map unit:** PmB3 - Plymouth gravelly loamy sand, 3 to 8 percent slopes, eroded

**Component:** Plymouth, eroded

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, eroded component makes up 80 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Map unit:** PmC3 - Plymouth gravelly loamy sand, 8 to 15 percent slopes, eroded

**Component:** Plymouth, eroded

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, eroded component makes up 90 percent of the map unit. Slopes are 8 to 15 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** PsA - Plymouth loamy sand, silty substratum, 0 to 3 percent slopes

**Componet:** Plymouth, silty substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, silty substratum component makes up 80 percent of the map unit. Slopes are 0 to 3 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria.*

**Map unit:** PsB - Plymouth loamy sand, silty substratum, 3 to 8 percent slopes

**Componet:** Plymouth, silty substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, silty substratum component makes up 80 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria.*

**Map unit:** Ra - Raynham loam

**Componet:** Raynham, poorly drained

**Text kind/Category:** Nontechnical description/GENSOIL

*The Raynham, poorly drained component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions. The parent material consists of glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.*

**Componet:** Raynham, somewhat poorly drained

**Text kind/Category:** Nontechnical description/GENSOIL

*The Raynham, somewhat poorly drained component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions. The parent material consists of glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** RdA - Riverhead sandy loam, 0 to 3 percent slopes

**Componet:** Riverhead

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead component makes up 80 percent of the map unit. Slopes are 0 to 3 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria.*

**Map unit:** RdB - Riverhead sandy loam, 3 to 8 percent slopes

**Componet:** Riverhead

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead component makes up 80 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria.*

**Map unit:** RdC - Riverhead sandy loam, 8 to 15 percent slopes

**Componet:** Riverhead

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.*

**Map unit:** ReB - Riverhead very stony sandy loam, 3 to 8 percent slopes

**Componet:** Riverhead, very stony

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead, very stony component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** ReC - Riverhead very stony sandy loam, 8 to 15 percent slopes

**Componet:** Riverhead, very stony

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead, very stony component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.*

**Map unit:** RhB - Riverhead and Haven soils, graded, 0 to 8 percent slopes

**Componet:** Riverhead, graded

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead, graded component makes up 45 percent of the map unit. Slopes are 0 to 8 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria.*

**Componet:** Haven, graded

**Text kind/Category:** Nontechnical description/GENSOIL

*The Haven, graded component makes up 35 percent of the map unit. Slopes are 0 to 8 percent. This component is on outwash plains. The parent material consists of loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This soil does not meet hydric criteria.*

**Map unit:** RpE - Riverhead and Plymouth very bouldery soils, 15 to 35 percent slopes

**Componet:** Riverhead, very bouldery

**Text kind/Category:** Nontechnical description/GENSOIL

*The Riverhead, very bouldery component makes up 50 percent of the map unit. Slopes are 15 to 35 percent. This component is on moraines, outwash plains. The parent material consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

# Component Text

Suffolk County, New York

**Map unit:** RpE - Riverhead and Plymouth very bouldery soils, 15 to 35 percent slopes

**Componet:** Plymouth, very bouldery

**Text kind/Category:** Nontechnical description/GENSOIL

*The Plymouth, very bouldery component makes up 40 percent of the map unit. Slopes are 15 to 35 percent. This component is on moraines, outwash plains. The parent material consists of acid sandy glaciofluvial or deltaic deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.*

**Map unit:** SdA - Scio silt loam, sandy substratum, 0 to 2 percent slopes

**Componet:** Scio, sandy substratum

**Text kind/Category:** Nontechnical description/GENSOIL

*The Scio, sandy substratum component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on lake plains. The parent material consists of glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during March, April, May. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.*

**Map unit:** Tm - Tidal marsh

**Componet:** Tidal marsh

**Text kind/Category:** Nontechnical description/GENSOIL

*The Tidal marsh component makes up 95 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes. The parent material consists of organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Nonirrigated land capability classification is 8w. This soil meets hydric criteria.*

# Physical Soil Properties

Suffolk County, New York

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>Bc:</b>														
Beaches	---	---	---	---	---	---	---	---	---	---	---	5	---	---
<b>Bd:</b>														
Berryland	0-2	---	---	---	0.10-0.35	1.40-42.00	0.20-0.50	0.0-2.9	35-100	---	---	5	8	0
	2-10	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---			
	10-15	86-100	0-14	0-10	1.30-1.45	42.00-141.00	0.06-0.08	0.0-2.9	6.0-25	.02	.02			
	15-20	70-100	0-29	0-15	1.40-1.55	14.00-42.00	0.08-0.12	0.0-2.9	0.0-5.0	.20	---			
	20-30	86-100	0-14	0-10	1.50-1.60	14.00-42.00	0.04-0.08	0.0-2.9	0.0-2.0	.17	---			
	30-40	70-100	0-29	0-15	1.50-1.60	14.00-141.00	0.04-0.14	0.0-2.9	0.0-1.0	.17	---			
	40-60	74-100	0-49	0-15	1.50-1.60	14.00-141.00	0.04-0.14	0.0-2.9	0.0-1.0	.28	---			
<b>BgA:</b>														
Bridgehampton	0-11	0-50	50-80	0-17	1.05-1.20	4.00-14.00	0.20-0.26	0.0-2.9	3.0-7.0	.49	.49	4	8	0
	11-56	0-85	0-100	0-17	1.20-1.45	4.00-14.00	0.20-0.34	0.0-2.9	0.0-2.0	.64	---			
	56-80	70-100	0-29	0-15	1.60-1.80	42.00-141.00	0.01-0.10	0.0-2.9	0.0-0.5	.10	---			
<b>BgB:</b>														
Bridgehampton	0-11	0-50	50-80	0-17	1.05-1.20	4.00-14.00	0.20-0.26	0.0-2.9	3.0-7.0	.49	.49	4	8	0
	11-56	0-85	0-100	0-17	1.20-1.45	4.00-14.00	0.20-0.34	0.0-2.9	0.0-2.0	.64	---			
	56-80	70-100	0-29	0-15	1.60-1.80	42.00-141.00	0.01-0.10	0.0-2.9	0.0-0.5	.10	---			
<b>CpC:</b>														
Carver	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	5	8	0
	1-9	86-100	0-14	0-10	1.00-1.30	141.00	0.05-0.12	0.0-2.9	1.0-3.0	.05	.05			
	9-23	70-100	0-29	0-15	1.30-1.50	141.00	0.03-0.10	0.0-2.9	0.0-1.0	.10	---			
	23-60	86-100	0-14	0-10	1.45-1.55	141.00	0.03-0.04	0.0-2.9	0.0-0.5	.10	---			

# Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>CpC:</b>														
Plymouth, sand	0-4	86-100	0-14	0-10	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.05	.05	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
<b>CpE:</b>														
Carver	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	5	8	0
	1-9	86-100	0-14	0-10	1.00-1.30	141.00	0.05-0.12	0.0-2.9	1.0-3.0	.05	.05			
	9-23	70-100	0-29	0-15	1.30-1.50	141.00	0.03-0.10	0.0-2.9	0.0-1.0	.10	---			
	23-60	86-100	0-14	0-10	1.45-1.55	141.00	0.03-0.04	0.0-2.9	0.0-0.5	.10	---			
Plymouth, sand	0-4	86-100	0-14	0-10	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.05	.05	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
<b>CuB:</b>														
Cut and fill, gently sloping	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>CuE:</b>														
Cut and fill, steep	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>De:</b>														
Deerfield	0-3	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	4	8	0
	3-9	86-100	0-14	0-10	1.00-1.20	42.00-141.00	0.07-0.13	0.0-2.9	2.0-4.0	.05	.05			
	9-28	70-100	0-29	0-15	1.20-1.45	42.00-141.00	0.01-0.13	0.0-2.9	0.0-2.0	.17	---			
	28-60	86-100	0-9	0-10	1.40-1.50	42.00-141.00	0.01-0.08	0.0-2.9	0.0-1.0	.17	---			
<b>Du:</b>														
Dune land	---	---	---	---	---	---	---	---	---	---	---	5	---	---
<b>Es:</b>														
Escarpments	---	---	---	---	---	---	---	---	---	---	---	---	---	---



# Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
Fd: Fill land, dredged material	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fs: Fill land, sandy	---	---	---	---	---	---	---	---	---	---	---	5	---	---
Gp: Pits, gravel	---	---	---	---	---	---	---	---	---	---	---	---	---	---
HaA: Haven	0-2	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	---	35-100	---	---	3	5	56
	2-5	32-52	28-50	7-17	1.10-1.40	4.00-14.00	0.15-0.25	0.0-2.9	2.0-6.0	.24	.28			
	5-19	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-2.0	.24	---			
	19-28	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-1.0	.24	---			
	28-60	86-100	0-14	0-10	1.45-1.65	141.00	0.01-0.03	0.0-2.9	0.0-0.5	.17	---			
HaB: Haven	0-2	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	---	35-100	---	---	3	5	56
	2-5	32-52	28-50	7-17	1.10-1.40	4.00-14.00	0.15-0.25	0.0-2.9	2.0-6.0	.24	.28			
	5-19	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-2.0	.24	---			
	19-28	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-1.0	.24	---			
	28-60	86-100	0-14	0-10	1.45-1.65	141.00	0.01-0.03	0.0-2.9	0.0-0.5	.17	---			
HaC: Haven	0-2	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	---	35-100	---	---	3	5	56
	2-5	32-52	28-50	7-17	1.10-1.40	4.00-14.00	0.15-0.25	0.0-2.9	2.0-6.0	.24	.28			
	5-19	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-2.0	.24	---			
	19-28	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-1.0	.24	---			
	28-60	86-100	0-14	0-10	1.45-1.65	141.00	0.01-0.03	0.0-2.9	0.0-0.5	.17	---			
Ma: Made land	---	---	---	---	---	---	---	---	---	---	---	---	---	---

## Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
MfC:														
Montauk	0-2	15-85	0-49	0-17	1.30-1.60	4.00-42.00	0.10-0.16	0.0-2.9	2.0-6.0	.20	.24	3	8	0
	2-27	44-91	0-80	0-17	1.50-1.70	4.00-42.00	0.06-0.12	0.0-2.9	0.0-2.0	.24	---			
	27-60	44-85	0-49	0-17	1.70-1.90	0.42-4.00	0.02-0.08	0.0-2.9	0.0-1.0	---	---			
Mu:														
Muck	0-36	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	2	2	134
	36-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-1.0	.17	---			
PIB:														
Plymouth	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
PIC:														
Plymouth	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
PmB3:														
Plymouth, eroded	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.10	.17	3	8	0
	4-14	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	14-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
PmC3:														
Plymouth, eroded	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.10	.17	3	8	0
	4-14	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	14-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			

## Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>PsA:</b>														
Plymouth, silty substratum	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-40	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
	40-60	0-85	0-100	0-27	1.20-1.45	4.00-14.00	0.20-0.34	0.0-2.9	0.0-0.5	.64	---			
<b>PsB:</b>														
Plymouth, silty substratum	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17	4	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-40	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
	40-60	0-85	0-100	0-27	1.20-1.45	4.00-14.00	0.20-0.34	0.0-2.9	0.0-0.5	.64	---			
<b>Ra:</b>														
Raynham, poorly drained	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	3	8	0
	1-2	32-52	28-50	7-17	1.20-1.50	1.40-14.00	0.18-0.22	0.0-2.9	3.0-10	.49	.49			
	2-40	0-85	0-100	0-17	1.20-1.50	1.40-14.00	0.18-0.22	0.0-2.9	0.0-3.0	.64	---			
	40-60	0-85	0-100	0-17	1.20-1.60	0.42-1.40	0.17-0.21	0.0-2.9	0.0-1.0	.64	---			
Raynham, somewhat poorly drained	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	3	8	0
	1-2	32-52	28-50	7-17	1.20-1.50	1.40-14.00	0.18-0.22	0.0-2.9	3.0-10	.49	.49			
	2-40	0-85	0-100	0-17	1.20-1.50	1.40-14.00	0.18-0.22	0.0-2.9	0.0-3.0	.64	---			
	40-60	0-85	0-100	0-17	1.20-1.60	0.42-1.40	0.17-0.21	0.0-2.9	0.0-1.0	.64	---			
<b>RdA:</b>														
Riverhead	0-12	44-85	0-49	0-17	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	3	86
	12-27	44-85	0-49	0-17	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-17	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			

## Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>RdB:</b>														
Riverhead	0-12	44-85	0-49	0-17	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	3	86
	12-27	44-85	0-49	0-17	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-17	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
<b>RdC:</b>														
Riverhead	0-12	44-85	0-49	0-17	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	3	86
	12-27	44-85	0-49	0-17	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-17	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
<b>ReB:</b>														
Riverhead, very stony	0-12	44-85	0-49	0-20	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	8	0
	12-27	44-85	0-49	0-20	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-20	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	44-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
<b>ReC:</b>														
Riverhead, very stony	0-12	44-85	0-49	0-20	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	8	0
	12-27	44-85	0-49	0-20	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-20	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	44-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
<b>RhB:</b>														
Riverhead, graded	0-12	44-85	0-49	0-17	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	1.0-3.0	.17	.20	3	8	0
	12-27	44-85	0-49	0-17	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-1.0	.28	---			
	27-35	44-91	0-49	0-17	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			

## Physical Soil Properties

Suffolk County, New York

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
<b>RhB:</b>														
Haven, graded	0-12	32-52	28-50	7-17	1.10-1.40	4.00-14.00	0.15-0.25	0.0-2.9	1.0-5.0	.24	.28	3	8	0
	12-19	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-1.0	.24	---			
	19-28	15-85	0-80	0-17	1.25-1.55	4.00-14.00	0.08-0.12	0.0-2.9	0.0-1.0	.24	---			
	28-60	86-100	0-14	0-10	1.45-1.65	141.00	0.01-0.03	0.0-2.9	0.0-0.5	.17	---			
<b>RpE:</b>														
Riverhead, very bouldery	0-12	44-85	0-49	0-20	1.10-1.40	14.00-42.00	0.14-0.20	0.0-2.9	2.0-4.0	.17	.20	3	8	0
	12-27	44-85	0-49	0-20	1.25-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-2.0	.28	---			
	27-35	44-91	0-49	0-20	1.25-1.55	14.00-42.00	0.04-0.13	0.0-2.9	0.0-1.0	.17	---			
	35-65	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.04	0.0-2.9	0.0-0.5	.17	---			
Plymouth, very bouldery	0-4	70-91	0-29	0-15	1.10-1.40	42.00-141.00	0.04-0.08	0.0-2.9	2.0-4.0	.15	.17	3	8	0
	4-27	70-100	0-29	0-15	1.25-1.55	42.00-141.00	0.03-0.07	0.0-2.9	0.0-1.0	.17	---			
	27-60	86-100	0-14	0-10	1.45-1.65	141.00	0.02-0.03	0.0-2.9	0.0-0.5	.17	---			
<b>SdA:</b>														
Scio, sandy substratum	0-1	---	---	---	0.10-0.40	1.40-42.00	0.20-0.60	0.0-2.9	35-100	---	---	4	8	0
	1-8	0-50	50-80	0-17	1.20-1.50	4.00-14.00	0.17-0.21	0.0-2.9	2.0-8.0	.49	.49			
	8-29	0-85	0-80	0-17	1.20-1.50	4.00-14.00	0.11-0.20	0.0-2.9	0.0-2.0	.64	---			
	29-39	0-85	0-80	0-17	1.20-1.65	4.00-42.00	0.08-0.20	0.0-2.9	0.0-1.0	.37	---			
	39-60	86-100	0-14	0-10	1.45-1.65	141.00	0.01-0.03	0.0-2.9	0.0-1.0	.17	---			
<b>Tm:</b>														
Tidal marsh	---	---	---	---	---	---	---	---	---	---	---	---	2	134

# Engineering Properties

Suffolk County, New York

[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>Bc:</b>												
Beaches	---	---	---	---	---	---	---	---	---	---	---	---
<b>Bd:</b>												
Berryland	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	2-10	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	10-15	Mucky sand	SP-SM	A-3	0	0	95-100	90-100	45-75	5-30	---	NP
	15-20	Loamy sand, sand	SP-SM	A-2, A-3	0	0	85-100	75-100	35-75	5-30	---	NP
	20-30	Sand	SP-SM	A-3	0	0	85-100	75-100	35-75	5-30	---	NP
	30-40	Loamy sand, sand	SC-SM, SM, SP-SC, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-75	5-30	15-25	NP-8
	40-60	Sand, stratified sand to gravelly sandy loam	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-70	5-20	---	---
<b>BgA:</b>												
Bridgehampton	0-11	Silt loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-35	NP-7
	11-56	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	45-90	15-25	NP-5
	56-80	Gravelly loamy sand, very gravelly sand, stratified gravelly sand	GM, SM, SP, SW-SM	A-1	0	0-25	45-95	25-92	10-70	0-20	---	NP

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>BgB:</b>												
Bridgehampton	0-11	Silt loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-35	NP-7
	11-56	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	45-90	15-25	NP-5
	56-80	Gravelly loamy sand, very gravelly sand, stratified gravelly sand	GM, SM, SP, SW-SM	A-1	0	0-25	45-95	25-92	10-70	0-20	---	NP
<b>CpC:</b>												
Carver	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-9	Coarse sand	SM, SP-SM	A-2, A-3	0	0-5	85-100	75-100	35-80	5-30	---	NP
	9-23	Coarse sand, loamy coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	85-100	75-100	35-80	5-30	---	NP
	23-60	Coarse sand	SP, SP-SM, SW-SM	A-1, A-2	0	0-5	70-96	60-92	30-70	2-15	---	NP
Plymouth, sand	0-4	Sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>CpE:</b>												
Carver	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-9	Coarse sand	SM, SP-SM	A-2, A-3	0	0-5	85-100	75-100	35-80	5-30	---	NP
	9-23	Coarse sand, loamy coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	85-100	75-100	35-80	5-30	---	NP
	23-60	Coarse sand	SP, SP-SM, SW-SM	A-1, A-2	0	0-5	70-96	60-92	30-70	2-15	---	NP
<b>Plymouth, sand</b>												
	0-4	Sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
<b>CuB:</b>												
Cut and fill, gently sloping	---	---	---	---	---	---	---	---	---	---	---	---
<b>CuE:</b>												
Cut and fill, steep	---	---	---	---	---	---	---	---	---	---	---	---



# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
De:												
Deerfield	0-3	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	3-9	Sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-75	5-30	---	NP
	9-28	Coarse sand, loamy sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-75	5-30	---	NP
	28-60	Coarse sand, fine sand, sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	65-100	50-100	25-70	3-20	---	NP
Du:												
Dune land	---	---	---	---	---	---	---	---	---	---	---	---
Es:												
Escarments	---	---	---	---	---	---	---	---	---	---	---	---
Fd:												
Fill land, dredged material	---	---	---	---	---	---	---	---	---	---	---	---
Fs:												
Fill land, sandy	---	---	---	---	---	---	---	---	---	---	---	---
Gp:												
Pits, gravel	---	---	---	---	---	---	---	---	---	---	---	---

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index	
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200			
					<i>In</i>	<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
HaA:													
Haven	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---	
	2-5	Loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	5-19	Gravelly sandy loam, loam, silt loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	19-28	Gravelly loam, gravelly sandy loam, silt loam	ML, SM	A-1, A-2, A-4	0	0	75-100	70-98	40-85	5-70	15-25	NP-4	
	28-60	Stratified gravelly sand	GP, SP, SW	A-1, A-2, A-3	0	0-15	50-92	35-85	15-55	0-10	10-15	NP	
HaB:													
Haven	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---	
	2-5	Loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	5-19	Gravelly sandy loam, loam, silt loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	19-28	Gravelly loam, gravelly sandy loam, silt loam	ML, SM	A-1, A-2, A-4	0	0	75-100	70-98	40-85	5-70	15-25	NP-4	
	28-60	Stratified gravelly sand	GP, SP, SW	A-1, A-2, A-3	0	0-15	50-92	35-85	15-55	0-10	10-15	NP	

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index	
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200			
					<i>In</i>	<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>HaC:</b>													
Haven	0-2	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---	
	2-5	Loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	5-19	Gravelly sandy loam, loam, silt loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4	
	19-28	Gravelly loam, gravelly sandy loam, silt loam	ML, SM	A-1, A-2, A-4	0	0	75-100	70-98	40-85	5-70	15-25	NP-4	
	28-60	Stratified gravelly sand	GP, SP, SW	A-1, A-2, A-3	0	0-15	50-92	35-85	15-55	0-10	10-15	NP	
<b>Ma:</b>													
Made land	---	---	---	---	---	---	---	---	---	---	---	---	
<b>MfC:</b>													
Montauk	0-2	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0-5	75-100	70-100	50-100	30-90	15-20	NP-4	
	2-27	Fine sandy loam, gravelly sandy loam, silt loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0-1	0-5	75-100	70-100	50-95	30-85	15-20	NP-4	
	27-60	Gravelly sandy loam, loamy sand, sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0-3	0-15	65-96	55-92	25-75	10-50	15	NP-2	
<b>Mu:</b>													
Muck	0-36	Muck	PT	A-8	0	0	100	100	---	---	---	---	
	36-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SM, SP, SW	A-1	0	0-5	55-92	45-85	20-60	0-25	---	NP	

## Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
PIB:												
Plymouth	0-4	Loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
PIC:												
Plymouth	0-4	Loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
PmB3:												
Plymouth, eroded	0-4	Gravelly loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-14	Coarse gravelly coarse sand, gravelly loamy sand, loamy fine sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	14-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>PmC3:</b>												
Plymouth, eroded	0-4	Gravelly loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-14	Coarse gravelly coarse sand, gravelly loamy sand, loamy fine sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	14-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
<b>PsA:</b>												
Plymouth, silty substratum	0-4	Loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-40	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
	40-60	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	45-90	15-25	NP-5
<b>PsB:</b>												
Plymouth, silty substratum	0-4	Loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-40	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP
	40-60	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	45-90	15-25	NP-5

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
					<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
Ra:												
Raynham, poorly drained	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-2	Loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	45-90	15-25	NP-5
	2-40	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	45-90	15-25	NP-5
	40-60	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	75-100	55-90	15-25	NP-5
Raynham, somewhat poorly drained												
Raynham, somewhat poorly drained	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-2	Loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	45-90	15-25	NP-5
	2-40	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	45-90	15-25	NP-5
	40-60	Silt, silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	75-100	55-90	15-25	NP-5
RdA:												
Riverhead	0-12	Sandy loam	ML, SM	A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP

## Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>RdB:</b>												
Riverhead	0-12	Sandy loam	ML, SM	A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP
<b>RdC:</b>												
Riverhead	0-12	Sandy loam	ML, SM	A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP

## Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index	
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200			
					<i>In</i>	<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>ReB:</b>													
Riverhead, very stony	0-12	Sandy loam	ML, SM	A-2, A-4	1-5	0-5	85-98	75-96	40-75	20-50	14-18	1-3	
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3	
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP	
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP	
<b>ReC:</b>													
Riverhead, very stony	0-12	Sandy loam	ML, SM	A-2, A-4	1-5	0-5	85-98	75-96	40-75	20-50	14-18	1-3	
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3	
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP	
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP	



## Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
RhB:												
Riverhead, graded	0-12	Sandy loam	ML, SM	A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP
Haven, graded	0-12	Loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4
	12-19	Gravelly sandy loam, loam, silt loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-90	15-25	NP-4
	19-28	Gravelly loam, gravelly sandy loam, silt loam	ML, SM	A-1, A-2, A-4	0	0	75-100	70-98	40-85	5-70	15-25	NP-4
	28-60	Stratified gravelly sand	GP, SP, SW	A-1, A-2, A-3	0	0-15	50-92	35-85	15-55	0-10	10-15	NP

# Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
RpE:												
Riverhead, very bouldery	0-12	Sandy loam	ML, SM	A-2, A-4	1-5	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	12-27	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	85-98	75-96	40-75	20-50	14-18	1-3
	27-35	Fine sandy loam, gravelly loamy sand, loamy sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-4	0	0-5	65-95	50-92	25-75	10-50	---	NP
	35-65	Stratified coarse sand to gravelly sand	SP, SP-SM, SW, SW-SM	A-1	0	0-10	65-95	50-92	25-65	0-15	---	NP
Plymouth, very bouldery	0-4	Loamy sand	SM	A-1, A-2, A-3	1-5	0-5	75-98	70-96	35-70	5-25	---	NP
	4-27	Coarse gravelly coarse sand, loamy fine sand, loamy sand	SM	A-1, A-2, A-3	0	0-5	75-98	70-96	35-70	5-25	---	NP
	27-60	Gravelly coarse sand, gravelly sand, very gravelly sand	GW, SP, SW	A-1	0	0-5	55-92	45-85	20-55	0-10	---	NP

## Engineering Properties

Suffolk County, New York

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
					<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
<b>SdA:</b>												
Scio, sandy substratum	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-8	Silt loam	CL-ML, ML	A-4	0	0	95-100	85-100	70-100	45-90	15-20	NP-5
	8-29	Silt loam, very fine sandy loam	CL-ML, GM, ML, SM	A-4	0	0	95-100	85-100	70-100	45-90	15-20	NP-5
	29-39	Silt loam, very fine sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0	0	65-100	50-100	40-100	25-90	15-20	NP-5
	39-60	Stratified gravelly sand	GP, SP, SW	A-1, A-2, A-3	0	0-15	50-92	35-85	15-55	0-10	10-15	NP
<b>Tm:</b>												
Tidal marsh	---	---	---	---	---	---	---	---	---	---	---	---

## Soil Features (NY)

Suffolk County, New York

[Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <i>In</i>	Thickness <i>In</i>	Hardness	Initial <i>In</i>	Total <i>In</i>		Uncoated steel	Concrete
Bc: Beaches	---	---	---	---	---	---	Low	---	---
Bd: Berryland	---	---	---	---	---	---	Low	High	High
BgA: Bridgehampton	---	---	---	---	---	---	High	Moderate	Moderate
BgB: Bridgehampton	---	---	---	---	---	---	High	Moderate	Moderate
CpC: Carver	---	---	---	---	---	---	Low	Low	High
Plymouth, sand	---	---	---	---	---	---	Low	Low	High
CpE: Carver	---	---	---	---	---	---	Low	Low	High
Plymouth, sand	---	---	---	---	---	---	Low	Low	High
CuB: Cut and fill, gently sloping	Lithic bedrock	40-80	---	---	---	---	Low	---	---
CuE: Cut and fill, steep	Lithic bedrock	40-80	---	---	---	---	Low	---	---
De: Deerfield	---	---	---	---	---	---	Moderate	Low	High

## Soil Features (NY)

Suffolk County, New York

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
Du: Dune land	---	---	---	---	---	---	Low	---	---
Es: Escarpments	---	---	---	---	---	---	Low	---	---
Fd: Fill land, dredged material	---	---	---	---	---	---	Low	---	---
Fs: Fill land, sandy	---	---	---	---	---	---	Low	---	---
Gp: Pits, gravel	---	---	---	---	---	---	---	---	---
HaA: Haven	---	---	---	---	---	---	Moderate	Low	High
HaB: Haven	---	---	---	---	---	---	Moderate	Low	High
HaC: Haven	---	---	---	---	---	---	Moderate	Low	High
Ma: Made land	---	---	---	---	---	---	---	---	---
MfC: Montauk	---	---	---	---	---	---	Moderate	Low	High

## Soil Features (NY)

Suffolk County, New York

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
Mu: Muck	---	---	---	---	---	---	High	---	---
PIB: Plymouth	---	---	---	---	---	---	Low	Low	High
PIC: Plymouth	---	---	---	---	---	---	Low	Low	High
PmB3: Plymouth, eroded	---	---	---	---	---	---	Low	Low	High
PmC3: Plymouth, eroded	---	---	---	---	---	---	Low	Low	High
PsA: Plymouth, silty substratum	---	---	---	---	---	---	Low	Low	High
PsB: Plymouth, silty substratum	---	---	---	---	---	---	Low	Low	High
Ra: Raynham, poorly drained	---	---	---	---	---	---	High	High	Moderate
Raynham, somewhat poorly drained	---	---	---	---	---	---	High	High	Moderate
RdA: Riverhead	---	---	---	---	---	---	Moderate	Low	High

## Soil Features (NY)

Suffolk County, New York

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <i>In</i>	Thickness <i>In</i>	Hardness	Initial <i>In</i>	Total <i>In</i>		Uncoated steel	Concrete
RdB: Riverhead	---	---	---	---	---	---	Moderate	Low	High
RdC: Riverhead	---	---	---	---	---	---	Moderate	Low	High
ReB: Riverhead, very stony	---	---	---	---	---	---	Low	Low	High
ReC: Riverhead, very stony	---	---	---	---	---	---	Low	Low	High
RhB: Riverhead, graded	---	---	---	---	---	---	Moderate	Low	High
Haven, graded	---	---	---	---	---	---	Moderate	Low	High
RpE: Riverhead, very bouldery	---	---	---	---	---	---	Low	Low	High
Plymouth, very bouldery	---	---	---	---	---	---	Low	Low	High
SdA: Scio, sandy substratum	---	---	---	---	---	---	High	Moderate	Moderate
Tm: Tidal marsh	---	---	---	---	---	---	High	---	---

# Water Features

Suffolk County, New York

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
<b>Bc:</b>										
Beaches	A	---	Jan-Dec			---	---	None	---	None
<b>Bd:</b>										
Berryland	B/D	---	January	0.0-0.5	>6.0	---	---	None	---	None
			February	0.0-0.5	>6.0	---	---	None	---	None
			March	0.0-0.5	>6.0	---	---	None	Long	Frequent
			April	0.0-0.5	>6.0	---	---	None	Long	Frequent
			May	0.0-0.5	>6.0	---	---	None	Long	Frequent
			June	0.0-0.5	>6.0	---	---	None	Long	Frequent
			October	0.0-0.5	>6.0	---	---	None	---	None
			November	0.0-0.5	>6.0	---	---	None	---	None
December	0.0-0.5	>6.0	---	---	None	---	None			
<b>BgA:</b>										
Bridgehampton	B	---	Jan-Dec			---	---	None	---	None
<b>BgB:</b>										
Bridgehampton	B	---	Jan-Dec			---	---	None	---	None
<b>CpC:</b>										
Carver	A	---	Jan-Dec			---	---	None	---	None
Plymouth, sand	A	---	Jan-Dec			---	---	None	---	None
<b>CpE:</b>										
Carver	A	---	Jan-Dec			---	---	None	---	None
Plymouth, sand	A	---	Jan-Dec			---	---	None	---	None



## Water Features

Suffolk County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
CuB: Cut and fill, gently sloping	B	---	Jan-Dec			---	---	None	---	None
CuE: Cut and fill, steep	B	---	Jan-Dec			---	---	None	---	None
De: Deerfield	B	---	January	1.5-3.0	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	1.5-3.0	>6.0	---	---	None	---	None
			April	1.5-3.0	>6.0	---	---	None	---	None
			December	1.5-3.0	>6.0	---	---	None	---	None
Du: Dune land	A	---	Jan-Dec			---	---	None	---	None
Es: Escarpments	A	---	Jan-Dec			---	---	None	---	None
Fd: Fill land, dredged material	A	---	Jan-Dec			---	---	None	---	None
Fs: Fill land, sandy	A	---	Jan-Dec			---	---	None	---	None
Gp: Pits, gravel	---	---	Jan-Dec			---	---	None	---	None
HaA: Haven	B	---	Jan-Dec			---	---	None	---	None

## Water Features

Suffolk County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
HaB: Haven	B	---	Jan-Dec			---	---	None	---	None
HaC: Haven	B	---	Jan-Dec			---	---	None	---	None
Ma: Made land	---	---	Jan-Dec			---	---	None	---	None
MfC: Montauk	C	---	January	1.3-3.0	1.5-3.1	---	---	None	---	None
			February	1.3-3.0	1.5-3.1	---	---	None	---	None
			March	1.3-3.0	1.5-3.1	---	---	None	---	None
			April	1.3-3.0	1.5-3.1	---	---	None	---	None
			May	1.3-3.0	1.5-3.1	---	---	None	---	None
			November	1.3-3.0	1.5-3.1	---	---	None	---	None
			December	1.3-3.0	1.5-3.1	---	---	None	---	None
Mu: Muck	D	---	January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			July	0.0-0.5	>6.0	---	---	None	---	None
			August	0.0-0.5	>6.0	---	---	None	---	None
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None

## Water Features

Suffolk County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
PIB: Plymouth	A	---	Jan-Dec			---	---	None	---	None
PIC: Plymouth	A	---	Jan-Dec			---	---	None	---	None
PmB3: Plymouth, eroded	A	---	Jan-Dec			---	---	None	---	None
PmC3: Plymouth, eroded	A	---	Jan-Dec			---	---	None	---	None
PsA: Plymouth, silty substratum	A	---	Jan-Dec			---	---	None	---	None
PsB: Plymouth, silty substratum	A	---	Jan-Dec			---	---	None	---	None
Ra: Raynham, poorly drained	C	---	January	0.5-1.0	>6.0	---	---	None	---	None
			February	0.5-1.0	>6.0	---	---	None	---	None
			March	0.5-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	0.5-1.0	>6.0	---	---	None	---	None
			November	0.5-1.0	>6.0	---	---	None	---	None
			December	0.5-1.0	>6.0	---	---	None	---	None

## Water Features

Suffolk County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
Ra:										
Raynham, somewhat poorly drained	C	---	January	0.5-1.5	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	0.5-1.5	>6.0	---	---	None	---	None
			May	0.5-1.5	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.5-1.5	>6.0	---	---	None	---	None
RdA:										
Riverhead	B	---	Jan-Dec			---	---	None	---	None
RdB:										
Riverhead	B	---	Jan-Dec			---	---	None	---	None
RdC:										
Riverhead	B	---	Jan-Dec			---	---	None	---	None
ReB:										
Riverhead, very stony	A	---	Jan-Dec			---	---	None	---	None
ReC:										
Riverhead, very stony	A	---	Jan-Dec			---	---	None	---	None
RhB:										
Riverhead, graded	B	---	Jan-Dec			---	---	None	---	None
Haven, graded	B	---	Jan-Dec			---	---	None	---	None
RpE:										
Riverhead, very bouldery	A	---	Jan-Dec			---	---	None	---	None

## Water Features

Suffolk County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
RpE:										
Plymouth, very bouldery	A	---	Jan-Dec			---	---	None	---	None
SdA:										
Scio, sandy substratum	B	---	March	1.5-2.0	>6.0	---	---	None	---	None
			April	1.5-2.0	>6.0	---	---	None	---	None
			May	1.5-2.0	>6.0	---	---	None	---	None
Tm:										
Tidal marsh	D	---	January	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			February	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			March	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			April	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			May	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			June	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			July	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			August	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			September	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			October	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			November	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			December	0.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent

# Ponds and Embankments

Suffolk County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>Bc:</b>							
Beaches	100	Not rated		Not rated		Not rated	
<b>Bd:</b>							
Berryland	80	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Cutbanks cave	1.00
<b>BgA:</b>							
Bridgehampton	80	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited Depth to water	1.00
<b>BgB:</b>							
Bridgehampton	80	Very limited Seepage Slope	1.00 0.08	Very limited Piping	1.00	Very limited Depth to water	1.00
<b>CpC:</b>							
Carver	40	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Plymouth, sand	40	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>CpE:</b>							
Carver	40	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Plymouth, sand	40	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>CuB:</b>							
Cut and fill, gently sloping	80	Not rated		Not rated		Not rated	
<b>CuE:</b>							
Cut and fill, steep	70	Not rated		Not rated		Not rated	

# Ponds and Embankments

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
De:							
Deerfield	85	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Cutbanks cave	1.00
				Depth to saturated zone	0.95	Depth to saturated zone	0.02
Du:							
Dune land	90	Not rated		Not rated		Not rated	
Es:							
Escarpments	100	Not rated		Not rated		Not rated	
Fd:							
Fill land, dredged material	95	Not rated		Not rated		Not rated	
Fs:							
Fill land, sandy	75	Not rated		Not rated		Not rated	
Gp:							
Pits, gravel	100	Not rated		Not rated		Not rated	
HaA:							
Haven	75	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
HaB:							
Haven	80	Very limited Seepage Slope	1.00 0.08	Very limited Seepage	1.00	Very limited Depth to water	1.00
HaC:							
Haven	80	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Ma:							
Made land	100	Not rated		Not rated		Not rated	
MfC:							
Montauk	85	Very limited Slope Seepage	1.00 1.00	Somewhat limited Depth to saturated zone	0.97	Very limited Depth to water	1.00

# Ponds and Embankments

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>Mu:</b>							
Muck	90	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00	Very limited Cutbanks cave	1.00
<b>PIB:</b>							
Plymouth	80	Very limited Seepage Slope	1.00 0.68	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>PIC:</b>							
Plymouth	85	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>PmB3:</b>							
Plymouth, eroded	80	Very limited Seepage Slope	1.00 0.68	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>PmC3:</b>							
Plymouth, eroded	90	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
<b>PsA:</b>							
Plymouth, silty substratum	80	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
<b>PsB:</b>							
Plymouth, silty substratum	80	Very limited Seepage Slope	1.00 0.68	Not limited		Very limited Depth to water	1.00
<b>Ra:</b>							
Raynham, poorly drained	50	Somewhat limited Seepage	0.53	Very limited Depth to saturated zone Piping	1.00 1.00	Somewhat limited Cutbanks cave Slow refill	0.50 0.47



# Ponds and Embankments

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>Ra:</b>							
Raynham, somewhat poorly drained	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Depth to saturated zone	1.00	Cutbanks cave	0.50
				Piping	1.00	Slow refill	0.47
<b>RdA:</b>							
Riverhead	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
<b>RdB:</b>							
Riverhead	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.68				
<b>RdC:</b>							
Riverhead	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00				
<b>ReB:</b>							
Riverhead, very stony	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.68				
<b>ReC:</b>							
Riverhead, very stony	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00				
<b>RhB:</b>							
Riverhead, graded	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.08				
<b>Haven, graded</b>							
	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.08				
<b>RpE:</b>							
Riverhead, very bouldery	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00				

# Ponds and Embankments

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RpE:							
Plymouth, very bouldery	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00				
SdA:							
Scio, sandy substratum	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
Tm:							
Tidal marsh	95	Not rated		Not rated		Not rated	

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Suffolk County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>Bc:</b>							
Beaches	100	Not rated		Not rated		Not rated	
<b>Bd:</b>							
Berryland	80	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Unstable excavation walls	1.00		
				Flooding	0.80		
<b>BgA:</b>							
Bridgehampton	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Unstable excavation walls	1.00		
<b>BgB:</b>							
Bridgehampton	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Unstable excavation walls	1.00		
<b>CpC:</b>							
Carver	40	Somewhat limited		Very limited		Not rated	
		Slope	0.04	Unstable excavation walls	1.00		
				Slope	0.04		
Plymouth, sand	40	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Unstable excavation walls	1.00	Droughty	1.00
				Slope	0.04	Too sandy	0.50
						Slope	0.04
<b>CpE:</b>							
Carver	40	Very limited		Very limited		Not rated	
		Too steep	1.00	Too steep	1.00		
				Unstable excavation walls	1.00		
Plymouth, sand	40	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
				Unstable excavation walls	1.00	Droughty	1.00
						Too sandy	0.50

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CuB:							
Cut and fill, gently sloping	80	Not rated		Not rated		Not rated	
CuE:							
Cut and fill, steep	70	Not rated		Not rated		Not rated	
De:							
Deerfield	85	Somewhat limited		Very limited		Not rated	
		Frost action	0.50	Depth to saturated zone	1.00		
		Depth to saturated zone	0.03	Unstable excavation walls	1.00		
Du:							
Dune land	90	Not rated		Not rated		Not rated	
Es:							
Escarpments	100	Not rated		Not rated		Not rated	
Fd:							
Fill land, dredged material	95	Not rated		Not rated		Not rated	
Fs:							
Fill land, sandy	75	Not rated		Not rated		Not rated	
Gp:							
Pits, gravel	100	Not rated		Not rated		Not rated	
HaA:							
Haven	75	Somewhat limited		Very limited		Not rated	
		Frost action	0.50	Unstable excavation walls	1.00		
HaB:							
Haven	80	Somewhat limited		Very limited		Not rated	
		Frost action	0.50	Unstable excavation walls	1.00		
HaC:							
Haven	80	Somewhat limited		Very limited		Not rated	
		Frost action	0.50	Unstable excavation walls	1.00		
		Slope	0.04	Slope	0.04		
Ma:							
Made land	100	Not rated		Not rated		Not rated	

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>MfC:</b>							
Montauk	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Unstable excavation walls	1.00	Droughty	0.35
		Depth to saturated zone	0.06	Slope	0.63	Depth to saturated zone	0.06
				Dense layer	0.50		
<b>Mu:</b>							
Muck	90	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Frost action	1.00	Unstable excavation walls	1.00		
				Organic matter content	1.00		
<b>PIB:</b>							
Plymouth	80	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00
<b>PIC:</b>							
Plymouth	85	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Unstable excavation walls	1.00	Droughty	1.00
				Slope	0.63	Slope	0.63
<b>PmB3:</b>							
Plymouth, eroded	80	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00
						Gravel	0.08
<b>PmC3:</b>							
Plymouth, eroded	90	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Unstable excavation walls	1.00	Droughty	1.00
				Slope	0.63	Slope	0.63
						Gravel	0.08
<b>PsA:</b>							
Plymouth, silty substratum	80	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PsB:							
Plymouth, silty substratum	80	Not limited		Very limited Unstable excavation walls	1.00	Very limited Droughty	1.00
Ra:							
Raynham, poorly drained	50	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Not rated	
Raynham, somewhat poorly drained	35	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Unstable excavation walls	1.00 0.10	Not rated	
RdA:							
Riverhead	80	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
RdB:							
Riverhead	80	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
RdC:							
Riverhead	80	Somewhat limited Slope Frost action	0.63 0.50	Very limited Unstable excavation walls Slope	1.00 0.63	Somewhat limited Slope	0.63
ReB:							
Riverhead, very stony	90	Not limited		Very limited Unstable excavation walls	1.00	Not limited	
ReC:							
Riverhead, very stony	85	Somewhat limited Slope	0.63	Very limited Unstable excavation walls Slope	1.00 0.63	Somewhat limited Slope	0.63

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
<b>RhB:</b>							
Riverhead, graded	45	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
Haven, graded	35	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
<b>RpE:</b>							
Riverhead, very bouldery	50	Very limited Too steep	1.00	Very limited Too steep Unstable excavation walls	1.00 1.00	Very limited Too steep	1.00
Plymouth, very bouldery	40	Very limited Too steep	1.00	Very limited Too steep Unstable excavation walls	1.00 1.00	Very limited Too steep Droughty	1.00 1.00
<b>SdA:</b>							
Scio, sandy substratum	85	Very limited Frost action Depth to saturated zone	1.00 0.43	Very limited Depth to saturated zone Unstable excavation walls	1.00 1.00	Not rated	
<b>Tm:</b>							
Tidal marsh	95	Not rated		Not rated		Not rated	

## Selected Soil Interpretations

Suffolk County, New York

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The table shows only the top five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

\*This soil interpretation was designed as a "limitation" as opposed to a "potential" or "suitability". The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the potential limitation.

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*				
		Rating class and limiting features	Value			

Bc: Beaches	100	Not rated			
Bd: Berryland	80	Most limited Depth to saturation Excessive permeability	1.00 0.50		
BgA: Bridgehampton	80	Somewhat limited Excessive permeability Excessive fines	0.50 0.50		
BgB: Bridgehampton	80	Somewhat limited Excessive permeability Excessive fines	0.50 0.50		
CpC: Carver	40	Most limited Excessive permeability Slope	1.00 0.50		
Plymouth, sand	40	Most limited Excessive permeability Slope	1.00 0.50		
CpE: Carver	40	Most limited Excessive permeability Slope	1.00 1.00		



## Selected Soil Interpretations

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*					
		Rating class and limiting features	Value				
<b>CpE:</b>							
Plymouth, sand	40	Most limited					
		Excessive permeability	1.00				
		Slope	1.00				
<b>CuB:</b>							
Cut and fill, gently sloping	80	Not rated					
<b>CuE:</b>							
Cut and fill, steep	70	Not rated					
<b>De:</b>							
Deerfield	85	Most limited					
		Depth to saturation	1.00				
		Excessive permeability	0.50				
<b>Du:</b>							
Dune land	90	Not rated					
<b>Es:</b>							
Escarpments	100	Not rated					
<b>Fd:</b>							
Fill land, dredged material	95	Not rated					
<b>Fs:</b>							
Fill land, sandy	75	Not rated					
<b>Gp:</b>							
Pits, gravel	100	Not rated					
<b>HaA:</b>							
Haven	75	Most limited					
		Excessive permeability	1.00				

## Selected Soil Interpretations

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*				
		Rating class and limiting features	Value			
<b>HaB:</b>						
Haven	80	Most limited				
		Excessive permeability	1.00			
<b>HaC:</b>						
Haven	80	Most limited				
		Excessive permeability	1.00			
		Slope	0.50			
<b>Ma:</b>						
Made land	100	Not rated				
<b>MfC:</b>						
Montauk	85	Most limited				
		Depth to saturation	1.00			
		Excessive fines	0.50			
		Slope	0.50			
		Low permeability	0.50			
<b>Mu:</b>						
Muck	90	Most limited				
		Excessive permeability	1.00			
		Depth to saturation	1.00			
<b>PIB:</b>						
Plymouth	80	Most limited				
		Excessive permeability	1.00			
<b>PIC:</b>						
Plymouth	85	Most limited				
		Excessive permeability	1.00			
		Slope	0.50			
<b>PmB3:</b>						
Plymouth, eroded	80	Most limited				
		Excessive permeability	1.00			

## Selected Soil Interpretations

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*				
		Rating class and limiting features	Value			
<b>PmC3:</b>						
Plymouth, eroded	90	Most limited				
		Excessive permeability	1.00			
		Slope	0.50			
<b>PsA:</b>						
Plymouth, silty substratum	80	Most limited				
		Excessive permeability	1.00			
		Excessive fines	0.50			
<b>PsB:</b>						
Plymouth, silty substratum	80	Most limited				
		Excessive permeability	1.00			
		Excessive fines	0.50			
<b>Ra:</b>						
Raynham, poorly drained	50	Most limited				
		Excessive fines	1.00			
		Depth to saturation	1.00			
		Low permeability	1.00			
Raynham, somewhat poorly drained	35	Most limited				
		Excessive fines	1.00			
		Depth to saturation	1.00			
		Low permeability	1.00			
<b>RdA:</b>						
Riverhead	80	Most limited				
		Excessive permeability	1.00			
<b>RdB:</b>						
Riverhead	80	Most limited				
		Excessive permeability	1.00			
<b>RdC:</b>						
Riverhead	80	Most limited				
		Excessive permeability	1.00			
		Slope	0.50			

## Selected Soil Interpretations

Suffolk County, New York

Map symbol and soil name	Pct. of map unit	ENG - Storm Water Management / Infiltration (NY)*					
		Rating class and limiting features	Value				
<b>ReB:</b>							
Riverhead, very stony	90	Most limited Excessive permeability	1.00				
<b>ReC:</b>							
Riverhead, very stony	85	Most limited Excessive permeability Slope	1.00 0.50				
<b>RhB:</b>							
Riverhead, graded	45	Most limited Excessive permeability	1.00				
Haven, graded	35	Most limited Excessive permeability	1.00				
<b>RpE:</b>							
Riverhead, very bouldery	50	Most limited Excessive permeability Slope	1.00 1.00				
Plymouth, very bouldery	40	Most limited Excessive permeability Slope	1.00 1.00				
<b>SdA:</b>							
Scio, sandy substratum	85	Most limited Excessive permeability Depth to saturation	1.00 1.00				
<b>Tm:</b>							
Tidal marsh	95	Most limited Depth to saturation	1.00				

# **RHODE ISLAND COMPLETE**

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# Map Unit Text

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[Only those mapunits that have entries for the selected text kinds and categories are included in this report]

**Map unit:** QoC - Quonset gravelly sandy loam, rolling

**Text kind/Category:** Nontechnical description/SOI

*Quonset Gravelly Sandy Loam, Rolling*

*This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 44 to 50 inches (1118 to 1270 millimeters) and the average annual air temperature is 49 to 50 degrees F. (9 to 10 degrees C.) This map unit is 90 percent Quonset soils. 10 percent minor components.*

*Quonset soils*

*This component occurs on terrace, outwash plain, kame, esker landforms. The parent material consists of glaciofluvial deposits. The slope ranges from 3 to 15 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is excessively drained. The slowest permeability within 60 inches is about 2.00 in/hr (moderately rapid), with about 1.9 inches (very low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The Nonirrigated Land Capability Class is 4s*

**Map unit:** Ur - Urban land

**Text kind/Category:** Nontechnical description/SOI

*Urban Land*

*This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 44 to 50 inches (1118 to 1270 millimeters) and the average annual air temperature is 49 to 50 degrees F. (9 to 10 degrees C.) This map unit is 85 percent Urban Land. 15 percent minor components.*

*Urban Land*

*Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 1 to 10 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8*

## Physical Soil Properties

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
QoC:														
Quonset	0-3	---	---	2-7	1.20-1.30	14.11-141.14	0.04-0.13	0.0-2.9	2.0-7.0	.17	.24	3	5	56
	3-16	---	---	1-4	1.40-1.50	14.11-141.14	0.04-0.07	0.0-2.9	0.5-2.0	.17	.28			
	16-60	---	---	0-2	1.40-1.50	141.14-705.00	0.01-0.03	0.0-2.9	0.0-0.5	.10	.20			
Ur:														
Urban land	---	---	---	---	---	---	---	---	---	---	---	---	8	0



# Engineering Properties

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
QoC: Quonset	0-3	Gravelly sandy loam	SM, SP-SM	A-1, A-2, A-3, A-4	0	0-5	40-75	35-70	20-60	5-40	0-35	NP
	3-16	Channery loamy sand, channery loamy sand, gravelly loamy sand	SM, SP-SM	A-1	0	0-5	45-75	40-75	20-50	5-20	0-21	NP
	16-60	Stratified very channery coarse sand to very channery sand	GP, GP-GM, SP, SP-SM	A-1	0	0-5	20-70	10-60	5-45	0-10	0-14	NP
Ur: Urban land	---	---	---	---	---	---	---	---	---	---	---	---

# Soil Features

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
QoC:									
Quonset	---	---	---	---	---	---	Low	Low	High
Ur:									
Urban land	---	---	---	---	---	---	---	---	---

## Water Features

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Hydrologic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency

*Ft*

*Ft*

*Ft*

QoC:

Quonset	A	Very low	Jan-Dec					None		None
---------	---	----------	---------	--	--	--	--	------	--	------

Ur:

Urban land	---	Very high	Jan-Dec					None		None
------------	-----	-----------	---------	--	--	--	--	------	--	------

# Ponds and Embankments

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
QoC:							
Quonset	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Depth to water	1.00
Ur:							
Urban land	85	Not limited		Not rated		Not rated	

# Roads and Streets, Shallow Excavations, and Lawns and Landscaping

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value

QoC:

Quonset	90	Not limited		Very limited			
				Cutbanks cave	1.00		

Ur:

Urban land	85	Not rated		Not rated			
------------	----	-----------	--	-----------	--	--	--

# Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations. This report shows only the major soils in each map unit]

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
QoC:					
Quonset	90	Very limited		Very limited	
		Filtering capacity	1.00	Droughty	1.00
		Droughty	1.00	Filtering capacity	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.45		
Ur:					
Urban land	85	Not rated		Not rated	

## **APPENDIX B. CULTURAL RESOURCES**

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## Cultural Resources On site or Within One-Half Mile from Shore

Site ID	State	Town	Site Name	Eligible and Listed Historic Sites and Buildings	Eligible and Listed Historic Districts and Parks	Terrestrial Archaeological Sites	Marine Archaeological Sites
323	CT	Bridgeport	Seaside Beach		Y		Y
433	CT	Fairfield	Southport Beach		Y		
434	CT	Fairfield	Sasco Hill Beach				Y
436	CT	Fairfield	Jennings Beach				
443	CT	Guilford	Guilford Point Beach				
365	CT	Madison	Hammonasset State Park				
457	CT	Madison	East Wharf Beach				
364	CT	Milford	Silver Sands State Park				
444	CT	Milford	Gulf Beach				Y
451	CT	Milford	Woodmont Shore Beach				
337	CT	New Haven	Lighthouse Point Park Beach	Y			Y
320	CT	Norwalk	Calf Pasture Beach				Y
441	CT	Stamford	Cove Island Beach	Y			Y
442	CT	Stamford	Cummings Park Beach				Y
450	CT	Stratford	Short Beach				
447	CT	West Haven	Prospect Beach				
438	CT	Westport	Burial Hill Beach				
440	CT	Westport	Compo Beach		Y		Y
449	CT	Westport	Sherwood Island State Park		Y		
181	NY	Bronx	Orchard Beach	Y			Y
453	NY	East Hampton	Lake Montauk Harbor				Y
63	NY	Huntington	Asharoken Beach				Y
456	NY	Oyster Bay	Bayville				Y
454 East	NY	Southold	Hashamomuck Cove - County Road 48				
454 West	NY	Southold	Hashamomuck Cove - Kenney's Beach				
384	RI	Westerly	Misquamicut State Beach				Y
455 / 82	NY	Mattituck	Mattituck Harbor 111 / Bailie's Beach				
367	CT	East Lyme	Rocky Neck State Park	Y			
368	CT	Groton	Bluff Point State Park				Y
171	NY	Wading River	Wildwood State Park	Y	Y		
173	NY	East Hampton	Hither Hills State Park				
177	NY	East Hampton	Shadmoor State Park	Y			
178	NY	East Hampton	Camp Hero State Park	Y			
179	NY	East Hampton	Montauk Point State Park			Y	Y
170	NY	Kings Park	Sunken Meadow State Park	Y	Y		
180	NY	Orient	Orient Beach State Park				Y
445	NY	Riverhead	Jamesport State Park		Y		Y
446	NY	East Hampton	Theodore Roosevelt County Park				Y
343	CT	Clinton	Clinton Town Beach				
474	CT	Fairfield	South Pine Creek Beach				
339	CT	Guilford	Jacobs Beach		Y		
470	CT	Guilford	Chaffinch Island Park				
459	CT	New Haven	Fort Nathan Hale Park		Y		
348	CT	Old Lyme	White Sands Beach				Y
480	CT	Stonington	duBois Beach	Y	Y		Y
467	CT	Stratford	Long Beach				Y
468	CT	Stratford	Russian Beach				
325	CT	West Haven	Altschuler Beach				
327	CT	West Haven	Bradley Point Park				
329	CT	West Haven	Morse Beach				
330	CT	West Haven	Oak Street Beach				
331	CT	West Haven	Peck Beach				
332	CT	West Haven	Sandy Point				Y
333	CT	West Haven	Savin Rock				
344	CT	Westbrook	Middle Beach				Y
345	CT	Westbrook	West Beach				
121	NY	East Hampton	Gin Beach				Y
64	NY	Huntington	Hobart Beach				Y
67	NY	Huntington	Crescent Beach (Huntington)				
68	NY	Huntington	Gold Star Battalion Beach		Y		Y
81	NY	Mattituck	Breakwater Park Beach				
111	NY	Shelter Island	Crescent Beach (Shelter Island)				
76	NY	Southold	Southold Town Beach				
79	NY	Southold	Gull Pond Beach (Norman E. Klipp Park)				
381	RI	Westerly	Watch Hill Beach	Y	Y		
382	RI	Westerly	Napatree Point Beach		Y		Y
427	NY	Brooklyn	Plumb Beach				
430	NY	Brooklyn	White Island				
431	NY	Brooklyn	Gerritsen Creek				
429	NY	Jamaica Bay	Jamaica Bay Marsh Islands				
251	CT	Manchester	Manchester Landfill				
272	CT	Windsor	Windsor-Bloomfield Landfill				
61	NY	Brookhaven	Town of Brookhaven Landfill				
60	NY	Islip	Blydenburgh Road Landfill Complex				
59	NY	Melville	110 Sand Company Clean Fill Disposal Site				
422 / 423	NY	Flushing	Flushing Airport Wetlands / Flushing Airport Uplands				
437	NY	Southold	Plum Island	Y			Y
417	PA	Hazleton	Hazleton Mines				
CT-49 / 373	CT	Hartford	CRRA Hartford Landfill				
CT-41	CT	Ansonia	Ansonia Target Store				
CT-50	CT	East Hartford	Goodwin College				
CT-8	CT	Fairfield	Fairfield Public Works Site				
CT-30-A	CT	Hamden & North Haven	North Haven Tire Pond Site				
CT-28	CT	New Haven	Anastasio Trucking Site				
CT-54	CT	Norwich	P&W Railroad Co. Site				
CT-35	CT	Stonington	Osbrook Point Agricultural Fields	Y			
NY-5-A	NY	Huntington	Northport Boat Ramp and Fields				Y
NY-5-B	NY	Huntington	Northport Power Station				Y
NY-18	NY	Bronx	Barry St. Industrial Site				
NY-28	NY	Brookhaven	Shoreham Power Station				
NY-7-A	NY	Glen Cove	Garvies Pt. Remediation Site				Y
NY-1	NY	Mattituck	Mattituck Agricultural Fields				Y
NY-10	NY	North Hempstead	Port Washington Landfill				Y
NY-29	NY	North Hempstead	North Hempstead Aerodrome				Y
NY-8	NY	North Hempstead	Glen Cove Industrial Site				Y
NY-3	NY	Northville	Northville Agricultural Fields		Y		Y
NY-16-B	NY	Queens	Queens Parking Garage				
RI-4-C	RI	North Kingstown	Quonset Point South				
RI-5	RI	North Kingstown	Quonset Point North				

## **APPENDIX C. FIELD DATA SHEETS AND SITE OPERATOR INTERVIEWS**

**(Refer to Table 2 in Main Text for Site Organization)**

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**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 323- SEASIDE BEACH

Site Address: 350 WALDEMERE AVE  
BRIDGETFORD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 4:00 6/22/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Large public beach w/ upland recreation areas

Surrounding land use: Commercial, residential, marina on canal behind beach

Sediment description: Well-sorted medium-grained sand w/ lots of shell hash

Sediment sample number(s): \_\_\_\_\_

**Resource Areas/Types:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach | <input checked="" type="checkbox"/> Fringing marsh |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh                |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal          |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore    |
| <input type="checkbox"/> Other: _____     |  |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

Shore protection structures: Rip rap revetment near terminal; walking path at landward edge of beach

Erosion: No signs of erosion Stone seawall w/ rip rap in front is between sidewalk & beach

Beach slope: Very flat

Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

## Road access

Name: Barnum Rd - W Beach; Soundview Rd. - E End

Primary/secondary road: Secondary

Description: 2-lanes

## Staging area

Parking area(s): Parallel parking on E End; face in parking W end (perpendicular to beach)

Surface type: asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: LIS

Offshore description E end of beach inside breakwater of Bridgeport Harbor

Mooring field: NA

Navigation channel: Bridgeport Harbor - E-end

**Other Notes or Observations**

E end - small dune in back corner of beach; beach grass; closer to tombola where breakwater connects, the beach becomes rocky; tombola is sandy

Point at tombola is rocky w/ little to no beach; seawall w/ rip rap continues around point to volleyball courts - beach in front of seawall is narrow with medium-sand

At volleyball courts beach is very flat; large tidal flats here too; volleyball court area is backed by sidewalk = 0.5 ft higher than beach - seawall E of volleyball courts has collapsed (under repair)

W end - beach terminates in stone jetty - with fringing marsh and lighthouse  
W end beach has wide berm (80-100'); beach is about 2-3' below top of seawall

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 433 - SOUTHPORT BEACH

Site Address: 1505 PEQUOT AVE  
FAIRFIELD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 3:04 6/22/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Small public beach w/ large low tide flat

Surrounding land use: Private residential properties w/ tidal creek system behind

Sediment description: Poorly-sorted coarse-grained sand

Sediment sample number(s): 433 Southport Beach

Resource Areas/Types:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach              | <input checked="" type="checkbox"/> Fringing marsh along sides of groin |
| <input type="checkbox"/> Dune                          | <input type="checkbox"/> Salt marsh                                     |
| <input type="checkbox"/> Barrier Beach                 | <input type="checkbox"/> Rocky intertidal                               |
| <input type="checkbox"/> Bluff                         | <input type="checkbox"/> Rock outcrops offshore                         |
| <input type="checkbox"/> Other: <u>intertidal flat</u> |   |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input type="checkbox"/> Spartina patens                  | <input type="checkbox"/> Bayberry              |
| <input checked="" type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)                  | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites                       | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____                     |  |

Number of site photos: \_\_\_\_\_

433-2

1/2 esp revtment along road at W end of beach  
on W side of tidal channel; stone sea wall  
E of tidal channel to bathhouses

**Shoreline Characteristics**

Shore protection structures: Stone groin <sup>barrier to transport</sup> near W end of beach; <sup>low relief stone revtment</sup> at E end of beach;

Erosion: None evident

Beach slope: berm <sup>40-50</sup> ft wide; foreshore slope moderately steep; to flat intertidal area

Width of Fill/Starting Point: Berm crest seaward

**Site Access**

Road access

Name: Pequot Ave.

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Along roadway only

Surface type: asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: NA

Navigation channel: NA

**Other Notes or Observations**

beach is groomed

Stone seawall collapsed in places; foundation of both houses exposed  
W of groin the beach pinches out at the tidal channel; seaward of the beach there is large flat covered w/ S. Atrichia

Beach E of groin is offset seaward of beach/marsh to W - also higher on the E (flush with top of groin)

Ulva, mud snails, oysters, crepidula, mussels, razor clams, quahogs, barnacles

E end of beach terminates in stone seawall/solid stone groin - barrier to transport

transport direction E → W

Tidal wetland across road; lots of phragmites; rosa rugosa, yarrow.

collected sample of shell

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 434- SASCO HILL BEACH

Site Address: 1401 SASCO HILL RD  
FAIRFIELD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-22-10 14:18

Personnel present: MLF, HC

**Site Specific Data**

General site description: Public Beach with golf course, residences bordering

Surrounding land use: Residential, GOLF course, club house, beach club  
Country Club of Fairfield

Sediment description: Poorly sorted medium to coarse grained sand

Sediment sample number(s): \_\_\_\_\_

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                               | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune <u>small dune on west side</u> | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                                  | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff  | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                                   |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry  |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) <u>on dune @ west side</u> |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa   |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



43A-2

### Shoreline Characteristics

- Shore protection structures: Stone groin on west side
- Erosion: Not evident
- Beach slope: Moderately sloping seaward of berm
- Width of Fill/Starting Point: Edge of berm, 75' seaward of parking lot

### Site Access

#### Road access

Name: Sasco Hill Rd.

Primary/secondary road: Secondary

Description: Paved road winding through residential neighborhood.

#### Staging area

Parking area(s): Yes. Narrow. Row of cars on beach side. approx. 30' wide runs length of public beach.

Surface type: Paved

Storm drains/catch basins: Storm drain between parking lot & golf course  $\approx$  100' from parking lot gate house.

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: US; Southport Harbor Channel entrance to west

#### Offshore description

Mooring field: No

Navigation channel: West of adjacent parcel - recently dredged + material placed on Sasco Hill beach.

### Other Notes or Observations

nourishment - 4-5 yrs ago - 72500 cy; material dredged from channel entrance to the west, sand was trucked to Sasco Hill.

Beach has a 100' berm running from parking lot to foreshore. Slopes relatively steeply to tidal flat. Flat is rocky; ulva evident. Beach has shells of crepidula, oyster, various shellfish species.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 4360 - JENNINGS BEACH

Site Address: 880 S. BENSON RD  
FAIRFIELD

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-27-10 12:20

Personnel present: MLF, HC

**Site Specific Data**

General site description: Public Beach

Surrounding land use: Residential

Sediment description: Moderately sorted, medium to coarse grained sand.

Sediment sample number(s): 4360

- Resource Areas/Types:
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

- Dominant vegetation/location:
- |   |   |
|---|---|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input checked="" type="checkbox"/> Bayberry  |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) <span style="font-size: 2em;">}</span> <u>in dune at back of beach</u> |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar  |
| <input type="checkbox"/> <i>Phragmites</i>            | <input checked="" type="checkbox"/> <i>Rosa rugosa</i>  |
| <input type="checkbox"/> Other: _____                 |   |

Number of site photos: \_\_\_\_\_

436-2

### Shoreline Characteristics

- Shore protection structures: Jetty on northeast edge
- Erosion: Not evident
- Beach slope: Moderately steep
- Width of Fill/Starting Point: Berm edge

### Site Access

#### Road access

Name: South Benson Rd

Primary/secondary road: Secondary

Description: Paved, 2 lane rd.

#### Staging area

Parking area(s): Behind beach

Surface type: Paved

Storm drains/catch basins: None observed

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: LIS

#### Offshore description

Mooring field: No

Navigation channel: Ash creek to north of beach; LIS offshore, no moorings

### Other Notes or Observations

25 - 2700 cu d.M. being placed on beach now. Emergency dredging in Ash creek on north side necessitated placement. Wide berm  $\approx$  100' and expansive, vegetated dune between beach and parking lot. Dune is about 100' wide and runs the length of the beach.

Ongoing mechanical dredging on bank on north side of Ash creek - outside of parcel. Material is temporarily placed on beach/bank. Then trucked around by road to beach when dry. Currently dry material is in piles at edge of beach just north of boat dry storage racks.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 443 GUILFORD POINT BEACH

Site Address: NECK RD  
GUILFORD, CT

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/16/2010 10:35

Personnel present: MLF, JF

**Site Specific Data**

General site description: Open space area w/ wetlands and estuary system

Surrounding land use: Residential; wetland/estuary complex

Sediment description: Low tide terrace is rocky-gravel & silt/clay  
intertidal beach is moderately sorted coarse sand w/ gravel & shells

Sediment sample number(s): 443 - Guilford Point Beach

**Resource Areas/Types:**

- |  |   |
|--|---|
| <input type="checkbox"/> Beach         | <input checked="" type="checkbox"/> Fringing marsh - along W side of parcel |
| <input type="checkbox"/> Dune          | <input checked="" type="checkbox"/> Salt marsh - along E side of parcel     |
| <input type="checkbox"/> Barrier Beach | <input type="checkbox"/> Rocky intertidal                                   |
| <input type="checkbox"/> Bluff         | <input type="checkbox"/> Rock outcrops offshore                             |
| <input type="checkbox"/> Other: _____  |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                                |
| <input checked="" type="checkbox"/> <i>Spartina alterniflora</i> | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typa</i> (cattail)                   | <input type="checkbox"/> Cedar                                   |
| <input checked="" type="checkbox"/> <i>Phragmites</i>            | <input checked="" type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                            |  |

Number of site photos: \_\_\_\_\_

*old house  
at end of  
point - in dune  
opposite shoreline is  
marsh - rip rap revetment  
in front of marina*

443-2

### Shoreline Characteristics

- Shore protection structures: N/A
- Erosion: Locals indicate there has been long term erosion
- Beach slope: gentle slope on low tide terrace; moderate to steep on beach  
little to no berm present
- Width of Fill/Starting Point: ??

### Site Access

#### Road access

Name: Circle Beach Rd.  
Primary/secondary road: Secondary  
Description: 2 lane

#### Staging area

Parking area(s): N/A (only parking is at Madison town landing or end of)  
Surface type: At town landing - crushed gravel - on top of marsh plain  
Storm drains/catch basins: N/A  
Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: LIS | East River winds around parcel

#### Offshore description

Mooring field: N/A  
Navigation channel: Marked channel to East River

### Other Notes or Observations

Elevated upland area near center of site - no public access to this site by foot  
W side - flats → fringing marsh → beach → patchy dunes → upland → tidal  
(10-50' wide) (0-20' wide) (20' wide) (isolated) marsh  
Most of the area is open to shell fishing

Faith Macfadden / Cocostki

(1 860-667-0641)

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 365 HAMMONASSET STATE PARK

Site Address: BOSTON POST RD (ROUTE 1)  
MADISON, CT

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/16/2010 12:48

Personnel present: MLF, JF

**Site Specific Data**

General site description: Large State Park w/ beach, campgrounds,  
and upland recreation facilities

Surrounding land use: Open space

Sediment description: West Beach - moderately sorted - med-grained sand

Sediment sample number(s): 365 Hamonasset State Park

Resource Areas/Types:

- Beach
- Dune
- Barrier Beach
- Bluff
- Other: \_\_\_\_\_

- Fringing marsh
- Salt marsh *Behind beach*
- Rocky intertidal
- Rock outcrops offshore

*transport W → E*

Dominant vegetation/location:

- Spartina patens*
- Spartina alterniflora*
- Typha* (cattail)
- Phragmites*
- Other: \_\_\_\_\_

- Bayberry
- Amophila* (dune grass)
- Cedar
- Rosa rugosa*
- Pines*

*on dunes and edge of marsh*

Number of site photos: \_\_\_\_\_

365-2

### Shoreline Characteristics

Shore protection structures: Jetty at West; groin at E end

Erosion: Yes - West Beach

Beach slope: West Beach - steeply sloping to water

Width of Fill/Starting Point: \_\_\_\_\_

### Site Access

#### Road access

Name: Hammonasset Connector from I-95

Primary/secondary road: Secondary

Description: 4 lane

#### Staging area

Parking area(s): Extensive parking landward of beach

Surface type: Asphalt

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: LIS

#### Offshore description

Mooring field: N/A

Navigation channel: N/A

### Other Notes or Observations

West Beach - erosion along edge of boardwalk; beach slopes steeply to water; beach  $\approx 20'$  wide; dune landward of boardwalk

East Beach - Migs Pt: berm is  $\approx 75'$  wide; gently sloping; nearshore slopes moderately to water; groin is higher at its landward end; sand tight but doesn't extend to back edge of beach

beach East of groin transitions into rocky coast

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 457 EAST WHARF BEACH

Site Address: 122 MIDDLE BEACH RD  
MADISON, CT

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/16/2010 11:44

Personnel present: MLF, JF

Site Specific Data

General site description: Small municipal beach; Restroom facilities & pavillion

Surrounding land use: Residential

Sediment description: poorly-sorted coarse to med-grained sand w/ gravel

Sediment sample number(s): 457 East Wharf Beach

Resource Areas/Types:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh                    |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh                        |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal                  |
| <input type="checkbox"/> Bluff            | <input checked="" type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |  |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input checked="" type="checkbox"/> Bayberry                             |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) > on dune only |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                                     |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



457-2

**Shoreline Characteristics**

- Shore protection structures: Solid fill pier near center of beach
- Erosion: probably of S facing beach
- Beach slope: Moderate in nearshore;
- Width of Fill/Starting Point: berm seaward

**Site Access**

Road access

Name: Middle Beach Rd.  
 Primary/secondary road: Secondary  
 Description: 2-lane

Staging area

Parking area(s): Small parking lot landward of beach  
 Surface type: asphalt (landscaped area at center of parking lot)  
 Storm drains/catch basins: storm drain - empties on E side beach  
 Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: small mooring area off east beach  
 Navigation channel: \_\_\_\_\_

**Other Notes or Observations**

S beach { S facing beach - separated from E facing beach by solid fill pier and stone well - wall is  $\approx 1'$  above level of beach - S beach as natural rock outcrop at the center - berm is  $\approx 30'$  wide - gently sloping; foreshore slopes moderately to water; small dune between parking lot and beach - around pavillion area

E beach - sandier than S beach - slopes rather steeply from pavillion to water

private properties to E have seawalls about 10' above water - no beach

private properties to W have seawalls & timber groves - beaches are  $\approx 50'$  wide

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 304- SILVER SANDS STATE PARK

Site Address: EAST BROADWAY  
MILFORD

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-23-10 10:54

Personnel present: MLF/HL

Site Specific Data

General site description: State park, beach + recreation area

Surrounding land use: Residential + open space

Sediment description: Poorly sorted, fine grained sand with lots of shell material

Sediment sample number(s): \_\_\_\_\_

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                 | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune                             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Wetlands on parcel</u> |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens                     | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora               | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)                      | <input type="checkbox"/> Cedar                 |
| <input checked="" type="checkbox"/> Phragmites               | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>Ulva along wrack line</u> |  |

Number of site photos: \_\_\_\_\_

364-2

Shoreline Characteristics

- Shore protection structures: Northeast edge has stone groin. Two in middle are stone
- Erosion: No
- Beach slope: Moderate
- Width of Fill/Starting Point: Seaward edge of berm

Site Access

Road access

- Name: Silver Sands Park Rd
- Primary/secondary road: Secondary
- Description: Paved

Staging area

- Parking area(s): 2 at northeast end of parcel - 1 paved, 1 grass. Potential staging area
- Surface type: On far northeast corner of parcel, currently is parking. Park office/trailer, and outhouses. This is mostly mowed grass, but has some asphalt near entrance off Silver Sands Park Rd.
- Storm drains/catch basins: \_\_\_\_\_
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: LIS

Offshore description

- Mooring field: No
- Navigation channel: No

Other Notes or Observations

Beach on northeast side has  $\approx 100'$  berm extending seaward from boardwalk. Dune in back of boardwalk is elevated  $\approx 10'$  and vegetated with *Amophila*. Beach slopes gradually from berm. Piping plover enclosures evident on beach. Elevated boardwalk leads from parking lot to beach. Plans for extending the boardwalk along beach (1 rd). Piles have been driven but construction halted due to bird nesting season. Beach has a sandbar extending to Charles Island, bar exposed all the way out during low tide. Sediment transport east  $\rightarrow$  west in this area. Mid-section of beach has dune immediately inshore of beach (no boardwalk in this area - plans to build one).

Mark Paine  
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 (203) 937-3661  
 DPW 3661

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 444 - GULF BEACH

Site Address: 501 GULF ST.  
MILFORD

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6/23/10 10:20

Personnel present: MLF/HC

**Site Specific Data**

General site description: Barrier beach adjacent to water - Sound & Gulf Pond

Surrounding land use: Commercial (marina etc) to NW; private residential to SW

Sediment description: Poorly-sorted medium-grained sand

Sediment sample number(s): 444 - Gulf Beach

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach         | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune          | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                    | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____             |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

444-2

**Shoreline Characteristics**

- Shore protection structures: jetty forms back side of beach to NW  
NW end also has a rip rap groin; dismantled groin near SE end
- Erosion: Not evident
- Beach slope: Very flat; gently sloping foreshore
- Width of Fill/Starting Point: top of dunes out

**Site Access**

Road access

Name: Gulf St.

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Parking along road & 1/2 lot at SE end

Surface type: Asphalt

Storm drains/catch basins: yes - catch basins

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: NA

Navigation channel: entrance to Milford Harbor

**Other Notes or Observations**

Beach w/  $\approx$  50' wide berm - graded to flat slope; foreshore slopes moderately to water; low-lying dunes between beach & parking area; dunes are segmented & vegetated w/ beach grass, rosa rugosa, bayberry

landward side of beach at SE end has a concrete jersey-barrier like seawall; parking lot behind seawall; fishing pier marks SE end of beach

Transport SE  $\rightarrow$  NW

Gulf Pond behind beach has large salt marsh adjacent to edges; *S. petens* & *altisflora*

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 451- WOODMONT SHORE BEACH

Site Address: BEACH AVE  
MILFORD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-23-10 09:30

Personnel present: MLF, HC

**Site Specific Data**

General site description: Public beach across road from playing field, located north of Pond Point on LIS

Surrounding land use: Residential; lot across street is playing field / tennis / playground. (Municipal)

Sediment description: Poorly sorted medium-coarse grained sand,

Sediment sample number(s): \_\_\_\_\_

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens   | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora   | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)   | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites  | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>weedy species on bank, along with planted roses</u> |  |

Number of site photos: \_\_\_\_\_

451-2

Shoreline Characteristics

- Shore protection structures: Groin at north/east edge, solid cement groin at south/west side
- Erosion: Not severe but sed transport is SW → NE as indicated by material building up on south sides of groins
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm, ≈ 75' from road

Site Access

Road access

Name: Beach Ave

Primary/secondary road: Secondary

Description: Paved

Staging area

Parking area(s): Not at beach itself; small lot for ≈ 12 cars on Wall St ≈ 100 yd up from beach.

Surface type: Paved

Storm drains/catch basins: 3 on road just inshore of beach

Approximate size: Possible staging if close off small portion of road adjacent to beach (small 2-lane paved road)

Shore access

Waterway name: LIS. No major navigation channel nearby.

Offshore description

Mooring field: No

Navigation channel: No

Other Notes or Observations

On northeast side → Beach has a low-lying bank between sidewalk + beach. Bank has loosely placed stone rip-rap, and some vegetation (rambling voss, weedy species). Berm is moderately sloped, approx. 75' wide. Beach slope is moderate. Sand on beach is near height of stone groin on northeast side; much lower on parcel at other side, indicating sediment transport to northeast. Cement groin on southwest side has openings at the bottom that could be sand gates. Water flows through these.

On southwest side, there is a bank with more regularly placed stone at interface between sidewalk and beach.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 337- LIGHTHOUSE POINT PARK BEACH

Site Address: 21 LIGHTHOUSE RD  
NEW HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-25-10 09:10

Personnel present: MLF, HC

**Site Specific Data**

General site description: Public beach + recreation area. Main beach runs east-west.  
Secondarily, small sandy area runs north-south on parcel near lighthouse.

Surrounding land use: Residential, Wetland to southeast of parcel  
Parcel itself is large, and includes open space inland of beach

Sediment description: Well sorted medium-grained sand with some gravel,  
Slightly reddish in color.

Sediment sample number(s): 337

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input checked="" type="checkbox"/> Salt marsh  |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens                                       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora                                 | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)                                       | <input type="checkbox"/> Cedar                 |
| <input checked="" type="checkbox"/> Phragmites <u>in wetland + small stand</u> | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>on north-south facing beach</u>             |  |

Number of site photos: \_\_\_\_\_



**Shoreline Characteristics**

- Shore protection structures: Main beach has stone groins on both sides. Stone breakwater offshore w/ lighthouse at west end. Smaller N-S facing beach has groin on south side; rocky outcrops on north side.
- Erosion: No
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

**Site Access**

Road access

Name: Lighthouse Rd to Park Ave (Park is access road on parcel)

Primary/secondary road: Secondary

Description: Paved

Staging area

Parking area(s): Paved lot ~ 200 yd from beach. Grassy area adjacent to beach.

Surface type: Paved

Storm drains/catch basins: In parking lot

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LtS to South. New Haven harbor channel on west side

Offshore description

Mooring field: No

Navigation channel: New Haven harbor channel entrance

**Other Notes or Observations**

East-West Facing Beach (Main beach) } Beach has a 50' berm, then slopes gradually to water. Breakwater offshore of the beach runs almost parallel to beach. New Haven harbor entrance channel runs along the west side of beach offshore. Paved walking path runs along the inland side of beach and is approximately the same elevation as the beach, or a few inches higher in places. A cement curb separates beach sand from asphalt. Small vegetated dune at west side of beach near groin.

Small north-south facing sandy area near lighthouse. This area has rocky outcrops and provides access to the lighthouse. Here the beach berm is 40' wide. Beach itself is Page 2 of 2 small & 100' long.

Little capacity for more sand as berm is flush with walkway and extends out fairly far.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 320 - CALF PASTURE BEACH

Site Address: CALF PASTURE BEACH RD.  
NORWALK

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 8:36 AM 6/22/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public Beach w/ upland recreation areas

Surrounding land use: Commercial bus yard; marina; residential to the NE

Sediment description: well-sorted medium-grained sand - N Beach (south end)  
poorly-sorted coarse sand to gravel (N Beach at NE end)

Sediment sample number(s): 320 (N Beach at S end) 320 <sup>Calf Pasture</sup> B (N Beach NE end)

Resource Areas/Types:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach | <input checked="" type="checkbox"/> Fringing marsh along S side of Beach |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh                                      |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal                                |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore                          |
| <input type="checkbox"/> Other: _____     |  |

Dominant vegetation/location:

- |  |                   |   |
|--|-------------------|---|
| <input checked="" type="checkbox"/> <i>Spartina patens</i>       | } S side of beach | <input type="checkbox"/> Bayberry                     |
| <input checked="" type="checkbox"/> <i>Spartina alterniflora</i> |                   | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)                  |                   | <input type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>                       |                   | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                            |                   |   |

Number of site photos: \_\_\_\_\_

## Shoreline Characteristics

NE end of  
N beach  
terminates  
in concrete  
wall & rip rap  
groin; very  
high barrier  
to transport

- Shore protection structures: 3 stone groins on S beach; stone seawall connects landward ends of 3 groins; narrow beach & fringing marsh seaward of seawall
- Erosion: none evident
- Beach slope: Very gradual
- Width of Fill/Starting Point: from berm out

## Site Access

## Road access

Name: Calf Pasture Beach Rd.

Primary/secondary road: Secondary residential roads

Description: 2-lane

## Staging area

Parking area(s): large parking lot near center of property;

Surface type: asphalt

Storm drains/catch basins: yes

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: \_\_\_\_\_

Offshore description - scattered offshore islands

Mooring field: NE of N beach

Navigation channel: \_\_\_\_\_

## Other Notes or Observations

South Beach - fringing marsh; 50' wide beach behind marsh; beach is at same grade as parking area behind; not site for BN; sand launch ramp at S beach (timber crib structure marks W side of ramp); storm drains from parking lot drain across S Beach; fishing pier over 3<sup>rd</sup> groin - between S & N beaches

North Beach - 50-60' wide berm; elevation is level with sidewalk; foreshore slopes gradually to water; boundary between 2 parcels has a short finger like protrusion perpendicular to beach - with grass & picnic tables  
at NE end the beach transitions into low bank; grassy w/ trees  
back of N beach lined with sidewalk & planted trees

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 441 - COVE ISLAND BEACH

Site Address: COVE RD  
STAMFORD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 1102 6/21/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public Beach w/ expanse of upland recreation fields

Surrounding land use: Residential

Sediment description: poorly-sorted coarse sand

Sediment sample number(s): 441

Resource Areas/Types:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach                            | <input checked="" type="checkbox"/> Fringing marsh <sup>1/2 E end</sup> SW corner of beach (on map) |
| <input checked="" type="checkbox"/> Dune - off site to E             | <input type="checkbox"/> Salt marsh   |
| <input type="checkbox"/> Barrier Beach                               | <input checked="" type="checkbox"/> Rocky intertidal - mostly near center of beach                  |
| <input type="checkbox"/> Bluff                                       | <input checked="" type="checkbox"/> Rock outcrops offshore  |
| <input type="checkbox"/> Other: <u>Rock outcrops along shoreline</u> |   |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> <u>Spartina patens</u> small patch at E end | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> <u>Spartina alterniflora</u> end                       | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)  | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites   | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____   |  |

Number of site photos: \_\_\_\_\_

441-2

**Shoreline Characteristics**

- Shore protection structures: SW corner has stone seawall w/ sloping rip rap in front of 1/2 at SW end
- Erosion: no signs of erosion
- Beach slope: wide flat berm (~75'); moderately sloping foreshore
- Width of Fill/Starting Point: from berm out

**Site Access**

Road access - access to beach limited by bridge width/weight

Name: \_\_\_\_\_

Primary/secondary road: \_\_\_\_\_

Description: \_\_\_\_\_

Staging area access limited to 1 lane walking/bike path

Parking area(s): Set back from beach - across boat basin

Surface type: asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

Shore access

Waterway name: \_\_\_\_\_

Offshore description rock islands offshore

Mooring field: \_\_\_\_\_

Navigation channel: \_\_\_\_\_

**Other Notes or Observations**

Ulva, oysters, crepidula

berm is at grade with upland stone grain at E end of beach; beach is higher & wider on W side of grain shoreline on E side of grain is set way back - exposed tidal flat w/ some salt marsh (S. patens); N side of flat has a row of rip rap stone N of rip rap there is a c. dune w/ beach grass; then drops off to basin w/ rock spillway

Beach w/ Point - fringing marsh, rocky intertidal, beach grades up to sandy area w/ planted trees

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 442 CUMMINGS PARK BEACH

Site Address: SHIPPAW AVE  
STAMFORD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 11:00 AM 6/26/10

Personnel present: MLF / HC

Site Specific Data

General site description: Public Beach & Rec. Areas Landward; Extensive Parking

Halloween Marsh Club Basin behind beach. Beach is just east of Shippaw Pt. in Westcott Cove.

Surrounding land use: Residential; Recreational; Marina

Sediment description: Some cobble in intertidal zone; peat outcrop at eastern end of beach; groundwater seep; intertidal (coarse, poorly sorted)

Sediment sample number(s): 442 berm (med to coarse, poorly sorted)

Resource Areas/Types:

- Beach
- Dune
- Barrier Beach
- Bluff
- Other: \_\_\_\_\_

- Fringing marsh — around edges of marina basin
- Salt marsh
- Rocky intertidal
- Rock outcrops offshore

Dominant vegetation/location: only planted trees between parking lot & beach

- Spartina patens
- Spartina alterniflora
- Typha (cattail)
- Phragmites
- Other: \_\_\_\_\_
- Bayberry
- Amophila (dune grass)
- Cedar
- Rosa rugosa

Number of site photos: 14

**Shoreline Characteristics**

Shore protection structures: <sup>stone</sup> jetty at entrance to basin; pier w/ piers (no decking) <sup>adjac. to jetty</sup>

Erosion: no signs of erosion

beach may have been nourished recently - is graded

Beach slope: high berm at grade w/ sidewalk; parking ≈ 40 ft wide  
intertidal beach slopes steeply to water

Width of Fill/Starting Point: ≈ berm crest to ends of groins/jetty

2 groins

**Site Access**

Road access

Name: McMullen Ave

Primary/secondary road: Secondary - McMullen is small 2-lane road

Description: winding 2 lane road

Staging area

Parking area(s): parking areas along entire length of beach

Surface type: asphalt

Storm drains/catch basins: yes

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Westcot Cove - shallow & rocky

Offshore description - rock outcrops to SE; Vincent Islands

Mooring field: \_\_\_\_\_

Navigation channel: entrance to marina basin at western end

**Other Notes or Observations**

2 stone groins - sand on east of middle groin is higher than west side of groin, middle groin extends back to sidewalk and upper beach is at grade w/ top of groin; shoreline offset around middle groin indicates transport from east to west; groin is barrier to littoral drift

oyster shells; crepidula, spider crabs, ulva

eastern end of beach marked by chain link fence w/ concrete block

mature oak, willow trees on back beach at eastern end

groin that terminates in stone groin; outfall here in groin

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 450 - SHORT BEACH

Site Address: SHORT BEACH DR.  
STRATFORD

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 12:20 6/23/10  
Personnel present: MLF/HK

**Site Specific Data**

General site description: Public Beach w/ upland recreation areas

Surrounding land use: Residential ; airport

Sediment description: Poorly-sorted coarse-grained sand w/ shells

Sediment sample number(s): 450 Short Beach

Resource Areas/Types:

<input checked="" type="checkbox"/> Beach	<input checked="" type="checkbox"/> Fringing marsh At S end off site ; also at N end
<input checked="" type="checkbox"/> Dune N end of beach	<input type="checkbox"/> Salt marsh at back edge of dune
<input type="checkbox"/> Barrier Beach	<input type="checkbox"/> Rocky intertidal
<input type="checkbox"/> Bluff	<input type="checkbox"/> Rock outcrops offshore
<input type="checkbox"/> Other: <u>offshore tidal flat</u>	

Dominant vegetation/location:

<input type="checkbox"/> Spartina patens	<input type="checkbox"/> Bayberry
<input type="checkbox"/> Spartina alterniflora	<input type="checkbox"/> Amophila (dune grass)
<input type="checkbox"/> Typa (cattail)	<input type="checkbox"/> Cedar
<input type="checkbox"/> Phragmites	<input type="checkbox"/> Rosa rugosa
<input type="checkbox"/> Other: _____	

Number of site photos: \_\_\_\_\_



450-2

**Shoreline Characteristics**

- Shore protection structures: S end of beach has detached groin
- Erosion: None evident
- Beach slope: berm is flat; foreshore steeply sloping
- Width of Fill/Starting Point: berm crest out

**Site Access**

Road access

CRASHED

- Name: Dorne Dr.
- Primary/secondary road: Secondary
- Description: 2-lane

Staging area

- Parking area(s): Big parking areas land side of beach
- Surface type: Paved
- Storm drains/catch basins: yes - catch basins
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: Entrance to Housatanic River

Offshore description

- Mooring field: NA
- Navigation channel: Housatanic entrance channel

**Other Notes or Observations**

Transport - S → N  
 Berm - 80-100 ft wide; flat; steeply sloping foreshore; beach at same grade as sidewalk & parking lot  
 Breakwater offshore  
 Dune at N-end of beach - heavily vegetated w/ beach grass, bayberry, beach rose, sumac,  
 Beach is narrow in front of dune ≈ 40-50'

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 447 - PROSPECT BEACH  
WEST HAVEN  
Site Address: 711 OCEAN AVE

Type of beach:  State  
 Municipal  
 Federal Shore Protection area  
Date and time of visit: 6/23/10  
Personnel present: MLF/HC

**Site Specific Data**

General site description: Long public beach along roadway

Surrounding land use: Residential

Sediment description: Well-sorted medium-grained sand

Sediment sample number(s): 447 Prospect Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens   | <input type="checkbox"/> Bayberry              |
| <input checked="" type="checkbox"/> Spartina alterniflora <small>adjacent site to NE</small> | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)   | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites  | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____  |  |

Number of site photos: \_\_\_\_\_

447-2

**Shoreline Characteristics**

- Shore protection structures: ≈ 12 stone groins; most are very low; allow transport along beach
- Erosion: None evident
- Beach slope: Flat & wide berm; gently sloping foreshore
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Ocean Ave.

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Limited parking areas; no parking along road

Surface type: Asphalt

Storm drains/catch basins: Catch basins in parking areas

Approximate size: \_\_\_\_\_

Shore access

Waterway name: New Haven Harbor

Offshore description

Mooring field: NA

Navigation channel: Entrance channel to New Haven Harbor - offshore a significant distance

**Other Notes or Observations**

Transport direction SW → NE

N Beach - ends at concrete wall & rip rap groin; waterway/wetland behind wall; wall allows water to flow under from sand to waterway (possible tide gate); S. alterniflora in waterway beach scoured out by channel flow next to wall; wide sandflat offshore

Some ulva & soft shell clams; very wide & flat berm; gently sloping foreshore

Vegetated dunes in patches between beach and road; very low lying

N → S 5 groins to Dawson St.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 438 - BURIAL HILL BEACH

Site Address: BEACHSIDE AVE  
WESTPORT

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-21-10 16:00

Personnel present: MLF, HC

**Site Specific Data**

General site description: small public beach

Surrounding land use: Residential; wetland/estuarine area on north side of parcel.

Sediment description: Poorly sorted, coarse-grained

Sediment sample number(s): 438

- Resource Areas/Types:
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input checked="" type="checkbox"/> Salt marsh  |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

- Dominant vegetation/location:
- |  |   |
|--|---|
| <input checked="" type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                     |
| <input checked="" type="checkbox"/> <i>Spartina alterniflora</i> | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)                  | <input type="checkbox"/> Cedar                        |
| <input checked="" type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                            |   |

Number of site photos: \_\_\_\_\_

## Shoreline Characteristics

Shore protection structures: L1 Sound Side beach has stone seawall/revetment at upper end. Timberpile Jetty at west side. Estuarine side has none.

Erosion: Not evident

Beach slope: L1 Sound Side moderately steep.

Width of Fill/Starting Point: L1 Sound Side beach slope starts at revetment on east side. West side of LIS side beach has  $\approx$  10-25' berm.

## Site Access

## Road access

Name: Bunjing Hill Rd

Primary/secondary road: Secondary

Description: Paved.

## Staging area

Parking area(s): Parking lot has timber retaining wall on west side; concrete retaining wall ( $\approx$  1' high) on south + east sides.

Surface type: Paved

Storm drains/catch basins: None observed

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: L1S

## Offshore description

Mooring field: No - shallow swim area

Navigation channel: No

## Other Notes or Observations

Inlet to marsh borders beach on east side ("estuarine side beach"). This is a rocky beach w/ no berm.

Sea wall at LIS side beach approx. 2.5' above berm. Berm is  $\approx$  30' near parking lot. Decreases to  $\approx$  15' at east end of beach.

Above seawall, stone revetment rises to top of bluff. ( $\approx$  12' elevation). Seawall grades into a recurved revetment at parcel boundary.

L1S side Beach:

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 440 - COMPO BEACH

Site Address: 60 COMPO BEACH RD  
WESTPORT

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 3:30 6/21/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public Beach; Upland recreation areas

Surrounding land use: Residential

Sediment description: Poorly sorted coarse-grained on E beach  
Cobble & gravel on W beach

Sediment sample number(s): 440 b (East Beach) 440 a (West Beach)

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input checked="" type="checkbox"/> Fringing marsh <u>W beach</u>   |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh                                 |
| <input type="checkbox"/> Barrier Beach    | <input checked="" type="checkbox"/> Rocky intertidal <u>W beach</u> |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore                     |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

440-2

### Shoreline Characteristics

- Shore protection structures: groins at ends; 1 at center of 2 beaches
- Erosion: none evident
- Beach slope: gentle on both sides
- Width of Fill/Starting Point: from berm out to ends of groins

### Site Access

#### Road access

- Name: Compo Beach Rd.
- Primary/secondary road: Main access is through secondary roads
- Description: \_\_\_\_\_

#### Staging area

- Parking area(s): extensive parking w/ roads along beach
- Surface type: paved
- Storm drains/catch basins: \_\_\_\_\_
- Approximate size: \_\_\_\_\_

#### Shore access

- Waterway name: LIS
- Offshore description: large island offshore W beach
- Mooring field: NA
- Navigation channel: NA

### Other Notes or Observations

- W Beach - flat 60' wide berm, intertidal is rocky & gently sloping w/ patches of fringing marsh; long stone groin at W end of beach; berm is same elevation as adjacent road/parking area
- W/E Beaches separated by rip rap groin that connects to rocky intertidal w/ fringing marsh
- E Beach - gently sloping 60-70' berm; intertidal slopes gently to H<sub>2</sub>O and is sandier than W beach; stone groin at eastern end of E beach. Stone seawall along road at east end of beach. Less cobble; sandier at east side.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 449 - SHERWOOD ISLAND STATE PARK

Site Address: SHERWOOD ISLAND  
WESTPORT

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6/21/10 14:30

Personnel present: MLF/ILC

**Site Specific Data**

General site description: Public beaches (2) with picnic/recreation areas

Surrounding land use: Extensive Wetland on north & west sides of parcel  
Residential at northeast edge

Sediment description: Poorly sorted medium-grained sand

Sediment sample number(s): 449

Resource Areas/Types:

<input checked="" type="checkbox"/> Beach	<input type="checkbox"/> Fringing marsh
<input checked="" type="checkbox"/> Dune (East beach)	<input checked="" type="checkbox"/> Salt marsh on east + north sides
<input type="checkbox"/> Barrier Beach	<input type="checkbox"/> Rocky intertidal
<input type="checkbox"/> Bluff	<input type="checkbox"/> Rock outcrops offshore
<input type="checkbox"/> Other: <u>Some phragmites</u>	

Dominant vegetation/location:

<input checked="" type="checkbox"/> Spartina patens > in marsh on east/north sides of parcel	<input type="checkbox"/> Bayberry
<input checked="" type="checkbox"/> Spartina alterniflora	<input checked="" type="checkbox"/> Amophila (dune grass)
<input type="checkbox"/> Typa (cattail)	<input type="checkbox"/> Cedar
<input type="checkbox"/> Phragmites	<input checked="" type="checkbox"/> Rosa rugosa
<input type="checkbox"/> Other: <u>Somac</u>	

Number of site photos: lots



449-2

**Shoreline Characteristics**

- Shore protection structures: East beach: 2-stage groins, lower part at sea level; upper part above level of berm. West beach: riprap revetment at west side; groin at east side.
  - Erosion: No evidence of erosion
  - Beach slope: East beach: berms extend out ~ 75'. Then beach slopes moderately steeply. West beach: berm extends 75-100'. Then beach slopes moderately steeply.
- Width of Fill/Starting Point: Edge of berm

**Site Access**

Road access

Name: Sherwood Island Connector

Primary/secondary road: Park access road is one-way in some places

Description: 1+2-lane access roads through park; dirt/gravel paths to beach

Staging area

Parking area(s): Paved lot at west end, Gravel lot at east side.

Surface type: Paved; gravel (see above)

Storm drains/catch basins: None observed

Approximate size: \_\_\_\_\_

Shore access

Waterway name: US

Offshore description

Mooring field: No - very shallow

Navigation channel: No

**Other Notes or Observations**

West side beach has riprap revetment adjacent to walking path on upland side. Beach varies from rocky intertidal to exposed sand flat. Access to beach via dirt/gravel path. Dune on upland side of far east section of beach. Berm and dune could be built up significantly if desired.

East side beach has dune at upper edge. Wide berm + moderate slope. East side of beach has a timber pile jetty (stone base) at edge of marsh inlet. *Rosa rugosa* + dune grass at upland. Dune + beach could be built up by beach nourishment. Berm is narrower at the east side of beach ~ 20'.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 181 Orchard Beach

Site Address: Orchard Beach Rd.

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 8/3/10 5:45

Personnel present: MLF, HC

**Site Specific Data**

General site description: Large municipal beach; w/ recreational facilities and wooded areas

Surrounding land use: Open space & residential on City Island / residential to the N & S; commercial/industrial to the west

Sediment description: well-sorted fine-grained sand

Sediment sample number(s): No sample

Resource Areas/Types:

<input checked="" type="checkbox"/> Beach	<input type="checkbox"/> Fringing marsh
<input type="checkbox"/> Dune	<input type="checkbox"/> Salt marsh
<input type="checkbox"/> Barrier Beach	<input type="checkbox"/> Rocky intertidal
<input type="checkbox"/> Bluff	<input type="checkbox"/> Rock outcrops offshore
<input type="checkbox"/> Other: _____	

Dominant vegetation/location:

<input type="checkbox"/> Spartina patens	<input type="checkbox"/> Bayberry
<input type="checkbox"/> Spartina alterniflora	<input type="checkbox"/> Amophila (dune grass)
<input type="checkbox"/> Typa (cattail)	<input type="checkbox"/> Cedar
<input type="checkbox"/> Phragmites	<input type="checkbox"/> Rosa rugosa
<input type="checkbox"/> Other: _____	

Number of site photos: \_\_\_\_\_

181-2

### Shoreline Characteristics

- Shore protection structures: concrete seawall along entire beach - groin at S end <sup>w/ boardwalk</sup> ! N end
- Erosion: not visible but there has been erosion
- Beach slope: flat berm and very gentle nearshore
- Width of Fill/Starting Point: \_\_\_\_\_

### Site Access

#### Road access

Name: Orchard Beach Rd.

Primary/secondary road: Secondary

Description: 2-lane

#### Staging area

Parking area(s): large parking area behind recreation area

Surface type: asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: Pulhem Bay

#### Offshore description

Mooring field: NA

Navigation channel: NA

### Other Notes or Observations

Ramp to beach in several places; wide walking path behind seawall - path is surfaced w/ pavers; concession stands along walking path; central part of beach is  $\approx 100'$  wide; beach is about 3' below elev. of walking path.

Ridge & tunnel system at the south end of the beach; narrowest at the north end.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 453 LAKE MONTAUK HARBOR Gasman's Beach

Site Address: MONTAUK WEST LAKE DRIVE (End of Rd)  
Soundview Dr.

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/13/2010 2:30

Personnel present: MLF, JF

Site Specific Data

General site description: Municipal beach immediately W of Lake Montauk Harbor

Surrounding land use: Commercial; marina, restaurants

Sediment description: Moderately well sorted; med- to fine-grained sand - closer to the western end;

Sediment sample number(s): 453 Lake Montauk Harbor

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

453-2

Shoreline Characteristics

- Shore protection structures: End of beach bound by W jetty of harbor
- Erosion: Yes; beach/dune eroded back to edge of parking lot
- Beach slope: moderately sloping nearshore; narrow berm is very flat
- Width of Fill/Starting Point: edge of parking lot out

Site Access

Road access

Name: West Lake Drive & Sandview Dr.

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): landward of beach

Surface type: asphalt

Storm drains/catch basins: storm drain

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Block Island Sound / <sup>Lake</sup> Montauk Harbor

Offshore description

Mooring field: N/A

Navigation channel: N/A - only in adjacent Lake Montauk Harbor

Other Notes or Observations

Beach is about 10' below elevation of parking lot; W. end of beach also has a badly eroded primary dune; sediment on beach is rocky nearest the jetty - rocky intertidal shore adjacent to jetty; west end of beach is sandier. Private properties to the west are protected with rip rap and short groins - badly deteriorated.

Beach is well below the elevation of the adjacent jetty

Very west end of beach has a cobble berm backed by a coastal bank with dune sand on top; badly eroded - road is located landward of dune

Rubble on beach from old foundation and bits of asphalt from roadway

dune at E end of parking lot about w/jetty and channel

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 03 ASHAROKEN BEACH

Site Address: ASHAROKEN AVE  
NORTHPORT (HUNTINGTON), NY

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 8-2-10; ~11:00

Personnel present: MLF, HC

Site Specific Data

General site description: Private properties; Asharoken Ave only  
access to Eaton's Neck; significant erosion

Surrounding land use: Residential

Sediment description: Well-sorted medium to fine grained sand

Sediment sample number(s): 03 Asharoken Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach         | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune          | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                    | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____             |   |

Dominant vegetation/location:

- |  |   |            |
|--|---|------------|
| <input type="checkbox"/> Spartina patens       | <input checked="" type="checkbox"/> Bayberry              | Poison Ivy |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |            |
| <input type="checkbox"/> Typha (cattail)       | <input checked="" type="checkbox"/> Cedar                 |            |
| <input type="checkbox"/> Phragmites            | <input checked="" type="checkbox"/> Rosa rugosa           |            |
| <input type="checkbox"/> Other: _____          |   |            |

Number of site photos: \_\_\_\_\_

63-2

**Shoreline Characteristics**

Shore protection structures: many rocknuts/bulkheads  
groin - near W end of beach

Erosion: eroding dune area

Beach slope: Moderate

Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Asharden Ave

Primary/secondary road: Secondary

Description: Paved

Staging area

Parking area(s): None - only 2-lane residential road

Surface type: asphalt road

Storm drains/catch basins: -

Approximate size: -

Shore access

Waterway name: LIS

Offshore description

Mooring field: NA Northport offloading terminal

Navigation channel: NA

**Other Notes or Observations**

Berm  $\approx$  15-20' wide; relatively gently sloping; nearshore slopes more steeply to water

Dunes  $\approx$  20' above berm with steeply sloping seaward side  
Signs of erosion on dune face. Moving west, dune narrows to  $\approx$  10'.

At narrowest section, sheet piles in place but damaged by Spring 2010 storm.  
Armoring includes steel sheet piles, with concrete behind (on road side of piles)  
Also stone riprap between sheet piles + concrete; gravel between road + concrete.



**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 456 Bayville Beach

Site Address: Bayville Rd.

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 8-2-10

Personnel present: MLF, HC

**Site Specific Data**

General site description: Municipal beach along roadway - barrier beach setting

Surrounding land use: Residential; Park Land

Sediment description: Moderately sorted; medium to coarse-grained sand

Sediment sample number(s): Bayville

Resource Areas/Types:

- Beach
- Dune
- Barrier Beach
- Bluff
- Other: \_\_\_\_\_
- Fringing marsh Bay side to south
- Salt marsh
- Rocky intertidal
- Rock outcrops offshore

Dominant vegetation/location:

- Spartina patens
- Spartina alterniflora Bay side
- Typha (cattail)
- Phragmites
- Other: \_\_\_\_\_
- Dunes
- Bayberry
- Amophila (dune grass)
- Cedar
- Rosa rugosa

Number of site photos: \_\_\_\_\_



456-2

**Shoreline Characteristics**

- Shore protection structures: E side - concrete seawall; sheet pile w/ rip rap in front
- Erosion: yes; dune is eroding
- Beach slope: dune face is steep; berm nearly flat; nearshore gently sloping
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Bayville Ave

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): N/A

Surface type: Asphalt road w/ parking lanes on both sides of road

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS ; Oyster Bay on south side

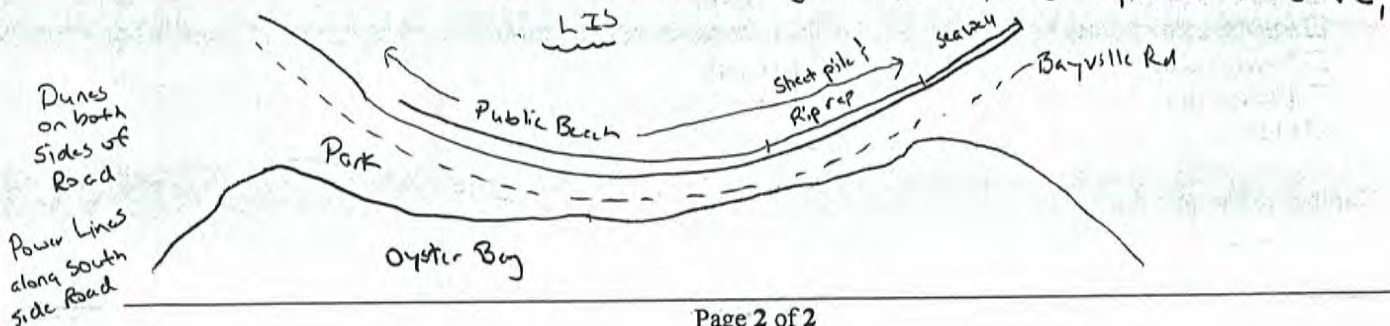
Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Berm = 10-15' wide; dune very narrow at  $\approx$  10-15'; dune crest is  $\approx$  10' above berm; dune vegetated w/ beach grass, pines, bayberry, russian olive,



U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 454A HASHAMOMUCK COVE

Site Address: COUNTY ROAD 48  
SOUTHOLD, NY

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/15/2010

Personnel present: MLF, JF

Site Specific Data

General site description: Narrow beach fronting private homes

Surrounding land use: residential

Sediment description: Poorly sorted coarse-grained sand w/ gravel;  
eastern of beach has mostly gravel - not much sand

Sediment sample number(s): 454A Hashamomuck Cove

Resource Areas/Types:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach                | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune - West end only | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                   | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                           | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                    |   |

Transport from  
W → E

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

454A-2 (EAST)

Shoreline Characteristics

Several  
groins

- Shore protection structures: Series of wooden bulkheads; rip rap revetment (low-lying) several unprotected properties;
- Erosion: Yes, bulkhead built to protect from erosion
- Beach slope: Berm gently sloping; nearshore relatively steep
- Width of Fill/Starting Point: Mid way up bulkhead → seaward  
Bulkhead about 5-8' above beach

Site Access

Road access

Name: County Rt 48

Primary/secondary road: Primary

Description: 2-lane

Staging area

Parking area(s): No parking except at Town Beach at West end;

Surface type: asphalt - crushed gravel

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: N/A

Navigation channel: N/A

Other Notes or Observations

Berm is about 30' wide; beach is gravelly; center section of beach has eroded back to bulkheads (no beach); dune at base of bulkhead at West end of beach; dune pinches out to the east; dune areas have beach grass

Restaurant part of hotel is cantilevered over water; building also on piles; no beach! short concrete groins at E end of beach near hotel

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 454B HASTHAMOMUCK COVE - KENNEY'S BEACH

Site Address: LEETON DR  
SOUTHOLD, NY

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/12/2010 5:20

Personnel present: MLF, JF

Site Specific Data

General site description: Municipal beach + private properties

Surrounding land use: Residential homes

Sediment description: Poorly-sorted coarse-grained sand w/ gravel

Sediment sample number(s): 454b Kenney's Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                                |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typa</i> (cattail)        | <input type="checkbox"/> Cedar                                   |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>                      |
| <input type="checkbox"/> Other: _____                 |  |

Number of site photos: \_\_\_\_\_

# 45A-B-2 (WEST)

## Shoreline Characteristics

- Shore protection structures: Bulkheads; going on private properties to the West
- Erosion: no signs although town says beach has eroded
- Beach slope: berm is gently sloping; nearshore is steeply sloping
- Width of Fill/Starting Point: added to dunes by 20-30 ft + higher; then build berm out to water

## Site Access

### Road access

Name: Kenneys Rd.

Primary/secondary road: Secondary

Description: 2-lane

### Staging area

Parking area(s): Landward side of beach/dune

Surface type: asphalt - slopes away from beach; pressed gravel also

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

### Shore access

Waterway name: LIS

### Offshore description

Mooring field: N/A

Navigation channel: N/A

## Other Notes or Observations

Dune between parking area & beach  $\approx$  20' wide &  $\approx$  4 ft high  
Berm seaward of dune is  $\approx$  50' wide & gently sloping; nearshore slopes steeply to the water

West end of beach is marked by concrete seawall (in bad repair) + aluminum groin transport is W  $\rightarrow$  E; groin is sand tight

ballstudio@thing.net

private homes to W are protected by wood bulkheads - narrow low tide beach

neighbor who wants to be kept informed of progress

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 384 MISQUAMICUT STATE BEACH

Site Address: 257 ATLANTIC AVE  
WESTERLY, RI

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-15-10 0830

Personnel present: SC, HC

Site Specific Data

General site description: Large public beach + tourist / recreation area

Surrounding land use: Commercial - tourism, recreation, restaurants

Sediment description: Well sorted fine-medium sand

Sediment sample number(s): \_\_\_\_\_

Resource Areas/Types:

- |   |   |
|---|---|
| <input type="checkbox"/> Beach                                      | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune <u>Along most of beach</u> | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                              | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                                      | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                               |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input checked="" type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

384-2

Shoreline Characteristics

- Shore protection structures: None
- Erosion: Dunes are eroding; beach patrol indicates beach has lost 60 yds of width over last 50 yr.
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

Site Access

Road access

- Name: Atlantic Ave.
- Primary/secondary road: Secondary
- Description: Paved

Staging area

- Parking area(s): Large lot in back of beach
- Surface type: Paved
- Storm drains/catch basins: None in lot. Parking lot slopes down, away from beach toward
- Approximate size: grassy area on west side of lot. Water appears to pool here, as evidenced by damage to grass.

Shore access

- Waterway name: US

Offshore description

- Mooring field: No
- Navigation channel: No

Other Notes or Observations

State beach with dune at back between berm + parking lot/road. Berm extends  $\approx$  10-40' seaward of toe of dune. Dune elevation is  $\approx$  6-10' above parking lot. Road behind parking lot separates parcel from wetland. Large bath house on middle of parcel with showers, picnic tables. Sand fence along toe of dune on west side of parcel. Businesses near beach bring in sand by truck. Erosion evident at toe of dune + as reported by locals, who mention the beach has lost 60 yds of width over  $\approx$  50 yr. Wave action evident - surfers enjoying 1-2' waves during site visit.

Access for construction vehicles possible in breaks between dunes; may require widening gap in dune.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 82 BAILIE'S BEACH

Site Address: BAILIE BEACH RD - EAST SIDE OF MATTITUCK INLET  
MATTITUCK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7-12-10

Personnel present: SC, HC

**Site Specific Data**

General site description: Public beach w/ dunes, wetland on Mattituck Inlet + LIS.  
Bailie Beach District Park includes wetland + beach.

Surrounding land use: Residential; Wetland/open space

Sediment description: Well sorted medium sand. Fewer pebbles than site 455  
(adjacent site) and finer grained sand,

Sediment sample number(s): 82

Resource Areas/Types:

- |   |   |
|---|---|
| <input type="checkbox"/> Beach            | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry  |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) <u>on dune</u> |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                                     |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



### Shoreline Characteristics

- Shore protection structures: Jetty on west side. (Stone) forms edge of Mattituck Inlet.
- Erosion: Yes - beach is eroding. Note position <sup>relative to</sup> parcel on opposite side of channel.
- Beach slope: Moderate
- Width of Fill/Starting Point: 30' from edge of dune

### Site Access

#### Road access

Name: Baile Beach Rd.

Primary/secondary road: Secondary

Description: Paved

#### Staging area

Parking area(s): Small paved lot space for 5 cars. Guard rail between lot and beach. Access by foot only - no access for construction equipment.

Surface type: Paved

Storm drains/catch basins: No. Slope is gradual + oriented away from beach.

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: US + Mattituck Inlet

#### Offshore description

Mooring field: No

Navigation channel: On west side - Mattituck Inlet

### Other Notes or Observations

Beach on east side of channel, eroding relative to opposite side of channel.  
Dune extends along entire beach, and is vegetated w/ amophila.  
Sand on this parcel is finer grained + better sorted than that on site 455 which is contiguous with this parcel. Woody debris on beach. Mainly crepidula as shell material.

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 455 MATTITUCK HARBOR III

Site Address: BAILIE BEACH RD EAST OF SITE 82  
MATTITUCK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 07-12-10

Personnel present: Shannon Carey  
Heidi Clark

**Site Specific Data**

General site description: Public beach on east side of Mattituck Inlet.  
Small parking lot; beach access to pedestrians only via break in guardrail.

Surrounding land use: Residential + wetland/open space; Mattituck Creek lies  
adjacent to + behind this parcel.

Sediment description: Poorly sorted medium-coarse grained sand w/ pebbles

Sediment sample number(s): 455

Resource Areas/Types:

- |   |   |
|---|---|
| <input type="checkbox"/> Beach            | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> <i>Spartina patens</i>        | <input type="checkbox"/> Bayberry                                |
| <input type="checkbox"/> <i>Spartina alterniflora</i>  | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)        | <input type="checkbox"/> Cedar                                   |
| <input type="checkbox"/> <i>Phragmites</i>             | <input type="checkbox"/> <i>Rosa rugosa</i>                      |
| <input type="checkbox"/> Other: <u>Sumac, bayberry</u> |  |

Number of site photos: 0

455-2

**Shoreline Characteristics**

- Shore protection structures: Not on this section. End of adjacent parcel (site 82) has a stone jetty
- Erosion: Appears to be eroding especially near jetty on site 82
- Beach slope: Moderate
- Width of Fill/Starting Point: 35-40' seaward of dune

**Site Access**

Road access

Name: Bailie Beach Rd.  
 Primary/secondary road: Secondary  
 Description: Paved

Staging area

Parking area(s): Paved lot. Guard rail between lot + beach.  
 Surface type: Paved  
 Storm drains/catch basins: None  
 Approximate size: \_\_\_\_\_

Shore access

Waterway name: US; Mattituck Inlet to west

Offshore description

Mooring field: No  
 Navigation channel: No

**Other Notes or Observations**

Beach with public access and small parking lot at end of Bailie Beach Rd. Berm is  $\approx$  40' wide; dune runs along length of beach. Bluff in back of berm shows some erosion, though vegetated along more than half of its length. Wreck line is at edge of dune (west side of bluff). Appears to be eroding here. Large woody debris on beach. Also shell material including (repidula, mussels, softshell clams. Some alive on beach.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 367 ROCKY NECK STATE PARK

Site Address: 244 W. MAIN ST.  
EAST LYME, CT

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-16-10 12:00

Personnel present: SL HC

Site Specific Data

General site description: State park with beach, camping + recreation areas.

Surrounding land use: Parcel has large wooded area parkland (open space)  
Residential parcels around perimeter

Sediment description: Well sorted fine sand

Sediment sample number(s): 367

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> <i>Spartina patens</i>            | <input checked="" type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i>      | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)            | <input checked="" type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>                 | <input checked="" type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: <u>Japanese Black Pine</u> |  |

} on dunes

Number of site photos: \_\_\_\_\_

Wetland behind beach

367-2

**Shoreline Characteristics**

- Shore protection structures: Stone groins on both sides of parcel.  
*Rock revetment on west side of parcel*
- Erosion: No severe; dunes likely eroding - snow fence + recent plantings.
- Beach slope: Gradual
- Width of Fill/Starting Point: Edge of berm, unless building dunes further out.

**Site Access**

Road access

Name: Narrow paved road in park runs under RR trestle at west end of beach  
*Road becomes dirt at trestle.*

Primary/secondary road: Secondary

Description: Dirt

Staging area

Parking area(s): Large lot

Surface type: Dirt/gravel

Storm drains/catch basins: None

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: No

Navigation channel: No

**Other Notes or Observations**

State park + beach. Wetland (river?) runs through parcel. Newly built culvert allows water to flow in to wetland. Culvert built in 2009, with newly constructed dune, recently planted with ammophila. Beach berm is narrow (~20'). Dunes run along beach and are vegetated. Snow fence at base of dune. Stone groin at culvert is very short (barely extends beyond tide line). Groin at west end is extensive - runs ~150' from shore. Rock revetment at west end of beach runs around a grassy picnic area + out to base of groin at west end.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 368 BLUFF POINT STATE PARK

Site Address: 0 DEPOT RD  
GROTON, CT

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-16-10 1:30 pm

Personnel present: SL, HC

Poquonnock

Site Specific Data

General site description: Barrier beach between LIS + Poquonnock River  
East side is Bluff Point beach; west side is called Bushy Point Beach

Surrounding land use: Open space (state park) runs 1 mile back from beach.

Sediment description: Pebbles and coarse sand. No sand at east end,  
but more as you go west along beach.

Sediment sample number(s): 368

Resource Areas/Types:

- |   |  |
|---|--|
| <input type="checkbox"/> Beach                                    | <input checked="" type="checkbox"/> Fringing marsh |
| <input checked="" type="checkbox"/> Dune                          | <input checked="" type="checkbox"/> Salt marsh     |
| <input checked="" type="checkbox"/> Barrier Beach                 | <input type="checkbox"/> Rocky intertidal          |
| <input type="checkbox"/> Bluff                                    | <input type="checkbox"/> Rock outcrops offshore    |
| <input type="checkbox"/> Other: <u>Offshore Islands west side</u> |  |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Spartina patens | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora      | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)            | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites                 | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____               |  |

Number of site photos: \_\_\_\_\_

368-2

**Shoreline Characteristics**

- Shore protection structures: Loose rock around bluff at east end- ending
- Erosion: At bluff.
- Beach slope: Moderate
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Dirt road runs from parking lot 1 mile to beach

Primary/secondary road: \_\_\_\_\_

Description: Park-maintained dirt/gravel road

Staging area

Parking area(s): None adjacent to beach. Parking lot 1 mile inland

Surface type: Small sandy area near road just behind beach entrance. Beach entrance is small walking path.

Storm drains/catch basins: —

Approximate size: —

Shore access

Waterway name: LIS on outside; Poquonnock River on inside

Offshore description

Mooring field: No

Navigation channel: No

**Other Notes or Observations**

State park with bluff, barrier beach, Wetland and Forested area behind beach. Bluff shows signs of erosion. Beach has very narrow berm + steep slope. Coarse sand/pebbles and crinoid. Very little sand except on dune (some sand & 2" below surface of sediment. Also some sub-surface sand below water line. Material becomes sandier as move to west along beach, but surface sediment is still pebbles.

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 171 WILDWOOD STATE PARK

Site Address: North Wading River Rd.  
~~NORTH WADING RIVER RD.~~ GPS wouldn't take this address - took Hulse Landing Rd. (Goes to Wading River)  
~~CALVERTON, NY~~  
Wading River

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/14/2010 8:20

Personnel present: MLF, JF

**Site Specific Data**

General site description: State Park w/ beach & upland walking trails & recreation areas

Surrounding land use: Residential to E & W; farmland to S

Sediment description: Poorly-sorted coarse- to medium-grained sand w/ gravel

Sediment sample number(s): 171 Wildwood State Park

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |   |  |
|---|--|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input checked="" type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                                   |
| <input type="checkbox"/> <i>Phragmites</i>            | <input checked="" type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                 |  |

} only vegetation on bluffs

Number of site photos: \_\_\_\_\_



171-2

**Shoreline Characteristics**

- Shore protection structures: None - some rocks organized into base groin - sediment transport no impact on
- Erosion: Yes - bluffs are actively eroding
- Beach slope: Berm generally flat; nearshore very steep
- Width of Fill/Starting Point: 4-5 ft at base of bluff seaward

**Site Access**

Road access

paved access road cuts down bluff steeply

Name: N Wading River to Park road to paved access road to beach

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Landward of bluff crest -  $\approx$  500 ft landward

Surface type: Asphalt

Storm drains/catch basins: Pervious pavers in center of parking lot; storm drain to beach from paved access to beach

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Gravel beach with berm  $\approx$  35-40' wide; berm is generally flat and then the nearshore slopes steeply to the water - berm in area of concession was even w/ front of building

Some retaining wall in area of concession to hold back base of bluff; rip rap at base of bluff to the east of the concession bldg - rip rap also protected access ramp to the beach

Storm drain outfall east of concession through rip rap - showed signs of beach erosion

concession bldg on pilings  $\approx$  12' above beach berm; infrastructure under bldg. exposed

$\approx$  60' bluffs - eroding on both sides of concession

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 173 HITHER HILLS STATE PARK

Site Address: <sup>old</sup> MONTAUK HWY

MONTAUK EAST HAMPTON, NY

- Type of beach:
- State
  - Municipal
  - Federal Shore Protection area

Date and time of visit: 7/13/2010 4:00

Personnel present: MLF, JF

Site Specific Data

General site description: Large State Park - Both sides of Montauk Hwy;  
N side is mainly walking/nature trails; large dune area

Surrounding land use: Open space; residential;

Sediment description: Well-sorted medium-grained sand; very red in color;  
poorly-sorted coarse-grained sand on N shore - Napeague Bay

Sediment sample number(s): 173 Hither Hills State Park

Resource Areas/Types:

- Beach
- Dune
- Barrier Beach
- Bluff
- Other: \_\_\_\_\_
- Fringing marsh - to south side of beach on Napeague Harbor
- Salt marsh
- Rocky intertidal
- Rock outcrops offshore

Dominant vegetation/location:

- Spartina patens
  - Spartina alterniflora
  - Typha (cattail)
  - Phragmites
  - Other: \_\_\_\_\_
  - Bayberry
  - Amophila (dune grass)
  - Cedar
  - Rosa rugosa
- dunes heavily vegetated w/ woody species

Number of site photos: \_\_\_\_\_

173-2

Shoreline Characteristics

- Shore protection structures: NONE
- Erosion: yes - dunes are eroding (Napeague Harbor)
- Beach slope: Very flat. (Napeague Harbor)
- Width of Fill/Starting Point: \_\_\_\_\_

Site Access

Road access

Name: Montauk Hwy to single line dirt road

Primary/secondary road: Secondary

Description: 2-lane - narrow

Staging area

Parking area(s): NONE - only road access

Surface type: asphalt to dirt/gravel

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Napeague Harbor | Napeague Bay  
~~Black Island Sound~~

Offshore description

Mooring field: N/A

Navigation channel: N/A

Other Notes or Observations

→ Berm from toe of dune out is ~15' wide, very flat area  
 Napeague Harbor side

~~Black Island Sound~~ <sup>Napeague Bay</sup> side - wide dunes w/ beach grass & woody  
 vegetation - dunes extend to west to point; 60' bluffs  
 to east; bluffs are eroding; beach in front of dunes is about  
 15' wide (berm) and then moderately sloping to water

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 177 SHADMOOR STATE PARK

Site Address: S. FOX ST & ROUTE 251  
MONTAUK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/13/2010 ; 3:15

Personnel present: MLF, JF

**Site Specific Data**

General site description: State Park w/ walking trails, bluff & beach

Surrounding land use: Residential

Sediment description: Well-sorted, medium-grained sand

Sediment sample number(s): 177 - Shadmoor St - Park

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |   |   |
|---|---|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                 |   |

Number of site photos: \_\_\_\_\_

All vegetation  
landward of bluff  
bayberry, woody shrubs  
sea grape; black cherry;  
sand plain gerardia;  
shad bush

177-2

**Shoreline Characteristics**

Shore protection structures: None

Erosion: yes - bluff is eroding significantly

Beach slope: gradual to moderate slope

Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Montauk Hwy

Primary/secondary road: Primary

Description: 2-lane

Staging area

Parking area(s): No parking near top of bluff; only 1 lane dirt road

Surface type: \_\_\_\_\_

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Atlantic Ocean

Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Bluff about 60' high - eroding

Access for equipment would need to be developed

limited

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 178 CAMP HERO STATE PARK

Site Address: CAMP HERO RD  
MONTAUK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/13/2010 ; 10:24

Personnel present: MLF, JF

**Site Specific Data**

General site description: State Park - scenic overviews, walking trails,  
Woodlands

Surrounding land use: Open Space

Sediment description: Cobbles

Sediment sample number(s): N/A

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 179 MONTAUK POINT STATE PARK

Site Address: MONTAUK POINT STATE PARKWAY  
MONTAUK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/13/2010 ; 11:15

Personnel present: MLF, JF

**Site Specific Data**

General site description: State Park area with lighthouse and walking trails

Surrounding land use: Open Space

Sediment description: 179 Montauk Pt. State Park

Sediment sample number(s): \_\_\_\_\_

Resource Areas/Types:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach            | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune Scotts Hole | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach               | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                |   |

Dominant vegetation/location:

- |  |   |              |
|--|---|--------------|
| <input type="checkbox"/> Spartina patens       | <input checked="" type="checkbox"/> Bayberry    | Dunes        |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass)  | Sea Grape    |
| <input type="checkbox"/> Typa (cattail)        | <input checked="" type="checkbox"/> Cedar       | Woody shrubs |
| <input checked="" type="checkbox"/> Phragmites | <input checked="" type="checkbox"/> Rosa rugosa |              |
| <input type="checkbox"/> Other: _____          |   |              |

Number of site photos: \_\_\_\_\_



179-2

**Shoreline Characteristics**

- Shore protection structures: N/A - rip rap revtment in front of lighthouse
- Erosion: Yes
- Beach slope: Nearshore slope is steep - berm where present is moderate
- Width of Fill/Starting Point: ?

natural elsewhere

**Site Access**

Road access Montauk St Parkway  
 Name: Park road off Rt 27  
 Primary/secondary road: Primary  
 Description: 2-lane

**Staging area**

Parking area(s): Set back significantly from bluff top  
 Surface type: Asphalt  
 Storm drains/catch basins: Catch basins  
 Approximate size: \_\_\_\_\_

**Shore access**

Waterway name: Block Island Sound

**Offshore description**

Mooring field: N/A  
 Navigation channel: N/A

**Other Notes or Observations**

Beach is cobble with some sand intermixed  
 Bluffs are  $\approx$  60-80 ft high - some vegetated but mostly eroding  
 Scotts Hole has a lower bluff with a pocket beach & dune - beach is  $\approx$  20-50' wide  
 Beach just N of lighthouse is composed of gravel & cobble w/ surrounding bluffs-eroding  
 Shore protection at lighthouse is rip rap w/ terracing above  
 Beach further N

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 170 SUNKEN MEADOW STATE PARK

Site Address: NY 25A & SUNKEN MEADOW PKWY  
KINGS PARK, NY

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/15/2010 8:24

Personnel present: MLF, JF

Site Specific Data

General site description: Large State Park with beach and recreational areas landward; fields, picnic areas, sports areas

Surrounding land use: Open space for recreation; residential

Sediment description: moderately well sorted; medium-to coarse-grained sand

Sediment sample number(s): 170 Sunken Meadow

Resource Areas/Types:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach                | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune - east end only | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach        | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff - E & W ends   | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                    |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input checked="" type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input checked="" type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input checked="" type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |   |

in dune between beach & parking area  
pines  
poison ivy  
sea grape  
oaks, etc

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

Shore protection structures: 1 stone groin

Erosion: None evident

Beach slope: Berm relatively flat, nearshore slope moderately to water

Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

## Road access

Name: Sunken Meadow Parkway

Primary/secondary road: Primary

Description: Parkway

## Staging area

Parking area(s): Extensive parking landward of beach

Surface type: Asphalt

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: LIS

## Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Elevated boardwalk along landward edge of beach - heavily vegetated dune between boardwalk & parking area - access paths through 'dune' are brick-15' wide asphalt wood ramps

Transport likely W to E - elevation of beach and shoreline position nearly equal on both sides of groin - but appears to be ridge/runnel system on W side that will result in significant accretion on W side  
Berm is about 75' wide; boardwalk  
Boardwalk is 6" above level of beach

West end boardwalk ends at dune - covered in beach grass - some erosion - dune pinches out where eroding bluffs start; beach in front of bluffs is narrower than along boardwalk

East end boardwalk ends at dune - beach grass

Beach is also a barrier beach - waterway behind the beach has phrag. along the shores brackish system

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 180 ORIENT BEACH STATE PARK

Site Address: STATE PARK HWY  
ORIENT, NY

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/12/2010 11:45

Personnel present: MLF, JF

Site Specific Data

General site description: State Park Beach; long spit with beach/park facility = 1/2 way down spit

Surrounding land use: State Park; estuary w/ tidal marsh

Sediment description: Beach Area 1 - Poorly sorted - medium grained sand with gravel & shells;  
Beach Area 2 - moderately sorted med-grained sand w/ some gravel & shells

Sediment sample number(s): 180a (Area 1) 180b (Area 2)

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                     | <input type="checkbox"/> Fringing marsh                       |
| <input checked="" type="checkbox"/> Dune - East end Area 1    | <input checked="" type="checkbox"/> Salt marsh N side of spit |
| <input checked="" type="checkbox"/> Barrier Beach             | <input type="checkbox"/> Rocky intertidal                     |
| <input checked="" type="checkbox"/> Bluff Behind Beach Area 2 | <input type="checkbox"/> Rock outcrops offshore               |
| <input type="checkbox"/> Other: _____                         |   |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry  |
| <input checked="" type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) - east of Beach Area 1 |
| <input type="checkbox"/> Typha (cattail)                  | <input checked="" type="checkbox"/> Cedar  |
| <input type="checkbox"/> Phragmites                       | <input type="checkbox"/> Rosa rugosa   |
| <input type="checkbox"/> Other: _____                     |  |

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

- Shore protection structures: None at Area 1; series of short stone groins along Area 2 and in front of stone revtment
- Erosion: Erosion at Area 2; Accretion at Area 1
- Beach slope: Very gradual (Beach Area 1); Moderate to gradual in Area 2
- Width of Fill/Starting Point: Berm crest out; Area 2 (top of bank out to end of groins)  
Area 1 (bank crest 3-4' above beach level)

**Site Access**

## Road access

Name: Rt. 25Primary/secondary road: Primary (2-lane) Rt 25 to State Park Rd. (2-lane)Description: 2 lane

## Staging area

Parking area(s): At beach Area 1 only;Surface type: AsphaltStorm drains/catch basins: N/A at Area 1

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: Gardiners Bay

## Offshore description

Mooring field: N/ANavigation channel: N/A**Other Notes or Observations**

Park Manager indicated that nourishment is needed along access road (Area 2); Beach area has actually been accreting - no sand needed at beach area (Area 1)

Area 1: Beach = 100 ft wide; backed by picnic/playground - scrub vegetation w/ cedars; berm is = 4' higher than picnic area; large dune area at east end of beach;

Piping Plover nesting area in dunes at east end of Area 1

Minor nourishment near office - sand is trucked from ferry terminal

Rock revtment section (~~area~~) has no beach - recent erosion has taken bank away - threatens roadway

Transport NE-SW; erosion at S end of revtment

Beach south of revtment. has also eroded - existing beach = 30-40' wide; backed by low lying coastal beach - showed signs of erosion; cedars, poison ivy, pines, rose hogs

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 445 JAMESPORT STATE PARK

Site Address: SOUND AVE

MATTITUCK, NY John Sadonval, Office of Parks,

Type of beach:  State Date and time of visit: 7-12-10 4:00 PM

Municipal Personnel present: HC, SC

Federal Shore Protection area

Site Specific Data

General site description: Beach with steep bluff; larger parcel includes

Successional maritime forest; a coastal plain pond (Hallack's Pond); disturbed  
areas (former sand mining)

Surrounding land use: Residential, agriculture

Sediment description: Coarse to medium sand - no sample b/c no access  
to beach. Gate at road is locked + adjacent parcels private + steep bluff  
prevents access.

Sediment sample number(s): —

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach   | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune   | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach  | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff   | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Pond, forested areas, disturbed areas upland on larger parcel.</u> |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> <i>Spartina patens</i>                          | <input type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i>                    | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)                          | <input type="checkbox"/> Cedar                        |
| <input checked="" type="checkbox"/> <i>Phragmites</i> at bottom of bluff | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: <u>Wild grape; weedy species</u>         |   |

Number of site photos: \_\_\_\_\_

445-2

**Shoreline Characteristics**

- Shore protection structures: Two loosely packed stone groins near center of beach
- Erosion: Sediment transport west → east. Appears that bluff is eroding  
though difficult to see from top of bluff
- Beach slope: gradual
- Width of Fill/Starting Point: Near bottom of bluff

**Site Access**

Road access

Name: Hallock Lane

Primary/secondary road: Secondary

Description: Dirt, private road running through farm + private parcels  
Access to site from Sound Ave is gated + locked; plan for park development but  
Staging area for now access is limited.

Parking area(s): None. Parking area for private home at top of bluff.

Surface type: Dirt

Storm drains/catch basins: —

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS - open water

Offshore description

Mooring field: No

Navigation channel: ~~Open~~

**Other Notes or Observations**

Narrow beach below steep, vegetated bluff. Bluff is about 200' above beach. Very steep. Eroding at east end. Plans in place to create a public park/rec area "Hallock State Park Preserve". The Master Plan/D&S for the Park project indicates bluffs + hoodoos will be managed "naturally" to allow erosion + natural restoration of sand. Therefore beach nourishment may not be desirable in this area.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 446 THEODORE ROOSEVELT COUNTY PARK

Site Address: MONTAUK HWY ; East Lake Drive (beach access)  
MONTAUK, NY

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/13/2010 1:40

Personnel present: MLF, JF

**Site Specific Data**

General site description: Large county park - N facing beach is a RV area

Surrounding land use: Commercial properties on the harbor; private properties elsewhere

Sediment description: well-sorted, med- to fine-grained sand

Sediment sample number(s): 446 Theodore Roosevelt County Park

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                         | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                          | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                            | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff only on NE facing shore | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                             |   |

**Dominant vegetation/location:**

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_



446-2

**Shoreline Characteristics**

- Shore protection structures: None
  - Erosion: NE facing beach has eroded significantly - N facing beach has also
  - Beach slope: berm is very gently sloping; nearshore slopes moderately to H<sub>2</sub>O <sup>eroded</sup>
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: East Lake Drive

Primary/secondary road: Secondary

Description: 2-lane

Staging area

RV area = Outer Beach

Parking area(s): only parking is at entrance to RV area -

Surface type: asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Block Island Sound

Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Beach closest to Gin Beach has been a plover habitat in the past; not this year however. The harbor has been dredged in the past and the sand pumped to beaches to the W along Culloden Pt. Wide expanse of dunes behind the beach - vegetated w/ beach grass, rose rugosa, bayberry; dunes are ~20 ft high; berm is ~40' wide; berm narrows to the East

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 343 CLINTON TOWN BEACH

Site Address: WATERSIDE LN  
CLINTON, CT

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/15/2010 4:30

Personnel present: MLF, JF

Site Specific Data

General site description: Small municipal beach on barrier beach  
with playground and recreational fields

Surrounding land use: Residential

Sediment description: Poorly sorted med to coarse grained sand w/ gravel

Sediment sample number(s): 343 Clinton Town Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input checked="" type="checkbox"/> Fringing marsh At N & S ends of beach |
| <input checked="" type="checkbox"/> Dune  | <input checked="" type="checkbox"/> Salt marsh                            |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal                                 |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore                           |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input checked="" type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)                  | <input type="checkbox"/> Cedar                            |
| <input checked="" type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____                     |   |

Number of site photos: \_\_\_\_\_

343-2

Shoreline Characteristics

- Shore protection structures: 2 groin [N groin small & short; S groin tall]
- Erosion: None evident
- Beach slope: Berm is nearly flat; nearshore slopes gently to water
- Width of Fill/Starting Point: Berm crest out to end of groin

Site Access

Road access

Name: \_\_\_\_\_ only access to beach  
 Primary/secondary road: Secondary [Narrow bridge over tidal creek  
1 lane  
wooden surface]  
 Description: 2-lane

Staging area

Parking area(s): 2 parking areas - separated by playground  
 Surface type: asphalt  
 Storm drains/catch basins: N/A  
 Approximate size: \_\_\_\_\_

Shore access

Waterway name: Clinton Harbor

Offshore description

Mooring field: Marina across narrow waterway  
 Navigation channel: Channel into Marina

Other Notes or Observations

N end of beach - past N groin - has a fringing marsh with a narrow beach landward - then transitions into low lying dune covered with beach grass & phrag

Main beach has  $\approx$  75' wide berm; beach is level in elevation w/ the parking lot and playground

S end of beach has a fringing marsh which transitions into an upland grassy area - pavillion in upland

West side of lot has beach area - E side has bank overlooking tidal channel and marsh; bank is tree lined

Tidal channel is Hammock River S end of lot has a walking trail to viewing pavillion

shoreline of pavillion is armored w/rip rap

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 474 - SOUTH PINE CREEK BEACH

Site Address: 1424 S. PINE CREEK RD  
FAIRFIELD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 1:50 6/22/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Small municipal public beach

Surrounding land use: Residential

Sediment description: Poorly sorted coarse-grained sand

Sediment sample number(s): 474 South Pine Creek Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                 | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff <u>Very low</u> | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

474-2

**Shoreline Characteristics**

- Shore protection structures: NA
- Erosion: No signs of erosion
- Beach slope: Fairly steep;
- Width of Fill/Starting Point: base or top of dune out

**Site Access**

Road access

Name: South Pine Creek Rd.  
Primary/secondary road: Secondary  
Description: 2-lane road

Staging area

Parking area(s): Small parking area  
Surface type: asphalt  
Storm drains/catch basins: yes  
Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: NA  
Navigation channel: NA

**Other Notes or Observations**

Small beach with 40 ft wide berm; fairly steeply sloping; foreshore slopes steeply down to intertidal flats; flats are covered with gravel and cobble

Ulva on flats

beach transitions to narrow dune w/ beach grass then to a low-lying bank

East end of beach (off public property) there is a high groin that connects with a reedment; barrier to transport

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 339 JACOBS BEACH

Site Address: SEASIDE AVE  
GUILFORD, CT

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/16/2010

Personnel present: MLF, JF

Site Specific Data

General site description: Municipal Beach w/ playground and picnic facilities;  
Restroom building

Surrounding land use: Residential

Sediment description: moderately well sorted medium-grained sand w/ crushed shells &  
gravel

Sediment sample number(s): 339 Jacobs Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input checked="" type="checkbox"/> Fringing marsh - on abutter property SW |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh   |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal                                   |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore                             |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

339-2

**Shoreline Characteristics**

- Shore protection structures: <sup>near outer of berm</sup> Stone groin / stone seawall on private property to SW
- Erosion: None evident
- Beach slope: Wide flat berm; moderately sloping foreshore to tidal flats
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Seaside Ave

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Landward of beach -

Surface type: Dressed gravel

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Guilford Harbor to West River

Offshore description

Mooring field: NA

Navigation channel: channel passes in front of beach - marked by buoys

**Other Notes or Observations**

Berm is  $\approx$  75' wide & very flat; beach is at same grade as parking lot

Playground and recreation fields vegetated w/ grasses and trees/shrubs

2 Pavillions

Private properties to SW have - stone seawall w/ fringing marsh & rocky intertidal  
Groin is high and sand tight; land end of groin even w/ berm crest; beach  
berm at same elevation as top of groin

E of groin - beach, fringing marsh, dunes w/ phrag (all of these are fragmented)  
small dune at base of groin; some rip rap along edge of marsh

N edge of park - salt marsh rimmed w/ phrag

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 470 CHAFFINCH ISLAND PARK

Site Address: CHAFFINCH ISLAND RD  
GUILFORD, CT

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/16/2010 8:55

Personnel present: MLF, JF

**Site Specific Data**

General site description: Municipal Park with walking trails; wet lands, upland picnic area

Surrounding land use: Residential

Sediment description: N/A

Sediment sample number(s): 470 Chaffinch Island Park

**Resource Areas/Types:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Beach - S facing beach-very narrow | <input checked="" type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                               | <input checked="" type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach                      | <input type="checkbox"/> Rocky intertidal                  |
| <input type="checkbox"/> Bluff   | <input checked="" type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____                                  |  |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Spartina patens behind barrier beach | <input type="checkbox"/> Bayberry              |
| <input checked="" type="checkbox"/> Spartina alterniflora fringing marsh | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)                                 | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites                                      | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____                                    |  |

Number of site photos: \_\_\_\_\_



470-2

**Shoreline Characteristics**

- Shore protection structures: N/A
- Erosion: None evident
- Beach slope: No beach on south facing shoreline
- Width of Fill/Starting Point: N/A

**Site Access**

Road access

Name: Chaffinch Island Rd.  
 Primary/secondary road: Secondary  
 Description: 2 lane

Staging area

Parking area(s): Gravel road w/ cul-de-sac - heavily vegetated  
 Surface type: Gravel ; large rock outcrops/boulders in center of cul-de-sac  
 Storm drains/catch basins: N/A  
 Approximate size: \_\_\_\_\_

Shore access

Waterway name: Guilford Harbor to West River

Offshore description

Mooring field: Small mooring area SW of barrier beach  
 Navigation channel: entrance to West River

**Other Notes or Observations**

S beach -  
 ↓  
 Barrier Beach  
 Open to shellfishing - Extensive tidal flats → fringing marsh → low lying dyne → salt marsh  
 dyne is covered w/ phrag → offshore area dotted with rocks

E beach faces navigation channel to small mooring; tidal flats → fringing marsh → rocky bluff → upland w/ picnic area and wooded area  
 Some of the upland edge has been armored w/ loose rip rap

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 459 - FORT NATHAN HALE PARK

Site Address: 408 TOWNSEND AVE  
NEW HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 10 AM 6/25/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Park area w/ beach; upland recreation

Surrounding land use: Open space, recreation, US Govt. facility

Sediment description: Poorly-sorted medium-grained to coarse-sediment w/ gravel

Sediment sample number(s): 459 F.A. Nathan Hale

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |   |   |
|---|---|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                 |   |

Number of site photos: \_\_\_\_\_

459-2

Shoreline Characteristics

Shore protection structures: Loose rip rap at base of fishing pier

Erosion: upper beach face very steep; foreshore moderately sloping

Beach slope: →

Width of Fill/Starting Point: ± 5 ft seaward of sidewalk/boardwalk out

Site Access

Road access

LEWIS WSA

Name: Townsend Ave to Woodward Ave

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Landward of beach

Surface type: Asphalt

Storm drains/catch basins: N/A

Approximate size: \_\_\_\_\_

Shore access

Waterway name: New Haven Harbor

Offshore description

Mooring field: NA

Navigation channel: New Haven entrance channel

Other Notes or Observations

Fishing pier at N end of beach; loose rip rap at base of fishing pier; cobble deposit near rip rap; natural vs. man-deposited ???

Short rip rap groin at S end of beach

upper beach at grade w/ sidewalk; boardwalk/parking area  
beach is ± 30-40' wide

S end of beach has cobble layer and grades to rocky bluff off-site

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 348 WHITE SANDS BEACH

Site Address: 11 SEASIDE LN  
OLD LYME, CT

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7-16-10 11:30

Personnel present: SL, HC

Site Specific Data

General site description: Public beach adjacent to private parcels

Surrounding land use: Residential

Sediment description: Well sorted fine sand

Sediment sample number(s): 348

Resource Areas/Types:

- Beach
- Dune Very small dune near parking lot
- Barrier Beach
- Bluff
- Other: \_\_\_\_\_
- Fringing marsh
- Salt marsh
- Rocky intertidal
- Rock outcrops offshore

Dominant vegetation/location:

- Spartina patens
- Spartina alterniflora
- Typa (cattail)
- Phragmites
- Other: \_\_\_\_\_
- Bayberry
- Amophila (dune grass) on dune
- Cedar
- Rosa rugosa

Number of site photos: \_\_\_\_\_

348-2

### Shoreline Characteristics

- Shore protection structures: Stone groin on both ends of beach
- Erosion: Not severe. Sediment transport east → west
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

### Site Access

#### Road access

- Name: White Sands Beach Rd
- Primary/secondary road: Secondary
- Description: Paved, has speed bumps every 100 yds

#### Staging area

- Parking area(s): Behind beach
- Surface type: Paved
- Storm drains/catch basins: No
- Approximate size: \_\_\_\_\_

#### Shore access

- Waterway name: Mouth of T River - check google earth - (cove name?)

#### Offshore description

- Mooring field: ~~No~~ Yes. Several boats moored just offshore
- Navigation channel: No

### Other Notes or Observations

Public beach + parking area in residential neighborhood.  
Beach berm is at or above grade of parking lot. Berm extends  
≈ 50' to beach slope. Very small dune at west corner of beach  
near parking lot (approx 10 x 20'). Stone groins on both sides  
of parcel extend from start of berm out about 60'. Groins are above grade  
of berm. Wooden curb separates beach berm from parking lot.  
Berm is about 6" above grade of parking lot so no nourishment on  
berm unless building dunes. Page 2 of 2 Association beach on parcel to west  
is for neighborhood residents only. Town beach serves all of Old Lyme.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 480 DUBOIS BEACH

Site Address: 2 WATER ST  
STONINGTON, CT

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-15-10 4:30 pm

Personnel present: HC, SC

**Site Specific Data**

General site description: Public beach at end of residential road

Surrounding land use: Residential

Sediment description: Well sorted medium-fine grained sand

Sediment sample number(s): 480

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |   |  |
|---|--|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                                |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input checked="" type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                                   |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>                      |
| <input type="checkbox"/> Other: _____                 |  |

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

- Shore protection structures: Stone groins on both sides of beach
- Erosion: Likely - point of land is completely armored; groins at both ends of beach.
- Beach slope: Moderate
- Width of Fill/Starting Point: edge of berm

**Site Access**

## Road access

Name: Water St. -

Primary/secondary road: Secondary, dead-ends at beach parking lot

Description: Paved; older patched pavement just before dirt parking lot starts. Water St is a narrow road - pavement turns for 20' curv near site.

## Staging area

Parking area(s): Lot southeast of beach parcel

Surface type: Dirt w/ gravel at edges

Storm drains/catch basins: <sup>can</sup> Drain exposed above gravel at western edge of lot. Gravel around most edges where dirt lot meets stone revetment.

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: Stonington Harbor

## Offshore description

Mooring field: No

Navigation channel: Entrance to Stonington Harbor

**Other Notes or Observations**

Small public beach at end of peninsula. Stone groins on both sides of beach. Dune between beach + road stands  $\approx$  3' high and is vegetated. Berm extends  $\approx$  30' from toe of dune. Parking lot extends to the tip of the peninsula and is ~~surrounded~~ bordered by a stone revetment that extends around the peninsula tip. Entrance to beach has ~~a~~ a metal gate  $\approx$  10' wide, and  $3\frac{1}{2}$ ' stone wall on either side. Access would be restricted to 10' wide vehicles.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 467 - LONG BEACH

Site Address: LORDSHIP BLVD  
STRATFORD

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-23-10 14:30

Personnel present: MLF HC

**Site Specific Data**

General site description: Public beach. Barrier beach with dune, salt marsh & channel behind.

Surrounding land use: Wetland, residential, habitat restoration site on west end of parcel. (FWS/DOI project)

Sediment description: Poorly sorted medium grained sand with shells

Sediment sample number(s): 467

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input type="checkbox"/> Beach                    | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune          | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                    | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____             |   |

**Dominant vegetation/location:**

- |   |   |
|---|---|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                 |   |

Number of site photos: \_\_\_\_\_



467-2

**Shoreline Characteristics**

- Shore protection structures: Stone groins on either side
- Erosion: Not evident
- Beach slope: Moderately steep
- Width of Fill/Starting Point: Edge of berm

**Site Access**

Road access

Name: Lordship Blvd

Primary/secondary road: Secondary, 2-lane road through residential area.

Description: Paved

Staging area

Parking area(s): Extends length of beach, approx. 30' wide.

Surface type: Paved

Storm drains/catch basins: None observed in parking lot, water pooling on west side of parking lot.

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: No

Navigation channel: Bridgeport Reach on west side; ? on north behind beach.

**Other Notes or Observations**

Barrier beach with paved parking lot + dune behind. Parking lot is approximately 2 ft below height of berm (sand slopes down from berm to paved lot). Wood piles x 6' apart along the length of the parking lot, at the seaward edge, in the berm. Berm is narrower than other beaches in this area, approximately 25' wide. Beach slopes down moderately steeply from berm. On east side a wide dune separates beach from road (road runs through dune). Sediment transport runs east to west.

West side of parcel is closed to public. USDOI is doing a barrier beach

habitat restoration. Signage describes project; Area fenced off. Restoration of the 35 acre parcel includes dune, estuarine enhancement, bird habitat enhancement.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 468 Russian Beach ~~\_\_\_\_\_~~

Site Address: Park Blvd.

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 2:00 6/23/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Municipal beach

Surrounding land use: Residential

Sediment description: Cobble beach

Sediment sample number(s): No sample

**Resource Areas/Types:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh              |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh                  |
| <input type="checkbox"/> Barrier Beach    | <input checked="" type="checkbox"/> Rocky intertidal |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore      |
| <input type="checkbox"/> Other: _____     |  |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

468-2

### Shoreline Characteristics

Shore protection structures: N/A

Erosion: N/A

Beach slope: steep in foreshore; moderate slope on berm

Width of Fill/Starting Point: berm out ward

### Site Access

#### Road access

Name: Park Blvd - access difficult for staging

Primary/secondary road: Secondary

Description: 2-lane

#### Staging area

Parking area(s): None - no area for staging

Surface type: asphalt road

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: LIS

#### Offshore description

Mooring field: N/A

Navigation channel: N/A

### Other Notes or Observations

Berm 15-20' wide; moderately sloping; foreshore slopes steeply to water  
intertidal is very rocky w/ cobbles; some sand to the SW

Wide dune behind beach - heavily vegetated w/ beach grass, sumac, cactus  
other woody species

Bluff behind dunes leads up to grassy lawn-type area and then the road

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 325 - ALTSCHULER BEACH

Site Address: 1 PALACE ST  
WEST HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 10:15 6/24/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public beach w/ walking trail & parking available, open  
space also

Surrounding land use: Residential ; open space

Sediment description: well-sorted medium-grained sand

Sediment sample number(s): 325 - Altschuler Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

325-2

**Shoreline Characteristics**

- Shore protection structures: 3 groins; S-solid fill pier; Center-stone groin; N-solid fill pier
- Erosion: None evident
- Beach slope: berm slopes gradually; foreshore slopes gradually to water
- Width of Fill/Starting Point: berm crest ext

**Site Access**

Road access

- Name: Beach Blvd.
- Primary/secondary road: Secondary
- Description: 2 lane

Staging area

- Parking area(s): 2 large parking lots landward of sidewalk
- Surface type: Asphalt
- Storm drains/catch basins: N/A
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: New Haven Harbor

Offshore description

- Mooring field: \_\_\_\_\_
- Navigation channel: New Haven entrance channel

**Other Notes or Observations**

Berm about 40-50 ft wide; gentle slope;  
Pier to the south barrier to sediment transport  
Beach covers the landward end of the center groin - allows transport along beach -  
Transport S → N; beach gets narrower to the N in the N groin cell.  
Shoreline is offset seaward on S side of center groin  
Dune area landward of beach; 35-40' wide; heavily vegetated w/  
trees and woody shrubs - dune at N end has beach grass  
N solid fill pier allows transport along the shoreline

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 327 - BRADLEY POINT PARK

Site Address: CAPT. THOMAS BLVD (Ocean Ave)  
WEST HAVEN

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-24-10 0850

Personnel present: MLF, MC

**Site Specific Data**

General site description: Two public beach areas with recreation areas behind.

Parcel has a beach on northern side, separated from south side beach by rocky headland

Surrounding land use: Residential, recreational areas (lawns, plantings, walking paths)

Sediment description: Moderately sorted medium grained sand w/ shell hash.

Sediment sample number(s): \_\_\_\_\_

- Resource Areas/Types:
- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach             | <input checked="" type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune              | <input type="checkbox"/> Salt marsh                        |
| <input type="checkbox"/> Barrier Beach                | <input type="checkbox"/> Rocky intertidal                  |
| <input type="checkbox"/> Bluff                        | <input checked="" type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Rocky headland</u> |  |

- Dominant vegetation/location:
- |   |  |
|---|--|
| <input type="checkbox"/> Spartina patens  | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora  | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)   | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites   | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>Wild roses, chrysanthemum spp. on rocky headland</u> |  |

Number of site photos: \_\_\_\_\_

327-2

Shoreline Characteristics

- Shore protection structures: Stone seawall on both ends of northern beach  
Southern side beach has stone revetment behind + curving around to edges of beach.
- Erosion: No
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

Site Access

Road access

- Name: Capt. Thomas Blvd (Also known as Ocean Ave)
- Primary/secondary road: Secondary 2-lane road. Area directly adjacent to beach is a paved walking path.
- Description: Paved

Staging area

- Parking area(s): Lot between road and grassy recreation area behind beach.
- Surface type: Paved
- Storm drains/catch basins: Storm drain in parking lot
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: LIS

Offshore description

- Mooring field: No
- Navigation channel: No

Other Notes or Observations

Beach on Northern side of parcel

A low-lying dune sits between the beach <sup>on northern side of parcel</sup> and paved walking path. Dune is vegetated with beach grass (*Amophila*). Beach berm is about 25' wide. Beach slopes moderately steeply to the water. Stone seawalls on either side of beach; on north side the wall is placed stone w/ cement. South side seawall is also placed stone + cement but is collapsing. Rocky headland has some phragmites, mown grass + bare soil. Beach has some shell material (crepidula, softshell clam, moon snails), some Uva.

Beach on south end of parcel is largely under water at <sup>high</sup> tide. Small section of dry beach with fringing marsh evident at high water.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 329 - MORSE BEACH

Site Address: 101 BEACH ST  
WEST HAVEN

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 1:50 6/24/10

Personnel present: MLF/AC

**Site Specific Data**

General site description: Public Beach w/ recreational park on the other  
side of the road

Surrounding land use: Commercial, open space park

Sediment description: Well-sorted medium-grained sand

Sediment sample number(s): 329 - Morse Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



329-2

**Shoreline Characteristics**

Shore protection structures: Groin at SW end of beach; rip rap high above NE beach

Erosion: beach scarp in front of Chicks

Beach slope: moderate slope on berm in foreshore

Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Beach st

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Parking at park across the street

Surface type: Asphalt

Storm drains/catch basins: \_\_\_\_\_

Approximate size: \_\_\_\_\_

Shore access

Waterway name: New Haven Harbor

Offshore description

Mooring field: NA

Navigation channel: New Haven entrance channel

**Other Notes or Observations**

Beach across from Chicks is badly eroded. In need of sand to protect road and associated public utilities.

Groin at SW end of beach is barrier to transport; beach NE of groin is lower and the shoreline is setback relative to the SW beach

Beach at Chicks has eroded exposing old road asphalt; rip rap revtment along small portion of beach/bank at Chicks

Accretion of public beach<sup>to</sup> northeast; berm is  $\approx$  20-30' wide; berm's foreshore slope moderately to water

Dune is located between Road and beach; wide dune vegetated w/ beach grass

dune width  $\approx$  100-150 ft

Morse Beach: dune/beach at same grade as road

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 330 - OAK ST. BEACH

Site Address: OAK ST.  
WEST HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 10 AM 6/24/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public beach w/ open space field behind;

Surrounding land use: Commercial, open space, residential across road

Sediment description: Well-sorted medium-grained sand

Sediment sample number(s): 330 - Oak St. Beach

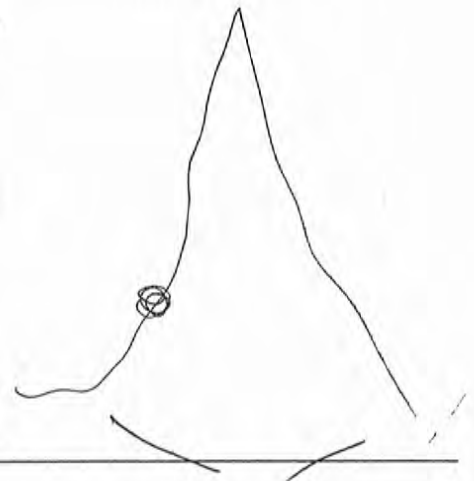
**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



330-2

**Shoreline Characteristics**

- Shore protection structures: Riprap groin to south; solid fill fishing pier to N
- Erosion: None evident
- Beach slope: berm very flat; nearshore slopes gently to water
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access (

LEBONIA T23W

- Name: Beach Blvd
- Primary/secondary road: Secondary
- Description: 2 lane

Staging area

- Parking area(s): Parking between road & sidewalk; N side of parcel
- Surface type: Asphalt
- Storm drains/catch basins: N/A
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: New Haven Harbor

Offshore description

- Mooring field: NA
- Navigation channel: New Haven entrance channel

**Other Notes or Observations**

Narrow dunes at landward edge of beach  $\approx$  20 ft wide; 2-4 ft high; dunes are low-lying; vegetated with beach grass

Berm is approx 50' wide; beach covers the landward end of the S groin; allows transport along beach

Solid fill pier to N blocks sediment transport - landward of pier end there is a boardwalk at grade that also blocks sediment transport

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 331- PECK BEACH

Site Address: 322 BEACH ST.  
WEST HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 6-24-10 13:14

Personnel present: MLF, HC

**Site Specific Data**

General site description: Public beach in residential neighborhood,

Surrounding land use: Residential

Sediment description: Moderately sorted coarse-medium grained sand

Sediment sample number(s): \_\_\_\_\_

**Resource Areas/Types:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach        | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune                    | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach           | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                   | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Sand Flat</u> |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

331-2

**Shoreline Characteristics**

- Shore protection structures: Solid fill piers on both sides of beach
- Erosion: None evident Sediment transport west → east so east side of beach extends further seaward than west side.
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

**Site Access**

Road access

Name: Beach St

Primary/secondary road: Secondary, 2-lane road.

Description: Paved

Staging area

Parking area(s): No lot directly adjacent to beach.

Surface type: —

Storm drains/catch basins: —

Approximate size: —

Shore access

Waterway name: New Haven Harbor

Offshore description

Mooring field: NA

Navigation channel: Entrance channel to New Haven Harbor

**Other Notes or Observations**

Public beach

Eroin compartment on west side of the Peck Beach parcel is offset seaward relative to Peck Beach, indicating transport from west → east.

Piers are connected to roadway, and extend seaward ~ 300'. Dune between beach and sidewalk is elevated ~ 3.5' and vegetated with dune grass + some waxy species. Beach access is by steps going over dune or via top of pier which is at same elevation as road. Shell material on beach includes oysters, *crepidula*, soft shells. Shells, trash + other debris builds up on west side of piers.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 332- SANDY POINT

Site Address: BEACH ST.  
WEST HAVEN

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 8:20 AM 6/24/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Public beach and large spit area extending into harbor  
estuary/marsh system across the road;

Surrounding land use: Commercial, open space, estuary/marsh; residential; wastewater  
plant on north side of spit

Sediment description: \_\_\_\_\_

Sediment sample number(s): 332- Sandy Point

**Resource Areas/Types:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Beach                    | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                     | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach            | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                               | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>extensive tidal flats</u> |   |

Plover habitat  
Least Terns  
oysters  
snails on tidal flats  
quahogs  
ulva  
soft shell clams  
mussels  
Scallops  
Crepidula  
WELKS

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

332-2

**Shoreline Characteristics**

- Shore protection structures: wastewater discharge pipe extends along N side of Sandy Pt spit  
pipe is under Morse Beach spit and goes on out to main channel
- Erosion: rip rap breakwater connects w/ stone training wall  
breakwater covered w/ Morse Beach spit
- Beach slope: \_\_\_\_\_
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

- Name: Beach St.
- Primary/secondary road: Secondary
- Description: 2-lane

Staging area

- Parking area(s): Parking at park across the street
- Surface type: Asphalt & gravel
- Storm drains/catch basins: N/A
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: New Haven Harbor

Offshore description

- Mooring field: NA
- Navigation channel: New Haven entrance channel

**Other Notes or Observations**

Dunes at base of spit are wide ( $\approx 100-150$  ft) and well vegetated w/ beach grass; Morse-Beach spit extends N to meet Sandy Pt spit; extensive wetland between 2 spits; wetland has *S. alterniflora* and salt marsh creek that leads to wetland on other side of the road; tide gates under road

Dunes extend down center of Morse Beach spit; berm is  $\approx 15-20'$  wide; berm is very gradually sloping; foreshore slopes moderately to water

Plover nesting sites on Morse Beach spit

channel runs between 2 spits; Sandy Pt spit has some fringing marsh and peat along the channel edge

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 333 - SAVIN ROCK

Site Address: 6 ROCK ST  
WEST HAVEN

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 9:45 6/24/10

Personnel present: MLF/HC

**Site Specific Data**

General site description: Rocky headland w/ bluff & landscaped grounds &  
conference center behind

Surrounding land use: Recreational area; walking trail; residential across roadway

Sediment description: Rocky headland

Sediment sample number(s): N/A

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input type="checkbox"/> Beach            | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input checked="" type="checkbox"/> Bluff | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typa (cattail)        | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



333-2

**Shoreline Characteristics**

- Shore protection structures: Rip rap revetment- placed stones
- Erosion: None evident
- Beach slope: N/A
- Width of Fill/Starting Point: N/A

**Site Access**

Road access

- Name: Beach Blvd
- Primary/secondary road: Secondary
- Description: 2-lane

Staging area

- Parking area(s): Large parking - street side of conf. center
- Surface type: Asphalt
- Storm drains/catch basins: Storm drains
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: New Haven Harbor

Offshore description

- Mooring field: NA
- Navigation channel: New Haven Harbor entrance channel

**Other Notes or Observations**

No beach present

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 344 MIDDLE BEACH

Site Address: SALT ISLAND RD  
WESTBROOK, CT

Type of beach:  State  Municipal  Federal Shore Protection area  
Date and time of visit: \_\_\_\_\_  
Personnel present: \_\_\_\_\_

**Site Specific Data**

General site description: Small public beach

Surrounding land use: Residential

Sediment description: Well sorted coarse sand

Sediment sample number(s): 344

- Resource Areas/Types:
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

- Dominant vegetation/location: virtually none on parcel. (Extensive salt marsh behind road + homes)
- |   |   |
|---|---|
| <input type="checkbox"/> <i>Spartina patens</i>       | <input type="checkbox"/> Bayberry                     |
| <input type="checkbox"/> <i>Spartina alterniflora</i> | <input type="checkbox"/> <i>Amophila</i> (dune grass) |
| <input type="checkbox"/> <i>Typha</i> (cattail)       | <input type="checkbox"/> Cedar                        |
| <input type="checkbox"/> <i>Phragmites</i>            | <input type="checkbox"/> <i>Rosa rugosa</i>           |
| <input type="checkbox"/> Other: _____                 |   |

Number of site photos: \_\_\_\_\_

344-2

### Shoreline Characteristics

- Shore protection structures: Stone groin at east end
- Erosion: No drastic, immediate sand loss, but berm much thinner on west end.
- Beach slope: Moderate
- Width of Fill/Starting Point: Edge of berm

### Site Access

#### Road access

Name: Salt Island Rd.

Primary/secondary road: Secondary

Description: Paved

#### Staging area

Parking area(s): Small parking area along road (space for 10 cars)

Surface type: Paved

Storm drains/catch basins: Catch basin in middle of parking area

Approximate size: \_\_\_\_\_

#### Shore access

Waterway name: Westbrook Harbor

#### Offshore description

Mooring field: Several moorings just offshore of beach - closely spaced + very small boats (≈ 6-10' skiffs + dinghys)

Navigation channel: No

### Other Notes or Observations

Small public beach between residential parcels. Stone groin on east end surrounding a culvert that runs under the road to a wetland behind the road + residential parcels. Beach berm is narrow - approx. 6' wide. Stone/cement revetment between road + berm lies ≈ 2.5-3' above berm and ≈ 1' above road. Culvert at east end lies just beneath sand. Water rapidly running out from marsh during site visit.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

**General Site Information**

Site ID & Name: 345 WEST BEACH

Site Address: SEASIDE AVE  
WESTBROOK, CT

Type of beach:  
 State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-14-10

Personnel present: HC, SC

**Site Specific Data**

General site description: Public Beach

Surrounding land use: Residential

Sediment description: Well sorted medium-coarse sand

Sediment sample number(s): 345

Resource Areas/Types:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh                    |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh                        |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal                  |
| <input type="checkbox"/> Bluff            | <input checked="" type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |  |

"lobster rock" offshore

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens                 | <input checked="" type="checkbox"/> Bayberry                             |
| <input type="checkbox"/> Spartina alterniflora           | <input checked="" type="checkbox"/> Amophila (dune grass) <u>on dune</u> |
| <input type="checkbox"/> Typha (cattail)                 | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites                      | <input type="checkbox"/> Rosa rugosa                                     |
| <input type="checkbox"/> Other: <u>scrub oak on dune</u> |  |

Number of site photos: \_\_\_\_\_

345-2

**Shoreline Characteristics**

- Shore protection structures: Series of wood groins along beach; Stone/cement groin at western edge of parcel
- Erosion: \_\_\_\_\_
- Beach slope: Moderate
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

- Name: Seaside Ave
- Primary/secondary road: Secondary
- Description: Paved

Staging area

- Parking area(s): Large lot at West end of parcel
- Surface type: Paved
- Storm drains/catch basins: Yes - drains at street side of lot.
- Approximate size: \_\_\_\_\_

Shore access

- Waterway name: Westbrook Harbor

Offshore description

- Mooring field: ~~Yes~~ YES - small boats moored just offshore in some areas. Very small boats (8-12')
- Navigation channel: No

**Other Notes or Observations**

Public beach running along Seaside Ave. Parking lot at West end is large, paved, but older - pavement is patched in many small areas + cracked in places.

Sediment transport is west → east. Dune in back of beach east of swim area. Restoration project poster on beach house indicates bousolets/Town project aimed at dune restoration. Beach berm is  $\approx$  1-3' lower than parking lot + beach house area.

Berm is narrow at public swim area; wider east of the beach house. At swim area berm is very thin (0-2') at high water. Along length of the beach the berm is  $\approx$  20ft.

Cement revetment runs along length of beach from East end to dune area. Elevation above berm is  $\approx$  7.5-8' for most of the length. Street is higher than berm ( $\approx$  8-10' higher)

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 121 GIN BEACH

Site Address: ~~SOUNDVIEW DR~~ East Lake Drive  
MONTAUK, NY

Type of beach:

- State
- Municipal
- Federal Shore Protection area

Date and time of visit: 7/13/2010 ; 12:30

Personnel present: MLF, JF

**Site Specific Data**

General site description: Municipal beach on E side of Lake Montauk  
Harbor entrance

Surrounding land use: Marines, Private Residences, County Park

Sediment description: well-sorted, medium-grained sand

Sediment sample number(s): 121 Gin Beach

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

121-2

**Shoreline Characteristics**

- Shore protection structures: W end of beach bound by E jetty at Harbor entrance <sup>jetty is riprap</sup>
- Erosion: No evidence of erosion
- Beach slope: Berm very flat; nearshore slopes gradually to water
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: East Lake Drive

Primary/secondary road: Secondary RA

Description: 2-lane

Staging area

Parking area(s): Landward of dune ! beach - surrounded by dunes

Surface type: Asphalt

Storm drains/catch basins: Catch Basin

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Black Island Sound - ! Lake Montauk Harbor

Offshore description

Mooring field: N/A

Navigation channel: only at entrance to Lake Montauk Harbor

**Other Notes or Observations**

Dunes are at landward edge of beach -  $\approx$  12-15' high on 20-30 ft wide, vegetated w/ beach grass

Beach is  $\approx$  35-40' wide - flat berm;

Beach is flush with top of jetty at the landward end; transport of sand into inlet entrance does not appear to be a big problem

East end of beach abuts Roosevelt County Park Beach - campground

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 04 Hobart Beach

Site Address: Eatons Neck Rd  
Huntington NY

Type of beach:  State  Municipal  Federal Shore Protection area  
Date and time of visit: 7-13-10 1:30  
Personnel present: SC, HC

Site Specific Data

General site description: Public beach on Northport Bay + Huntington Bay

Surrounding land use: Residential

Sediment description: Poorly sorted med. um sand

Sediment sample number(s): \_\_\_\_\_

Resource Areas/Types:  
 Beach  Fringing marsh  
 Dune  Salt marsh  
 Barrier Beach  Rocky intertidal  
 Bluff  Rock outcrops offshore  
 Other: Terns, plovers, oyster catchers + nesting area

Dominant vegetation/location:  
 Spartina patens  Bayberry  
 Spartina alterniflora  Amophila (dune grass)  
 Typa (cattail)  Cedar  
 Phragmites  Rosa rugosa  
 Other: Lowsts

Number of site photos: \_\_\_\_\_



64-2

**Shoreline Characteristics**

Southern

- Shore protection structures: Loosely placed stone revetment at end of barrier beach
  - Erosion: Likely sand is moving south along barrier beach toward S. end.
  - Beach slope: Gradual
- Width of Fill/Starting Point: \_\_\_\_\_

**Site Access**

Road access

Name: Burlington Dr.

Primary/secondary road: Secondary

Description: Paved; winding, steep in some sections

Staging area

Parking area(s): Large lot between beach areas on Northport + Huntington Bays

Surface type: Paved

Storm drains/catch basins: Storm drain

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Northport Bay on east side, Huntington Bay on west

Offshore description

Mooring field: on Northport bay side

Navigation channel: No

**Other Notes or Observations**

Public beach between Northport + Huntington Bays. Barrier beach extends out toward south. Plovers, terns + oyster catchers nesting on barrier beach. ~~Barren~~ Vegetated dune on barrier beach and on Northport bay side. Berm is same elevation as parking lot. Plenty of staging area room in large paved lot. Lots of birds, seagulls in parking lot.

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 07 CRESCENT BEACH

Site Address: CRESCENT BEACH DR.  
HUNTINGTON BAY, NY

Don McKay · 631-351-3589

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-13-10

Personnel present: HC, SC

**Site Specific Data**

General site description: Municipal beach on Huntington Bay

Surrounding land use: Residential

Sediment description: Poorly sorted medium sand with pebbles

Sediment sample number(s): \_\_\_\_\_

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input type="checkbox"/> Dune             | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens   | <input type="checkbox"/> Bayberry              |
| <input type="checkbox"/> Spartina alterniflora                                   | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)   | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites  | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>3 locusts in playground area behind beach</u> |  |

Number of site photos: \_\_\_\_\_

67-2

**Shoreline Characteristics**

- Shore protection structures: Cement revetment at edge of beach at high tide line raised 2-3' above high tide.
- Erosion: Yes. Beach is virtually non-existent at high tide.
- Beach slope: Gradual to moderate
- Width of Fill/Starting Point: Cement revetment at high tide line

**Site Access**

Road access

Name: Crescent Beach Dr.  
 Primary/secondary road: Secondary, very windy, steep road  
 Description: Paved, residential neighborhood - narrow rd.

Staging area

Parking area(s): Paved lot behind playground + beach  
 Surface type: Paved  
 Storm drains/catch basins: Catch basin  
 Approximate size: \_\_\_\_\_

Shore access

Waterway name: Huntington Bay

Offshore description

Mooring field: No  
 Navigation channel: Narrow channel to

**Other Notes or Observations**

Public beach with playground. Beach is very narrow - approximately 0-2' wide at high tides, but extends  $\pm$  50' at low. 3-Foot high cement revetment at edge of high tide line. Virtually no beach at high tide. Mooring on edge of beach on Huntington Harbor Side. Northport Bay channel lies offshore of beach. Some olva, crepidula + other shell material on beach. Water quality appears poor.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 68 GOLD STAR BATTALION BEACH

Site Address: BROWNS RD  
HUNTINGTON, NY

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-13-10 12:15

Personnel present: HC, SC

**Site Specific Data**

General site description: Municipal beach in Huntington Harbor near marina  
With recreational facility for young children (play area w/ slide + swings, etc.)

Surrounding land use: Residential, open space, marina

Sediment description: Well sorted medium sand

Sediment sample number(s): 68

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

**Dominant vegetation/location:**

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry  |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) on small dune at edge of beach |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa   |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

- Shore protection structures: No
- Erosion: No evidence of.
- Beach slope: Moderate
- Width of Fill/Starting Point: edge of berm  $\approx$  100' from parking lot

**Site Access**

## Road access

Name: West Shore Rd.

Primary/secondary road: Secondary

Description: Paved

## Staging area

Parking area(s): Lot in back of beach, directly adjacent (no sidewalk)

Surface type: Paved

Storm drains/catch basins: yes - catch basin

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: Huntington Harbor

## Offshore description

Mooring field: yes - Huntington Harbor

Navigation channel: \_\_\_\_\_

**Other Notes or Observations**

Beach berm extends  $\approx$  100 feet from parking lot. Berm is at grade with, or slightly higher than, paved parking area. Bath house adjacent to beach has handicap ramp extending to water. Town dinghy storage + wood pier at edge of beach. Harbor Boating Club + Wincoat Club are marinas adjacent to beach.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 81 BREAKWATER PARK BEACH

Site Address: LUTHERS RD - WEST SIDE OF MATTITUCK INLET  
MATTITUCK, NY

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-12-10 3:45

Personnel present: SC, MC

Site Specific Data

General site description: Public Beach west of Mattituck Inlet

Sand accreting on east side - jetty near entrapment. Nourishment not recommended.

Surrounding land use: Residential

Sediment description: Poorly sorted, medium-coarse sand

Sediment sample number(s): \_\_\_\_\_

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                               | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                                | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach                                  | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff  | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Plants, least tern nesting areas</u> |   |

Dominant vegetation/location:

- |   |   |
|---|---|
| <input type="checkbox"/> Spartina patens            | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora      | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)            | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites                 | <input checked="" type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: <u>Dusty miller</u> |   |

Number of site photos: \_\_\_\_\_

81-2

**Shoreline Characteristics**

- Shore protection structures: Stone jetty at Mattituck Inlet on east side  
jetty elevation is  $\approx$  2' above berm.
- Erosion: No beach accreting on this side of jetty.
- Beach slope: Moderate-steep
- Width of Fill/Starting Point: —

**Site Access**

Road access

Name: Breakwater Ave

Primary/secondary road: Secondary

Description: Paved

Staging area

Parking area(s): Lot behind beach

Surface type: Paved

Storm drains/catch basins: None

Approximate size: —

Shore access

Waterway name: LIS; Mattituck Inlet on east edge

Offshore description

Mooring field: No

Navigation channel: Mattituck Inlet on east side

**Other Notes or Observations**

Public beach/vec area. Berm is at same elevation as parking lot. Dune behind parking lot, and also on west side of beach. To the west of this beach, there is a steep bluff + beach is much narrower. Nesting area for plovers, least terns on beach. a wide

NOTE: On east side, material is building up, forming a berm near the jetty. Berm is  $>150'$  near jetty;  $30'$  at west end of beach. At end of berm, beach slope is moderate to steep. Nowishment not recommended for this <sup>Page 2 of 2</sup> site, as jetty is near entrapment already

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 111 CRESCENT BEACH

Site Address: SHORE RD  
SHELTER ISLAND, NY

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-12-10 12:00

Personnel present: Shannon Carvey,  
Heidi Clark

Grant Enftter. Rec. Dept Director  
631-749-0302 x109 [Sent e-mail re: nonishment]

Site Specific Data

General site description: Public beach on North side of Shelter Island; Northern entrance to Southold Bay.  
Parking lot runs length of beach; road directly behind; beach club.

Surrounding land use: Residential; wetland across road on east end.  
Lot directly in back of swim area has restaurant

Sediment description: Partly sorted medium-coarse grained sand  
with pebbles.

Sediment sample number(s): 111

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach                                       | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune <u>Small dune on east end of beach</u> | <input type="checkbox"/> Salt marsh             |
| <input type="checkbox"/> Barrier Beach  | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff  | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____   |   |

Dominant vegetation/location:

- |  |  |
|--|--|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry  |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) <u>on dune</u> |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar   |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                                     |
| <input type="checkbox"/> Other: _____          |  |

Number of site photos: \_\_\_\_\_



**Shoreline Characteristics**

- Shore protection structures: None on parcel
- Erosion: No evidence of erosion
- Beach slope: Gradual
- Width of Fill/Starting Point: ≈ 30' from parking lot (edge of berm)

**Site Access**

## Road access

Name: West Neck Rd. to Shore Rd.

Primary/secondary road: Secondary

Description: Paved

## Staging area

Parking area(s): Long thin lot runs length of beach

Surface type: Paved

Storm drains/catch basins: Storm drains every 100' along road; also on beach side of parking lot.

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: Peconic Bay

## Offshore description

Mooring field: No

Navigation channel: Southold Bay entrance channel directly offshore

**Other Notes or Observations**

Public beach in cove on Shelter Island. Berm is ≈ 30' from parking lot. Beach slopes gradually from edge of berm. Wood revetment between beach → parking lot is elevated ≈ 2.5' above berm. Could potentially raise beach ≈ 2' if necessary to use fill.

NORTH chart indicates cable area offshore.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 76 TOWN BEACH

Site Address: NORTH RD (ROUTE 48)  
SOUTHOLD, NY

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/12/2010 4:50

Personnel present: MLF, JF

**Site Specific Data**

General site description: Small municipal beach along Rt 48

Surrounding land use: Residential

Sediment description: poorly-sorted coarse grained sand

Sediment sample number(s): 76 Town Beach

Resource Areas/Types:

<input checked="" type="checkbox"/> Beach	<input type="checkbox"/> Fringing marsh
<input type="checkbox"/> Dune	<input type="checkbox"/> Salt marsh
<input type="checkbox"/> Barrier Beach	<input type="checkbox"/> Rocky intertidal
<input type="checkbox"/> Bluff	<input type="checkbox"/> Rock outcrops offshore
<input type="checkbox"/> Other: _____	

Dominant vegetation/location:

<input type="checkbox"/> Spartina patens	<input type="checkbox"/> Bayberry
<input type="checkbox"/> Spartina alterniflora	<input type="checkbox"/> Amophila (dune grass)
<input type="checkbox"/> Typha (cattail)	<input type="checkbox"/> Cedar
<input type="checkbox"/> Phragmites	<input type="checkbox"/> Rosa rugosa
<input type="checkbox"/> Other: _____	

Number of site photos: \_\_\_\_\_

Nowished in 1990s after hurricane Bob  
Significant erosion here

76-2

**Shoreline Characteristics**

- Shore protection structures: West end of beach has a boat launching ramp - fill/dense pack <sup>made of</sup>
- Erosion: Town DPW says beach has eroded significantly in past few years
- Beach slope: moderate slope
- Width of Fill/Starting Point: edge of parking lot seaward - parking lot and berm  
is  $\approx 2'$  <sup>equiv difference between</sup>

goes  
across  
beach  
from  
parking  
area to  
high tide

**Site Access**

Road access

Name: Rt. 48

Primary/secondary road: Primary

Description: 2-lane

Staging area

Parking area(s): Large parking area between beach & road

Surface type: asphalt & pressed gravel - combination

Storm drains/catch basins: Catch basins

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS

Offshore description

Mooring field: N/A

Navigation channel: N/A

**Other Notes or Observations**

Berm  $\approx 25-30'$  wide; moderately sloping to nearshore area; nearshore area slopes moderately to water; beach slopes abruptly from edge of parking area

Flat playground at E end of beach & parking area

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Beach Sites

General Site Information

Site ID & Name: 79 GULL POND BEACH (NORMAN E. KLIPP PARK)

Site Address: MANHASET AVE  
GREENPORT, NY

Type of beach:

- State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7/12/2010

Personnel present: MLF, JF

Site Specific Data

General site description: Local municipal beach

Surrounding land use: Residential neighborhood; nearby marinas

Sediment description: Moderately well-sorted coarse-grained sand;  
west end of beach has medium-grained sand that is well sorted

Sediment sample number(s): 79 Gull Pond Beach (sample taken at eastern end)

Resource Areas/Types:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune  | <input checked="" type="checkbox"/> Salt marsh  |
| <input type="checkbox"/> Barrier Beach    | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff            | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____     |   |

Dominant vegetation/location:

- |   |  |
|---|--|
| <input type="checkbox"/> Spartina patens                  | <input type="checkbox"/> Bayberry              |
| <input checked="" type="checkbox"/> Spartina alterniflora | <input type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)                  | <input type="checkbox"/> Cedar                 |
| <input type="checkbox"/> Phragmites                       | <input type="checkbox"/> Rosa rugosa           |
| <input type="checkbox"/> Other: _____                     |  |

Number of site photos: \_\_\_\_\_

79-2

**Shoreline Characteristics**

Shore protection structures: timber crib jetty at N end of beach

Erosion: no signs of erosion but town indicates historical erosion

Beach slope: Very gradual nearshore; berm is nearly flat

Width of Fill/Starting Point: top of dunes out about 30' then out to water

**Site Access**

Road access

Name: McNasset Ave.

Primary/secondary road: Secondary

Description: 2-lane

Staging area

Parking area(s): Large parking area landward of beach

Surface type: Asphalt

Storm drains/catch basins: None

Approximate size: \_\_\_\_\_

Shore access

Waterway name: Gull Pond & Orient Harbor

Offshore description - Shelter Island across waterway

Mooring field: \_\_\_\_\_

Navigation channel: entrance channel to harbor at east end of beach

**Other Notes or Observations**

Scallops  
razor clams  
caprellids

Berm is  $\approx$  30' wide and level in elevation with parking lot; small patchy dunes between parking lot & beach; W end of beach beyond parking area is wider - the landward part of the southern beach has a 6-7' high coastal dune with beach grass; tidal marsh/channel behind (marsh has S. altiflora; marsh elder)

Sediment transport N  $\rightarrow$  S; sand is leaking around end of <sup>east</sup> jetty at harbor entrance near N end of the beach; S jetty appears to be sand tight but in poor condition

Boat launching ramp on back side of <sup>Page 2 of 2</sup> parking lot; harbor lined with timber bulkhead  
E. N end of beach has 40x50 ft wide flat area flush with top of bulkhead

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 381 WATCH HILL BEACH

Site Address: 151 BAY ST  
WESTERLY, RI

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 7-15-10 10:30

Personnel present: HC, SC

**Site Specific Data**

General site description: Barrier beach between Block Island Sound and Little Narragansett Bay

Surrounding land use: Residential + Commercial (mamas, restaurants, beach clubs)

Sediment description: Well sorted fine-medium sand

Sediment sample number(s): 381

**Resource Areas/Types:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Beach         | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune          | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                    | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: _____             |   |

**Dominant vegetation/location:**

- |  |   |
|--|---|
| <input type="checkbox"/> Spartina patens       | <input type="checkbox"/> Bayberry                         |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |
| <input type="checkbox"/> Typha (cattail)       | <input type="checkbox"/> Cedar                            |
| <input type="checkbox"/> Phragmites            | <input type="checkbox"/> Rosa rugosa                      |
| <input type="checkbox"/> Other: _____          |   |

Number of site photos: \_\_\_\_\_

**Shoreline Characteristics**

- Shore protection structures: Stone groin at west end; smaller ~~stone~~ stone groin at east end.
- Erosion: evident at east end near groin. Sediment transport is east → west
- Beach slope: Moderate
- Width of Fill/Starting Point: edge of berm

**Site Access**

## Road access

Name: Bay St.

Primary/secondary road: Secondary

Description: Paved

## Staging area

Parking area(s): Behind beach

Surface type: Paved

Storm drains/catch basins: None observed

Approximate size: \_\_\_\_\_

## Shore access

Waterway name: Black Island Sound to South; Little Narragansett Bay to North

## Offshore description

Mooring field: No

Navigation channel: No

**Other Notes or Observations**

Small public beach just east of Nappatree Point beach (site 382). This parcel has a wider berm near the road/parking lot. Here the berm is  $\approx 50'$  wide. At far east side of parcel, and also at west end berm is narrower. West end of parcel has a dune extending  $\approx 20'$  high, and covered in *Ammophila*.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Beach Sites**

**General Site Information**

Site ID & Name: 382 Napatree Point Beach

Site Address: Fort Rd.  
Westerly, RI

Type of beach:  State  
 Municipal  
 Federal Shore Protection area

Date and time of visit: 9-15-10 10:30

Personnel present: SL, HC

**Site Specific Data**

General site description: Barrier beach between BIS and Little Narragansett Bay in Westerly, RI

Surrounding land use: Residential + Commercial (Marina, beach club, shops + restaurants)

Sediment description: Well sorted medium-fine sand.

Sediment sample number(s): 382

**Resource Areas/Types:**

- |  |   |
|--|---|
| <input type="checkbox"/> Beach                                     | <input type="checkbox"/> Fringing marsh         |
| <input checked="" type="checkbox"/> Dune                           | <input type="checkbox"/> Salt marsh             |
| <input checked="" type="checkbox"/> Barrier Beach                  | <input type="checkbox"/> Rocky intertidal       |
| <input type="checkbox"/> Bluff                                     | <input type="checkbox"/> Rock outcrops offshore |
| <input type="checkbox"/> Other: <u>Tern + Plover nesting areas</u> |   |

**Dominant vegetation/location:**

- |  |   |            |
|--|---|------------|
| <input type="checkbox"/> Spartina patens       | <input checked="" type="checkbox"/> Bayberry              | } In dunes |
| <input type="checkbox"/> Spartina alterniflora | <input checked="" type="checkbox"/> Amophila (dune grass) |            |
| <input type="checkbox"/> Typha (cattail)       | <input checked="" type="checkbox"/> Cedar                 |            |
| <input type="checkbox"/> Phragmites            | <input checked="" type="checkbox"/> Rosa rugosa           |            |
| <input type="checkbox"/> Other: _____          |   |            |

Number of site photos: \_\_\_\_\_



382-2

**Shoreline Characteristics**

Shore protection structures: Stone groin at east end

Erosion: Dunes eroding on LIS side

Beach slope: Moderate-gentle

Width of Fill/Starting Point: Just seaward of toe of dune

**Site Access**

Road access

Name: Fort Rd.

Primary/secondary road: Secondary

Description: Paved

Staging area

Parking area(s): Public, Paved lot. This lot ends + becomes Private (beach club) lot near path that leads to beach. No access for vehicles - small path in dunes.

Surface type: Paved.

Storm drains/catch basins: Storm drains along side of lot drain to Little Narragansett Bay.

Approximate size: \_\_\_\_\_

Shore access

Waterway name: LIS + Little Narragansett Bay

Offshore description

Mooring field: In Little Narragansett Bay

Navigation channel: \_\_\_\_\_

**Other Notes or Observations**

Extensive (1.5 mile) beach between LIS + Little Narragansett Bay. Private beach club on East end where public beach/dune area originates. Public access is through large vegetated dune at end of road, on east end of parcel. Stone groin on east end of beach. Erosion evident on dunes on LIS side. (not on Little Narr. Bay side). Dune restoration/ sand fences placed at western end of dunes, running all along the beach. Least tern + piping plover nesting areas on west side near point have enclosures. Eelgrass + kelp on beach indicating good water quality/ fish habitat offshore. Remnants of old wood pier at far west end, in an area of loosely placed boulders. Dune

at end of spit where sand is <sup>Page 2 of 2</sup> accreting is enlarged + heavily vegetated with *Rosa rugosa*, bayberry + *Ammophila*.

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Restoration/Redevelopment Sites

General Site Information

Site ID & Name: 427 Plumb Beach  
Site Address: Belt Parkway just east of Kroyer St  
Site Owner/Operator: NPS - Gateway Nat'l Park USACE POL Jan Felt  
Date and time of visit: 8-3-10 0830 Personnel present: MLF/HC (917) 710-8614

Site Specific Data

General project description: Severely eroded beach with sensitive habitats. Nourishment would help protect beach & road, and also improve beach/dune coastal habitat

Agencies/groups involved in the project: NPS, USACE, NYC DOT, NY DOS, NYC Parks & Rec.

Existing condition: Severely eroded - almost to road. Sand bags in place to prevent further erosion

Prior condition: Beach had been much larger; dunes heavily used/degraded over time.

Species of special concern expected to benefit from the project: Horseshoe crabs; coastal birds.

Project timeframe: Need to repair/shore up road area right away

Amount of material to be used in the project:

Restrictions on time of day, week, year (hours of operation): Traffic windows apply if using P.M.

Site Access

Road name: Belt Parkway - busy freeway leads to lot

Waterway name: North side of Rockaway Inlet

427-2

Other Notes or Observations

Project included in habitat restoration projects but immediate need is for shore/road protection.

Fill material volume = 47,696 cy

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Restoration/Redevelopment Sites**

**General Site Information**

Site ID & Name: 430 - White Island  
Site Address: Jamaica Bay, near confluence of Gerritsen Cr. + Mill Cr.  
Site Owner/Operator: NPS - Gateway Nat'l Park USACE P.M. Don Falk  
917-790-8614  
Date and time of visit: 8-3-10 Personnel present: MLF/HC

**Site Specific Data**

General project description: White Island Project is aimed at restoring grassland habitat + stabilize the island which was formerly used for waste disposal (want to ensure garbage doesn't infiltrate local waterbodies)

Agencies/groups involved in the project: NPS, NYC Dept of Parks, NYC DEC, FWS - NADP,

Existing condition: Restoration ongoing. DM has been placed on site + plantings will take place in fall.

Prior condition: Grassland / saltmarsh area; was used as a waste disposal area

Species of special concern expected to benefit from the project: Grassland birds + wading / water birds

Project timeframe: Placement of material is complete

Amount of material to be used in the project:

Restrictions on time of day, week, year (hours of operation): Dredging windows would apply

**Site Access**

Road name: —

Waterway name: Gerritsen Creek / Mill Creek area

Other Notes or Observations

D.M. already placed - no need for add'l material

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Restoration/Redevelopment Sites

General Site Information

Site ID & Name: 431 Gerritson Creek  
Site Address: Marine Park area of Jamaica Bay  
Site Owner/Operator: NPS - Gateway Nat'l Park USACE P.M. Dan Falt  
Date and time of visit: 8-3-10 Personnel present: MLF/KC

Site Specific Data

General project description: Salt marsh/coastal grassland restoration +  
shore stabilization project. Project will increase tidal flow;  
restore marsh/grassland, and add tidal channels to enhance marsh  
fringe areas. Also want to remove phragmites.

Agencies/groups involved in the project: NPS, NOAA, USACE, NYC DEP,

Existing condition: Restoration in progress - material placed +  
native species have been planted. Tidal flushing has been  
increased.

Prior condition: Historically this was salt marsh - later dredge/fill  
activity + waste disposal (landfilling) caused loss  
of salt marsh + habitat degradation

Species of special concern expected to benefit from the project: Various - waterfowl +  
migratory birds

Project timeframe Mostly complete - no need for more material

Amount of material to be used in the project:

Restrictions on time of day, week, year (hours of operation): —

Site Access

Road name: Adjacent roadway is Avenue U

Waterway name: Gerritson Creek

Other Notes or Observations

Project virtually complete - no need for D.M. at this time,

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Restoration/Redevelopment Sites**

**General Site Information**

Site ID & Name: 429 Jamaica Bay Islands  
Site Address: Jamaica Bay, NY  
Site Owner/Operator: NPS - Gateway Nat'l Park = owner  
Date and time of visit: 8-3-2010 Personnel present: MLF/HC

*Meeting with Dan Felt, USAACE (917) 790-8614*  
*NYC Parks is non-Fed sponsor for Project.*

**Site Specific Data**

General project description: Marsh Island restoration project

Agencies/groups involved in the project:

Existing condition: Islands / salt marsh area ~~area~~ has been lost over time - researchers don't agree on causes (subsidence, climate A, water quality, etc.). Agencies agreed to go back to 1974 foot print. (much larger island area)

Prior condition: Much more salt marsh in Bay - removed by dredging / filling activity + various other causes

Species of special concern expected to benefit from the project: Migratory Birds, wading birds

Project timeframe: Some projects complete (Elders); others in planning stage (Rulers Bar, Black wall) -> each  $\approx$  30,000 cu of D.M.

Amount of material to be used in the project:  
Restrictions on time of day, week, year (hours of operation): Dredging windows may cause a constraint on filling

**Site Access**

Road name: —

Waterway name: Jamaica Bay



## Other Notes or Observations

Black wall + Rulers Bar will be Section 204 Projects

Marsh islands are sinking - no agreement on exact cause(s).

Projects require a lot of fill. Compaction rates  $\approx 1.00\%$

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Landfill Sites**

**General Site Information**

Site ID & Name: 251 Manchester Landfill  
Site Address: 1 Landfill Way / 236 Olcott St. Manchester CT  
Site Owner/Operator: Landfill Superintendent Joe Lentini 860-819-7990 cell  
647-3234 office  
Type of landfill:  Private Date and time of visit: 7-14-10  
 Municipal Personnel present: SL, HC

**Site Specific Data**

General description: Municipal Landfill  
Surrounding land use: Residential, light industry, open space, Hallowell River to east  
Types of material accepted: Municipal Solid Waste; C+D, recyclables  
Accepting dredged material now or willing to accept in future?: Yes - in special waste program  
Potential use dredged material at the landfill (daily cover, capping, etc.): Potential use as  
daily cover, capping  
Amount of material accepted daily or yearly: Total capacity 1.2M c.y., low daily volume  
now because of economy  
Expected active life/closure date: Closure 2021-2025, depending on economy/daily volumes  
Restrictions on time of day, week, year (hours of operation): \_\_\_\_\_  
Tipping Fees: \$ 83.00/ton for dredged material

**Site Access**

Road name: Landfill Way

**Other Notes or Observations**

Landfill has been operating since 1950's.  
D.M. would be handled under "special waste"; tipping fee \$83/ton.  
Daily volume down now due to sluggish economy, therefore original  
closure date of 2021 may be extended to 2025.



U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Dewatering Sites



General Site Information

Site Number and Name: 272 WINDSOR-BLOOMFIELD LANDFILL

Site Address: 50 & 60 HUCKLEBERRY RD  
WINDSOR, CT

Owner/Operator contact information: SOLID WASTE MANAGER, MARK ~~GOSSENS~~ GOSSENS

800-463-2557 cell Mark GosSENS 860-285-1833  
WWW.TOWNOFWINDSOR.CT.COM

~~Havent taken dredged material in past. No way this week. Will~~

Date and time of visit: 2pm Wed. July 29  
call next week to arrange

Personnel present: MLF / HC

Site Specific Data

General Site Description (general description, current land use; adjacent area land use, impervious surface or general soil type):

Municipal Landfill + Transfer Station

Permitted 1972 ≈ Open 1973

Havent accepted dredged material in the past. (could potentially use if  
could use for final grading if would grow grass (clean, organic matter). Would  
be decided on case-by-case basis.

Surrounding land use: Residential + Park. Also Combustion Engineering ABB  
to South. in process of re-development (old remediation site;  
former nuclear site).

Resource Areas/Types if any:

- Wetlands on parcel (bog in northeast corner of parcel)
- Fringing marsh
- Salt marsh
- Fresh water areas
- Pond, Lake, Stream Bog
- Bluff
- Other:

\$65/ton C&D (bulky waste)

Tipping fees \$68/ton (MSW)

Market dictated by CT resources/recovery authority. (controls market + sets local prices - Windsor isn't a member so keeps prices a little lower).

Dominant vegetation (if any): \_\_\_\_\_

Number of photos of site: \_\_\_\_\_

### Shoreline Characteristics

Shoreline stabilization structures: NA

Approximate water depth just offshore: unknown

### Site Access

Road access

Road name: Huckleberry Rd

Describe access road/driveway if there is one: Paved; runs through neighborhood

Shore access

Adjacent waterway name: Ct. River (steep slope from landfill to river)

Offshore and nearshore description (mooring field, rocky intertidal, busy channel, etc.): \_\_\_\_\_

Note: there is a dam near here (N or S unknown - check!)

### Areas available for staging, equipment maneuvering, building dikes

### Site preparation

- open M-F 8-3:30
- 91 → Dayhill Rd → Prospect → Huckleberry

### Other notes or observations

Capacity  $\approx$  160,000 cu (estimated)

Design life - to 2013 (estimated - depends on economy, competition)

Takes material from 2 towns (Windsor + Bloomfield) + businesses in surrounding area. Southern half constructed from North to South (cells A → D). Lower-SE corner has CTD, brush etc. Post-closure plan is for park (to adjoin parkland on adjacent parcel. To maximize capacity created fingers running N → S (allows contours + maximizes soil space). Closure expected 2012-2013.

**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Landfill Sites**

**General Site Information**

Site ID & Name: 61 Town of Brookhaven Landfill

Site Address: 350 Horseblock Rd. Brookhaven NY

Site Owner/Operator: Ed Hubbard / Mike DeGama 631-451-6222  
631-286-8551

Type of landfill: \_\_\_\_\_ Date and time of visit: 7-13-10 15:00

- Private
- Municipal

Personnel present: SC, HC

**Site Specific Data**

General description: Municipal landfill

Surrounding land use: Residential to west<sup>+northwest</sup>; light industrial north, open space south<sup>+north</sup> sides

Types of material accepted: C+D, D.M. including fines; Sludge from NYC, ash from <sup>(cars, unrecyclable/unrecovered materials from)</sup> incinerators in Hempstead.

Accepting dredged material now or willing to accept in future?: Yes

Potential use dredged material at the landfill (daily cover, capping, etc.): Daily cover, capping cells as they close.

Amount of material accepted daily or yearly: \_\_\_\_\_

Expected active life/closure date: \_\_\_\_\_

Restrictions on time of day, week, year (hours of operation): 0900-16:00 M-F; 0700-1200S

Tipping Fees: \$25.00 /ton (They may add a cubic yard option for pricing)

**Site Access**

Road name: Horseblock Rd.

**Other Notes or Observations**

Accepts large animal carcasses, "dredge spoils", boats, etc. as well as C+D and ash from incinerated household trash. Also operates a materials recycling area, + yard waste/compost facility.

Town of Brookhaven household trash is collected here + sent to an incinerator in Hempstead. Ash is brought back to Brookhaven after incineration. In 1986 a 56-acre expansion project was brought online. Currently expanding cells on northwest side - will tie in with northern edge of westernmost cell.



**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Landfill Sites**

**General Site Information**

Site ID & Name: 60. Town of Islip Landfill  
Site Address: 440 Blydenburgh Rd. Islip, NY  
Site Owner/Operator Robby Brick 631-224-5645 / Chris Andrade 631-224-5644  
Type of landfill:  Private  Municipal  
Date and time of visit: 7-13-10  
Personnel present: SG, HC

**Site Specific Data**

General description: Municipal Landfill  
Surrounding land use: Residential + horse farm / agricultural  
Types of material accepted Clean fill, C+D  
Accepting dredged material now or willing to accept in future?: Possibly but problems w/ it in past  
Potential use dredged material at the landfill (daily cover, capping, etc.): Daily cover / capping IF accepted.  
Amount of material accepted daily or yearly: \_\_\_\_\_  
Expected active life/closure date: estimate 5 1/2 yrs active life from 2010 (6-700,000 cy capacity)  
Restrictions on time of day, week, year (hours of operation): 07:00 - 14:45 M-F 0700-1245 Sat.  
Tipping Fees: \$ 45.00 for D.M and C+D

**Site Access**

Road name: Blydenburgh Rd.

**Other Notes or Observations**

Landfill has had problems with dredged material in the past, including odor, and problems with contractors switching loads + bringing in unpermitted material. Therefore operators are skeptical about accepting P.M.  
Total landfill volume is 4,500,000 cy. Current capacity is 600,000-700,000 cy. This will take approximately 5.5 yrs. Height is now 210'. Can go to 280'. Largest piece is the MSW area, which is closed + capped (1993).





U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Landfill Sites

**General Site Information**

Site ID & Name: Site 59. 110 Sand Co. Clean Fill Disposal Site  
Site Address: Bethpage Spagnoli Rd. Melville, NY  
Site Owner/Operator: James Debis / Chester Bromun 631-674-2822  
Type of landfill:  Private  Municipal  
Date and time of visit: 7-13-10  
Personnel present: SC, HC

**Site Specific Data**

General description: Privately owned sand mine/ landfill/ asphalt manufacture site  
Surrounding land use: Light industrial + Park/ open space to north + residential "Broad Hollow Estates" to west  
Types of material accepted: C+D debris; MSW; organic waste  
Accepting dredged material now or willing to accept in future?: Yes - but easier if freshwater source  
Potential use dredged material at the landfill (daily cover, capping, etc.): Daily cover +/- fill  
  
Amount of material accepted daily or yearly: Permitted for up to 6,000 tons/day; 2M tons/yr.  
Expected active life/closure date: Active life 40yr. from 2010 (closure ~ 2050)  
Restrictions on time of day, week, year (hours of operation): \_\_\_\_\_  
Tipping Fees: \$ 25.00/ton for dredged material

**Site Access**

Road name: Spagnoli Rd.

**Other Notes or Observations**

Landfill was originally a sand mine. Now filling excavated areas. Currently 1 parcel on southeast side of larger parcel is used in asphalt manufacture. Landfill has a double liner, so can accept items such as electrical conduit. Liner built to DEC specs (part 350).



**U.S. Army Corps of Engineers**  
**LIS Upland Disposal Site Investigation Data Sheet: Restoration/Redevelopment Sites**

**General Site Information**

Site ID & Name: 422 & 423 Flushing Airport Wetlands & Upland  
Site Address: 20<sup>th</sup> Ave & 132<sup>nd</sup> St, Queens, NY  
Site Owner/Operator: NYC Economic Development Corp.  
Date and time of visit: 8/3/10 11:00 Personnel present: HC, MLF

**Site Specific Data**

General project description: Wetland mitigation/restoration project to offset impacts at other property developed by NYC. Includes PWRag removal, removal of contaminated soils, capping w/ 2 ft of clean fill, reconstruct hydrology and revegetate

Agencies/groups involved in the project: DEC, NYC EDC

Existing condition: Inland wetland area - flooded by runoff from adjacent parcels. Filled w/ PWRag. New road built thru W side of site to provide equipment access and eventual city street w/ improved access to congested area.

Prior condition: (1970s to 1980s) Old airport runway area; some illegal dumping occurred in the past

Species of special concern expected to benefit from the project: birds, wetland vegetation, etc.

Project timeframe: on hold until funds can be found to finish

Amount of material to be used in the project: ~ 140,000 cy clean fill; more material for upland area if it is found

Restrictions on time of day, week, year (hours of operation): None expected

**Site Access**

Road name: 20<sup>th</sup> Ave & 132<sup>nd</sup> streets

Waterway name: NA; closest area for barges is at Flushing Bay

Municipal Transfer Stc.

422/423-2

Other Notes or Observations

Fill material must meet TAGM 4046 criteria (NY DEC)

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: 437 Plum Island Redevelopment/Construction

Site Owner/Operator: Department of Homeland Security - Tom Dwyer

Site Address: Plum Island, NY (631) 323-3045  
thomas.dwyer@hq.dhs.gov

Date and Time of Site Visit: 7/28/10

WHG Personnel Present: HC, MLF

Is the owner/operator receptive to using the site for dewatering at this time? SW side of island  
currently receives beach nourishment periodically

Are there any regulatory restrictions to using the site as a CDF? no  
no redevelopment plans so no CDF - only beach nourishment site

Are there limitations on the type of material that can be placed at the site? Sand etc  
nourishment etc

harbor  
is  
dredged  
every  
5-10 yrs.

Land Use

Current land use at the site Animal disease research center, D.H.S.

Prior to military - farmers w sheep  
Prior/historical land use Fort Terry; officer housing during WWII; then USDA  
took over for current use; 1990s all admin bldgs consolidated into current bldg.

Has there been any recent construction at the site? Admin bldgs built in 1990s; some repairs in  
harbor area

What is the construction history at the site? past beach nourishment

What are the characteristics and land uses of adjacent properties? Island - no abutters

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? NA

437-2

### Soils and Topography

What is the existing topography at the site? North Central part of island has most relief; SW corner is low lying

What soil types are present at the site? island - N side is part of Harbor Hill Marine; S side ~~is~~ is an outwash plain; bluffs on N's side

Are there any recent excavations at the site that show the soil stratigraphy? \_\_\_\_\_

Are there borrow sources nearby that could be used for dike construction? \_\_\_\_\_

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? \_\_\_\_\_

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? only surface water are 2 wetlands; some vernal pools; groundwater flows same as surface water

Are there groundwater wells on the site? Yes, near center of island - 8 wells to 35' - also 60-80'

Is the site within known ground water supplies? Yes - wells near center of island

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? only wetlands; no streams

Are there apparent means to accommodate effluent runoff from the site? No

What are the surrounding water depths where effluent will discharge into? \_\_\_\_\_

Are there wetlands on the site? Yes,

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? wetlands; piping plants

437-3

What is the existing vegetation regime? dune vegetation & wetland vegetation

**Cultural Resources**

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

only military facilities; lighthouse - archaeological survey being done for EIS - possible indian sites

**Site Access**

*Roadways*

Major roadway Paved roadways + gravel roads - all 2 lane

Access road or driveway \_\_\_\_\_

*Water access*

Adjacent waterbody Plum Gut to Plum Island Harbor

Depth range (deep enough for barge?) Tow will supply harbor bulkheaded w/ sheet pile; 2 stone jetties

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? shoreline has nearshore

like water depths; harbor could support a barge

If mechanical offloading were to occur, is there waterfront access for barges? only in

harbor area

*Rail access*

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? WA

*Public Access*

Is the site accessible to the public? No

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? NO

Is there a current means of access for construction equipment? to beach there in narrow 1 lane rd through dunes



437-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes

Are there existing staging areas on the site? yes

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? NA

### Other Site Characteristics

Does the site have any utility crossings? electric; fiber optic utilities around loop road; underwater cable to Orient pt. near lighthouse

What would be the consequences of dike failure at the site? NA - <sup>only</sup> no risk  
considered here

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: ~~Restoration~~/Redevelopment Sites  
Mine Reclamation

**General Site Information**

Site ID & Name: 417 Hazelton Mines  
Site Address: Between Routes 924, 309 & Broad St, Hazelton, PA  
Site Owner/Operator: Hazelton Creek Properties, LLC  
Date and time of visit: Phone interview Personnel present: JF

**Site Specific Data**

General project description: Abandoned mine site - some areas of mine were used as dump for municipal waste. Plans to fill mine pits and redevelop as Performing Arts Center and shopping facilities. Site can accept dredged material, cement kiln dust and construction waste. Looking to permit placement of flux gas desulfurization material.

Agencies/groups involved in the project: Site owner; PA DEP

Existing condition: Mine pits currently filled with water; some areas also have municipal wastes.

Prior condition: Mines

Species of special concern expected to benefit from the project: NA

Project timeframe None projected;  $\approx 10\%$  complete now

Amount of material to be used in the project: 15 mcu

Restrictions on time of day, week, year (hours of operation): \_\_\_\_\_

**Site Access**

Road name: I-80 and I-81; also railroad access on site

Waterway name: None



U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Landfill Sites

**General Site Information**

Site ID & Name: 373 1/2 CT-49 CRRA Hartford Landfill  
Site Address: 284 Leibert Rd. Hartford, CT  
Site Owner/Operator: Peter Egan - Director CT Resources Recovery Auth. 860-757-7725  
Type of landfill:  Private  Municipal  
Date and time of visit: Not visited  
Personnel present: HC, SC

**Site Specific Data**

General description: Closed landfill, no longer takes solid waste - take contaminated soil  
Surrounding land use: \_\_\_\_\_  
Types of material accepted: Contaminated soils  
Accepting dredged material now or willing to accept in future?: Not willing to accept dredged soil  
Potential use dredged material at the landfill (daily cover, capping, etc.): \_\_\_\_\_  
Amount of material accepted daily or yearly: \_\_\_\_\_  
Expected active life/closure date: ~ Summer 2012 at latest  
Restrictions on time of day, week, year (hours of operation): \_\_\_\_\_  
Tipping Fees: \_\_\_\_\_

**Site Access**

Road name: Leibert Rd.

**Other Notes or Observations**

Landfill will be up to grade by Fall 2010.  
Don't have time to accommodate such a request.



U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Dewatering Sites

General Site Information

Site Number and Name: CT-41

Site Address: WEST MAIN ST.  
ANSONIA

Owner/Operator contact information: ANSONIA PARKING AUTHORITY 203-~~928~~ 734-4044  
MARGE DZWONCHYK - ASSESSOR 203-736-5950  
NICE IRISH NAME ↑

Date and time of visit: 6/23/10

Personnel present: MLF / MC

Site Specific Data

General Site Description (general description, current land use; adjacent area land use, impervious surface or general soil type):

Site has been developed into a Target Store + large paved parking lot.

Surrounding land use: light industrial; shopping mall; highway.

Resource Areas/Types if any:

- Wetlands
  - Fringing marsh
  - Salt marsh
- Fresh water areas
  - Pond, Lake, Stream
- Bluff
- Other: \_\_\_\_\_

Dominant vegetation (if any): Woody species on bank between river + site

Number of photos of site: \_\_\_\_\_

**Shoreline Characteristics**

Shoreline stabilization structures: Dikes along river covered in rip rap revetment  $\approx$  25 ft high

Approximate water depth just offshore: extremely shallow;  $\approx$  1-3 ft.

**Site Access**

Road access

Road name: Main St.

Describe access road/driveway if there is one: Paved 1st covers 1/2 of site

Shore access

Adjacent waterway name: Naugatuck River

Offshore and nearshore description (mooring field, rocky intertidal, busy channel, etc.): \_\_\_\_\_

Naugatuck River tributary to Housatonic

**Areas available for staging, equipment maneuvering, building dikes**

South end of site not developed by Target; currently used for material storage, equipment storage; this small area could potentially be used for dewatering & staging

**Site preparation**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Other notes or observations**

\_\_\_\_\_  
\_\_\_\_\_

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: CT-50

Site Owner/Operator: Goodwin College 860-528-4111

Site Address: 133/195 Riverside Dr.  
East Hartford, CT

Date and Time of Site Visit: 7-14-10 1:00 PM

WHG Personnel Present: SC HC

Is the owner/operator receptive to using the site for dewatering at this time? No

Are there any regulatory restrictions to using the site as a CDF? NA

Are there limitations on the type of material that can be placed at the site? NA - Site developed as college campus

Land Use

Current land use at the site Goodwin College - Main Admin. Building + Courtyard.

Prior/historical land use Parcel was once an oil terminal

Has there been any recent construction at the site? No

What is the construction history at the site? Plans for constructing a satellite campus on this parcel

What are the characteristics and land uses of adjacent properties? Residential, College, CT River

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? Site within college campus



CT-50-2

**Soils and Topography** NA

What is the existing topography at the site? \_\_\_\_\_

What soil types are present at the site? \_\_\_\_\_

Are there any recent excavations at the site that show the soil stratigraphy? \_\_\_\_\_

Are there borrow sources nearby that could be used for dike construction? \_\_\_\_\_

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? \_\_\_\_\_

**Water Resources** NA

What is the existing hydrology/surface water drainage regime at the site? \_\_\_\_\_

Are there groundwater wells on the site? \_\_\_\_\_

Is the site within known ground water supplies? \_\_\_\_\_

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? \_\_\_\_\_

Are there apparent means to accommodate effluent runoff from the site? \_\_\_\_\_

What are the surrounding water depths where effluent will discharge into? \_\_\_\_\_

Are there wetlands on the site? \_\_\_\_\_

**Other Environmental Resources** NA

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? \_\_\_\_\_

CT-50-3

What is the existing vegetation regime? \_\_\_\_\_  
\_\_\_\_\_

**Cultural Resources** NA

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_  
\_\_\_\_\_

**Site Access**

*Roadways*

- Major roadway Rte 3
- Access road or driveway \_\_\_\_\_

*Water access*

- Adjacent waterbody CT River
- Depth range (deep enough for barge?) \_\_\_\_\_

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? \_\_\_\_\_  
\_\_\_\_\_

If mechanical offloading were to occur, is there waterfront access for barges? \_\_\_\_\_  
\_\_\_\_\_

*Rail access*

- Is there access to the site by rail? \_\_\_\_\_

What is the approximate distance to the nearest rail line? \_\_\_\_\_

*Public Access*

- Is the site accessible to the public? Yes

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? College owns land to river edge

Is there a current means of access for construction equipment? Yes

CT-50-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes

Are there existing staging areas on the site? No

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes

### Other Site Characteristics

Does the site have any utility crossings? \_\_\_\_\_

What would be the consequences of dike failure at the site? \_\_\_\_\_

College owns land south of selected parcel. But this is wetland/open space and not likely available as a dewatering Basin. Also college president owns land across the river. This too is likely wetlands.

**U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Dewatering Sites**

**General Site Information**

Site Number and Name: CT-8

Site Address: 183 ONE ROD HWY  
FAIRFIELD

Owner/Operator contact information: RICHARD WHITE, FAIRFIELD DIRECTOR  
OF PUBLIC WORKS 203-256-3010

Date and time of visit: 6/22/10 10:00 AM

Personnel present: MLF/HC / Bartlett +

**Site Specific Data**

General Site Description (general description, current land use; adjacent area land use, impervious surface or general soil type):

Greecycle rents parcel for recycling; other portion of parcel is asphalt recycling facility by town (not interested in giving up this use); on-going land use for > 28 years

Surrounding land use: Private properties along beach (generally against use of this parcel)  
Fairfield

Resource Areas/Types if any:

- Wetlands
  - Fringing marsh
  - Salt marsh across salt marsh channel
- Fresh water areas
  - Pond, Lake, Stream
- Bluff
- Other: \_\_\_\_\_

Site 12 generally cleared of vegetation except  
Dominant vegetation (if any): at edges where there is woody veg., trees, arborescens

Number of photos of site: \_\_\_\_\_

### Shoreline Characteristics

Shoreline stabilization structures: None on CT-8

Approximate water depth just offshore: 2-10 ft

### Site Access

Road access

Road name: One Road Hwy

Describe access road/driveway if there is one: Gravel road w/ heavy equipment access.

Shore access

Adjacent waterway name: Pine Creek

Offshore and nearshore description (mooring field, rocky intertidal, busy channel, etc.): Narrow

Shallow entrance to Pine Creek; bank at edge of site is  $\approx$  20-30 ft above water

### Areas available for staging, equipment maneuvering, building dikes

Some dikes already exist around edge of earth portion of site; other dikes planned around construction side; lots of room for staging, maneuvering, dikes etc. - But site already in use by Town

### Site preparation

Consideration would need to be given to fact that site was historically use for brush dumping, possible landfill use also before the brush filling

### Other notes or observations

Master Plan - includes paths for public access through CT-8 site in the future along berms along edge of water

CT-8-2

**U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews**

**General Site Information**

Site ID & Name: CT-30A

Site owner is Joseph Favricelli - Hamden Salvage Inc. (Tire Pond site owner)

Site Owner/Operator: CT DEP / Rick Brainerd + Brian Dexter P.M.s at Laurero

Site Address: 2895 State St.  
Hamden CT

Engineering  
Associates  
DEP took over  
Site  
remediation

Date and Time of Site Visit: 8-4-2010

WHG Personnel Present: MLF / HC

Is the owner/operator receptive to using the site for dewatering at this time? No - site owner Joseph Favricelli does not want D.M. CT DEP is using dry material to do remediation in Tire Pond area

Are there any regulatory restrictions to using the site as a CDF? Not known

Are there limitations on the type of material that can be placed at the site? Yes - can be brick, concrete, dry sediment. No solid waste, no contaminated material.

**Land Use**

Current land use at the site DEP remediation / closure of "Tire Pond" where owner used area as an unpermitted tire disposal site.

Prior/historical land use Was a pond, later filled with used tires.

Has there been any recent construction at the site? Yes - built access road, started fill process, built drainage system, seal traps, etc. Needs final erosion control but otherwise ready to go.

What is the construction history at the site? None - filled pond

What are the characteristics and land uses of adjacent properties? South end of site

is materials processing (sand, gravel, organics); Industrial/commercial on abutting properties  
What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? Residences  $\approx$  1/2 mile to west

CT-30A-2

### Soils and Topography

What is the existing topography at the site? The pond area is being filled + will be built up to a mound/hill. Currently flat.

What soil types are present at the site? See NRCS soils maps. Appears sandy but pond area likely mucky.

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Material will be trucked in for remediation purposes so perhaps.

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? —

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? Constructed drainage system includes sed traps, drainage canals.

Are there groundwater wells on the site? Monitoring wells

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? Quinnipiac River adjacent to site. Drainage channels on site to control runoff in remediation area.

Are there apparent means to accommodate effluent runoff from the site? Yes

What are the surrounding water depths where effluent will discharge into? 2-6'

Are there wetlands on the site? Yes

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Wetland adjacent to site

CT-30A-3

What is the existing vegetation regime? Wetland at river edge; weedy species  
on site edges.

**Cultural Resources**

Are there any cultural, historical, or archaeological resources of concern on or near the site? Quinnipiac River. Culturally significant

**Site Access**

*Roadways*

Major roadway Rte 5 → State St

Access road or driveway Driveway to site paved, then process material at remediation area roadway

*Water access*

Adjacent waterbody Quinnipiac River

Depth range (deep enough for barge?) 2-6 ft

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? -

If mechanical offloading were to occur, is there waterfront access for barges? No

*Rail access*

Is there access to the site by rail? Yes

What is the approximate distance to the nearest rail line? Track runs adjacent to site

*Public Access*

Is the site accessible to the public? No

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? Yes



CT-30A-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes

Are there existing staging areas on the site?

Yes

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes - access road is 2-3" paved stone. Also

acts as anti-tracking pad.

### Other Site Characteristics

Does the site have any utility crossings? None observed on site visit. POC uncertain.

What would be the consequences of dike failure at the site? Damage to wetland/water

water quality + benthic habitat

TOD - 7am → 6pm restriction

winter - No restrictions except daylight.

M-F would schedule weekend if needed.

Coordinate loads so not at site all the time

Material acceptance protocol. Data goes in to PMS; evaluated +

Timeframe Accept soil in mid-August

5 yrs. to finish project.

Post-construction; embankment stabilization monitoring

Check w/ Brian Dexter re: accepting material as slurry.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: CT-28

Site Owner/Operator: Anastasio + Sons Trucking Co. Andy Anastasio  
Site Address: 80 Middletown Ave (203) 787-5746

New Haven CT 06513

Date and Time of Site Visit: 6/16/2010

WHG Personnel Present: MLF / HC

Is the owner/operator receptive to using the site for dewatering at this time? Yes

Are there any regulatory restrictions to using the site as a CDF? Not known

Are there limitations on the type of material that can be placed at the site? None known

Land Use

Current land use at the site Train / truck reload facility; storage; Transfer station

Prior/historical land use Was a rail offload / storage facility

Has there been any recent construction at the site? No

What is the construction history at the site? Little - site has few buildings

What are the characteristics and land uses of adjacent properties? Industrial - wetland - open space  
no residential abutters so can work 24/7

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? No limits on use / noise / etc.

CT-28-2

**Soils and Topography**

What is the existing topography at the site? Flat

What soil types are present at the site? See NRCS Soils data.

Site appears to be packed sand/gravel - some areas paved

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? None Known

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? —

**Water Resources**

What is the existing hydrology/surface water drainage regime at the site? Quinnipiac River adjacent to site.

Are there groundwater wells on the site? No - except monitoring wells (ground water contamination issues - site was a road near

Is the site within known ground water supplies? No 6 fuel yard since 1800's)

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? River + wetland adjacent to site.

Are there apparent means to accommodate effluent runoff from the site? Not in place now

What are the surrounding water depths where effluent will discharge into? 2-8'

Are there wetlands on the site? Yes + immediately adjacent

**Other Environmental Resources**

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Yes - see mapped species habitat.

CT-28-3

What is the existing vegetation regime? Wetland species; wetland species at river banks. Most of site is cleared

**Cultural Resources**

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

Train - runs through site

**Site Access**

*Roadways*

Major roadway 191 - 0.25 mi. ~~th~~

Access road or driveway Middle town Rd -> access rd.

*Water access*

Adjacent waterbody Quinnipiac River

Depth range (deep enough for barge?) 2-8<sup>+</sup> (shallow)

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? Low fixed bridges (2) just south of site on river

If mechanical offloading were to occur, is there waterfront access for barges? No

*Rail access*

Is there access to the site by rail? Yes

What is the approximate distance to the nearest rail line? on site

*Public Access*

Is the site accessible to the public? No

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? Yes - oil pipe line runs along site at river edge

Is there a current means of access for construction equipment? Yes

CT-28-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes

Are there existing staging areas on the site?

Yes

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed?

Yes

### Other Site Characteristics

Does the site have any utility crossings? Yes - elevated wires run along river + along train tracks through the site

What would be the consequences of dike failure at the site? Wetland / river water quality + benthic habitat impact; damage to train track / rail yard at adjacent property; damage to stored materials on site. or buildings/equipment.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: CT 54, #8 New Wharf Rd

Site Owner/Operator: Providence + Worcester Railroad Co. Berne Carter PWDR operations

Site Address: 8 New Wharf Rd Interview with Dave Cuthbertson Engineer  
Norwich CT

Date and Time of Site Visit: 7-16-10 10:00

WHG Personnel Present: HC, SC

Is the owner/operator receptive to using the site for dewatering at this time? Possibly -

Are there any regulatory restrictions to using the site as a CDF? None known

Are there limitations on the type of material that can be placed at the site? Train can transport materials & all sort of materials (no restrictions in freight).

Land Use

Current land use at the site Part of site is Shetucket Iron (paved on north side)  
Lease property from RR.

Prior/historical land use RR yard since mid 1800's. Parcels next to  
river have been various types of industry. Used to offload/ship bulk  
materials by ship -> train.

Has there been any recent construction at the site? No

What is the construction history at the site? No ~~new~~ buildings/structures other than  
track maintenance

What are the characteristics and land uses of adjacent properties? Residential; roads; river

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site?

Concrete bunker on south side of parcel. Bulkhead along river.  
↳ 6-7' wall previously used to store bulk materials

CT-5A-2

**Soils and Topography**

What is the existing topography at the site? Relatively flat, gradual slope toward river

What soil types are present at the site? Sandy

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Sand onsite

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? Yes - some coarse

**Water Resources**

What is the existing hydrology/surface water drainage regime at the site? Sandy soil

Are there groundwater wells on the site? None known

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site?

Sewer outlet on south side runs across the site into river

Are there apparent means to accommodate effluent runoff from the site? Not at present

What are the surrounding water depths where effluent will discharge into? check chart

Are there wetlands on the site? Not that we know of

**Other Environmental Resources**

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Check State Database

Bulkhead is ~~wood~~ <sup>timber</sup> with stone on landward edge  
former barge tie-up piles (steel piles) still in place

CT-54-3

What is the existing vegetation regime? Wetland species, some brush

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

### Site Access

#### Roadways

Major roadway Rte 12, Rte 2 from 395

Access road or driveway New Wharf Rd (paved) leads to dirt rd. access to vacant part of parcel

#### Water access

Adjacent waterbody Thames River

Depth range (deep enough for barge?) check chart

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? Mile post 12 on RR, Post 0 is at delta. Therefore  $\approx$  12 miles.

If mechanical offloading were to occur, is there waterfront access for barges? Yes

#### Rail access

Is there access to the site by rail? Yes

What is the approximate distance to the nearest rail line? On site

#### Public Access

Is the site accessible to the public? New Wharf Rd is public

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? NA

Parcel goes to center of site  
Is there a current means of access for construction equipment? Yes but road is dirt, small + little staging area



CT-54-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?  
\_\_\_\_\_

Are there existing staging areas on the site? \_\_\_\_\_  
\_\_\_\_\_

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? \_\_\_\_\_  
\_\_\_\_\_

**Other Site Characteristics**

Does the site have any utility crossings? Sewer; Overhead electriz. (not certain if active-wires appear to be cut)

What would be the consequences of dike failure at the site? \_\_\_\_\_  
\_\_\_\_\_

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

Information from Various  
Sources - No interview w/ Mr.  
Davis.

General Site Information

Site ID & Name: CT-35

Site Owner/Operator: Whit Davis - Davis Lawrence Malcom, Trustees

Site Address: Osbrook Pt. Stonington CT

Date and Time of Site Visit: 7-14-10

WHG Personnel Present: SC, MC

Is the owner/operator receptive to using the site for dewatering at this time? No

Are there any regulatory restrictions to using the site as a CDF? Yes - CT Farmland  
Protection Program

Are there limitations on the type of material that can be placed at the site? Yes - soil  
amendments must be generated on site or in agricultural area

Land Use

Current land use at the site: Agriculture (hay field)

Prior/historical land use: Has been farmland since Revolutionary War.

Has there been any recent construction at the site? No

What is the construction history at the site? little or none. No farm buildings  
on parcel

What are the characteristics and land uses of adjacent properties? Farms, residential,  
wetland at north end of parcel.

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? Adjacent lots are residential (east side)

CT-35-2

**Soils and Topography**

What is the existing topography at the site? Flat

What soil types are present at the site? \_\_\_\_\_

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Yes

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? Yes

**Water Resources**

What is the existing hydrology/surface water drainage regime at the site? Flat,

well-drained soil

Are there groundwater wells on the site? No

Is the site within known ground water supplies? Unknown

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? Pawcatuck River on South Side

Are there apparent means to accommodate effluent runoff from the site? Pawcatuck River

What are the surrounding water depths where effluent will discharge into? \_\_\_\_\_

Are there wetlands on the site? \_\_\_\_\_

**Other Environmental Resources**

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? \_\_\_\_\_

CT-35-3

What is the existing vegetation regime? Hay field

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

Historic Farm parcel - Part of the Davis Farm, which is going to become a museum in future.

### Site Access

#### Roadways

Major roadway Greenhaven Rd (paved, 2-lane)

Access road or driveway Osbrook Pt. Road (dirt rd)

#### Water access

Adjacent waterbody Pawcatuck River

Depth range (deep enough for barge?) \_\_\_\_\_

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? \_\_\_\_\_

If mechanical offloading were to occur, is there waterfront access for barges? Could potentially be developed (except for land use restrictions)

#### Rail access

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? \_\_\_\_\_

#### Public Access

Is the site accessible to the public? No

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? No - dirt road

does not continue to the selected area - runs along outer edge of much larger parcels, and there are trees between the road + the site.

CT-35-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

No

Are there existing staging areas on the site?

No

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Possibly, except for land use restrictions.

### Other Site Characteristics

Does the site have any utility crossings?

No

What would be the consequences of dike failure at the site?

Damage to wetland, river, and historic farming site, Potential damage to properties on east side of parcel.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-5A Huntington, NY

Site Owner/Operator: Town of Huntington Pon McKay Director Parks & Rec  
(631) 351-3089

Site Address: Off Waterside Ave.

Date and Time of Site Visit: 7/15/10 9:23

WHG Personnel Present: MLF, JF

Is the owner/operator receptive to using the site for dewatering at this time? Potentially - on  
dunes/beach part of site only

Are there any regulatory restrictions to using the site as a CDF? No

Are there limitations on the type of material that can be placed at the site? potentially

Land Use

Current land use at the site Soccer playing fields; launching ramp w/ parking,  
open space - dunes & beach

Prior/historical land use open space has been used in past for  
dewatering of dredged materials

Has there been any recent construction at the site? not recently

What is the construction history at the site? Soccer fields & parking lot -  
dewatering in dunes/beach

What are the characteristics and land uses of adjacent properties? residential; power plant

What is the approximate distance to residential areas, industrial areas, or other areas that might  
limit use as a dewatering site? ~ 300 is closest house  
~ 650 is power plant

NY-5A-2

### Soils and Topography

What is the existing topography at the site? relatively flat; dunes rise slightly from parking lot - then slopes down to beach

What soil types are present at the site? Sands / gravel

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? on site sands

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? generally clean sands

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? surface drainage to power plant intake channel and LIS

Are there groundwater wells on the site? No

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? No

Are there apparent means to accommodate effluent runoff from the site? No

What are the surrounding water depths where effluent will discharge into? nearshore area from beach -  $\approx$  7-10 ft depth in intake channel

Are there wetlands on the site? No

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? matted habitat in dune/beach area

NY-5A-3

What is the existing vegetation regime? Woodland in NW corner; dune vegetation +  
woody species in the dunes

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_  
No

### Site Access

#### Roadways

- Major roadway Waterside Ave.
- Access road or driveway road off Waterside Ave.

#### Water access

- Adjacent waterbody LTS; intake channel
- Depth range (deep enough for barge?) 7-10 ft

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? Water - access via

concrete boat launching ramps or from edge of intake channel

If mechanical offloading were to occur, is there waterfront access for barges? yes

along jetty at W side of intake channel

#### Rail access

- Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ≈ 4 miles commuter rail

#### Public Access

- Is the site accessible to the public? yes

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? potentially - ROW mentioned by power plant

Is there a current means of access for construction equipment? yes - via parking lot



NY-5A-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes - via Waterside Ave and parking lot

Are there existing staging areas on the site? yes parking lot could be used for staging

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? yes

### Other Site Characteristics

Does the site have any utility crossings? No - telephone poles w/ lights surround parking area.

What would be the consequences of dike failure at the site? beach erosion

Powerplant channel has 2 stone jetties; high in elevation  $\frac{1}{2}$  sand tight.

Dune area shows signs of erosion - large rocky intertidal flat offshore of beach west of jetty.

West end of site may be developed in future by Veterans Community Center - Northport American Legion.

Old bldg. on N side of parking lot. Appears abandoned. Parking lot  $\approx$  15 ft above water level in channel.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-5B

Site Owner/Operator: Bob Demaustis, FSO

Site Address: Waterside Ave, Huntington

Date and Time of Site Visit: 8-2-10

WHG Personnel Present: MLF, HC

Is the owner/operator receptive to using the site for dewatering at this time? Not likely - don't have much room on-site. (Not at front yard) Possible at dewatering pit on Town Property (dewatering pit) at east side.  
Are there any regulatory restrictions to using the site as a CDF? \_\_\_\_\_

Are there limitations on the type of material that can be placed at the site? \_\_\_\_\_

Land Use

Current land use at the site MARSEC Facility - electric generating station

Empty parcel at front yard slated for cooling towers. Parcel to east was slated for devel. Not going to happen.

Prior/historical land use Potential to use dewatering pit to West. Town may be willing to do dewatering if material is placed at Ashcroft.

Has there been any recent construction at the site? Occasional dredging & dewater pump onto adjacent beach (start @ 1000' east of area. Also dredge @ discharge area

What is the construction history at the site? \_\_\_\_\_

What are the characteristics and land uses of adjacent properties? Soccer fields,

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? \_\_\_\_\_

to keep open for flushing discharge canal. Prior placement of cables that run to CT.

Recent work placing mats over cables (3 cables). PEC doesn't allow placement on cables any more. Now trucking sand from boat ramp to beach on east side.

How use at and mining co. in late 1970's

North of Soccer league lessons. area behind own parcel. for soccer field. irrigation pipe line goes to NYK easement

NY-5B-2

### Soils and Topography

What is the existing topography at the site? Flat

What soil types are present at the site? Sandy - former sand mining site

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Yes - go to GU + use material for burns

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? Yes

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? \_\_\_\_\_

Are there groundwater wells on the site? \_\_\_\_\_

Is the site within known ground water supplies? \_\_\_\_\_

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? Blanchard lake / Salt marsh east of "front yard" parcel

Fresh / Brackish lake ↑

Are there apparent means to accommodate effluent runoff from the site? \_\_\_\_\_

What are the surrounding water depths where effluent will discharge into? At dewatering site  
spill way boxes + pipe at dewatering site

Are there wetlands on the site? Yes

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Endangered species including piping plover + least tern. Nesting areas - TOY restrictions in springtime. No plover near the dewatering area beach.

NY-5B-3

What is the existing vegetation regime? Dune, treed hill @ west side

East side - grassy area, wetland @ east edge.

**Cultural Resources**

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

Potential ~~area~~ Native American artifacts

**Site Access**

*Roadways*

Major roadway \_\_\_\_\_

Access road or driveway Waterside Ave / Eaton's Neck Rd.

*Water access*

Adjacent waterbody \_\_\_\_\_

Depth range (deep enough for barge?) -13' at intake canal area. Can get barges in

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? \_\_\_\_\_

If mechanical offloading were to occur, is there waterfront access for barges? \_\_\_\_\_

Yes - boat ramp at intake canal (Town has finger piers w/ 8-9' depth - to be dug to 10' next time dredge)

*Rail access*

Is there access to the site by rail? \_\_\_\_\_

What is the approximate distance to the nearest rail line? East Northport 2.5-mi.

Long Island RR (side spurs) box cars? check? → ends in Pat Joff.

*Public Access*

Is the site accessible to the public? No

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? Yes - ROW

Is there a current means of access for construction equipment? Yes

Concerns: boat ramp rd. isn't great. No designed for heavy loads, (rd. on east side near dewatering) Waterside Ave. is fine.

NY-5B-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes

Are there existing staging areas on the site? Yes

If materials were offloaded at another property/waterfront area; could they be trucked to the site and placed? Yes

**Other Site Characteristics**

Does the site have any utility crossings? Power lines on rd. Also underground right-of-ways (2) + overhead line station → switch yard.

What would be the consequences of dike failure at the site?

Next dredging: 30,000 cy from intake  
18,000 cy at discharge site

Maint. 15' MLW for launchers in discharge canal.  
Dredging to -3' MLW outside of canal.

Bluff 50-60' on east side of discharge canal.

No daytime/nighttime issues - work 24 hrs.

Oct 1 - Dec 31 ⇒ dredging window.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-18 Bronx, NY

Site Owner/Operator: Oak Point Property, LLC Steve Smith (609) 577-7703

Site Address: Oak Point Ave / 504 Barry St.

Date and Time of Site Visit: 8/3/10 4:15

WHG Personnel Present: MCF, HC

Is the owner/operator receptive to using the site for dewatering at this time? yes

Are there any regulatory restrictions to using the site as a CDF? probably not

Are there limitations on the type of material that can be placed at the site? probably not

Land Use

Current land use at the site Being developed by Jetro as food distribution center; 9 acres left on site after warehouse built

Prior/historical land use 1800s - Oak Pt Pavilion Resort; 1900s - railroad yard - float yard = 50 yrs; then C:D landfill in NY City <sup>mob owner</sup>

Has there been any recent construction at the site? yes - currently for warehouse

What is the construction history at the site? railroad - then landfill for C:D

closure plan negotiated w DEC - clean up C:D; cap w fill & concrete for warehouse foundation  
has 3 yrs to cap according to DEC

What are the characteristics and land uses of adjacent properties? Industrial; freeway

oil terminals; school bus yard  
What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? adjacent to site

N4-18-2

### Soils and Topography

What is the existing topography at the site? mounded near the center then  
moderately sloping near edge of River

What soil types are present at the site? C: D

Are there any recent excavations at the site that show the soil stratigraphy? yes - refuse

Are there borrow sources nearby that could be used for dike construction? possibly

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? no

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? Surface water  
drains to East River via subsurface drainage system - <sup>oil/water</sup> separator

Are there groundwater wells on the site? no

Is the site within known ground water supplies? no

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? no

Are there apparent means to accommodate effluent runoff from the site? Stormwater drainage system could be used ???  
~~no~~ yes potentially

What are the surrounding water depths where effluent will discharge into? deep waters  
of East River

Are there wetlands on the site? yes - near shoreline & bulkhead area

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? no

NY-18-3

What is the existing vegetation regime? None

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

No

### Site Access

#### Roadways

Major roadway Bruckner Expressway to Barry St.

Access road or driveway yes - access road off Barry St.

#### Water access

Adjacent waterbody East River

Depth range (deep enough for barge?) 2' next to bulkhead - 70' deep in center of River

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? East River directly offshore

If mechanical offloading were to occur, is there waterfront access for barges? yes - but bulkhead would likely need repair/rebuilding

#### Rail access

Is there access to the site by rail? yes - rail on site

What is the approximate distance to the nearest rail line? on site

#### Public Access

Is the site accessible to the public? not currently

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? yes - via access rd. off Barry St.



NY-18-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes

Are there existing staging areas on the site? yes

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? yes

### Other Site Characteristics

Does the site have any utility crossings? no

What would be the consequences of dike failure at the site? Siltation into East River

Deed restricted property - commercial, industrial consistent w/ M3 zoning

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-28

Site Owner/Operator: ~~National Grid~~ Long Island Power Authority (LIPA)

Site Address: North County Rd., Brookhaven, NY

POC Edmund Petrocelli, LIPA Project Manager, (631) 744-8207

Date and Time of Site Visit: 7/15/10 11:00

WHG Personnel Present: MLF, JF

Is the owner/operator receptive to using the site for dewatering at this time? Possibly

Are there any regulatory restrictions to using the site as a CDF? No, site has been used in the past for dewatering dredged materials

Are there limitations on the type of material that can be placed at the site? past material has been sandy

Land Use

Current land use at the site Large field with grasses and weeds that has been used for past dewatering. Seaward of gas power plants facility.

Prior/historical land use original site of Swartham Nuclear Power plant; never fully operational - decommissioned in

Has there been any recent construction at the site? Dewatering of material dredged from intake canal and for burying cables - dewatered into geotubes - 2002

What is the construction history at the site? originally site of Nuclear power plant - never operational

What are the characteristics and land uses of adjacent properties? residential, open space

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? ~ 400 ft

NY-28-2

### Soils and Topography

What is the existing topography at the site? Flat; no relief; slight rise  
over dune and down to beach

What soil types are present at the site? Sand

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Only on site

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? Unknown

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? near shoreline;  
surface water drains to LIS

Are there groundwater wells on the site? No

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? marsh to the east; intake canal to the west

Are there apparent means to accommodate effluent runoff from the site? No

What are the surrounding water depths where effluent will discharge into? nearshore area  
off beach; intake canal is 7-10 ft. deep

Are there wetlands on the site? Salt marsh to the east

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Entire site is mapped habitat - plovers have nested in past

NY-28-3

What is the existing vegetation regime? grasses / weeds

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

No

### Site Access

#### Roadways

Major roadway North County Rd.

Access road or driveway Lilco Rd. runs along E side of site

#### Water access

Adjacent waterbody LIS - Power Plant intake channel

Depth range (deep enough for barge?) 7-10 ft.

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? access via LIS into

power plant intake channel

If mechanical offloading were to occur, is there waterfront access for barges? yes in

intake channel

#### Rail access

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ≈ 8 miles; commuter (ci)

#### Public Access

Is the site accessible to the public? No

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? yes - via Lilco Rd.

NY-28-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes - Lilco Rd.

Are there existing staging areas on the site? Yes - a portion of the

dewatering area closest to Lilco Rd. could be used

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? yes

**Other Site Characteristics**

Does the site have any utility crossings? yes by Cross Sound Cable through

intake channel - ~~not~~ none on site except electrical for light poles

What would be the consequences of dike failure at the site? impacts to adjacent

silt marsh to the east

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY 7A Glen Cove, NY

Site Owner/Operator: Glen Cove Industrial Dev. Agency <sup>Kelly Morris Exec. Dir</sup> (516) 676-1625

Site Address: Garvis Pt. Rd; Glen Cove

Date and Time of Site Visit: 7/13/10 5:10

WHG Personnel Present: MLF, JF

Is the owner/operator receptive to using the site for dewatering at this time? Potentially, in the near-term before Redevelopment of site (1-4 yrs)

Are there any regulatory restrictions to using the site as a CDF? No

Are there limitations on the type of material that can be placed at the site? No

Land Use

Current land use at the site Park area - overgrown & not maintained

Prior/historical land use Superfund site - previously used as dump site for Tungsten plant

Has there been any recent construction at the site? yes - dewatering of material dredged from Glen Cove Creek; East of site being developed into ferry terminal  
What is the construction history at the site?

Tungsten sludge placement; remediation through sediment removal; Park development

What are the characteristics and land uses of adjacent properties? open space, residential, industrial, marinas

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? adjacent to site

NY-17A-2

### Soils and Topography

What is the existing topography at the site? basically flat; park is about 6-10 ft above level of adjacent water bodies

What soil types are present at the site? fill - sand & gravel

Are there any recent excavations at the site that show the soil stratigraphy? many areas are disturbed but no excavations maybe from onsite?

Are there borrow sources nearby that could be used for dike construction? \_\_\_\_\_

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? No

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? to nearby water bodies

Are there groundwater wells on the site? NO

Is the site within known ground water supplies? NO

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? yes - several ponds are onsite

Are there apparent means to accommodate effluent runoff from the site? No

What are the surrounding water depths where effluent will discharge into? Glen Cove Creek depths ~ 10 ft.

Are there wetlands on the site? yes - freshwater wetland along north edge of site

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? No

NY-7A-3

What is the existing vegetation regime? Weeds; grass; small trees and salt marsh along edge of unprotected coastal bank

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? Yes

### Site Access

#### Roadways

- Major roadway Garvis Pt. Road from Glen Close Ave.  
 Access road or driveway \_\_\_\_\_

#### Water access

- Adjacent waterbody Glen Cove Creek  
 Depth range (deep enough for barge?) ≈ 10 ft.

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? entrance to creek is shared w/ boaters entering marinas

If mechanical offloading were to occur, is there waterfront access for barges? Yes;  
much of the shoreline is bulkheaded; sheet pile

#### Rail access

- Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ≈ 2 miles (commuter rail)

#### Public Access

- Is the site accessible to the public? Yes

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? Yes via Garvis Pt. Rd.



NY-7A-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes

Are there existing staging areas on the site? SE corner of site is flat

grassy area - could be used for staging

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? yes

#### Other Site Characteristics

Does the site have any utility crossings? unknown

What would be the consequences of dike failure at the site? possible damage to  
park facilities

U.S. Army Corps of Engineers  
LIS Upland Disposal Site Investigation Data Sheet: Dewatering Sites

NY-7A-5

General Site Information

Site Number and Name: NY-7A

Site Address:

Owner/Operator contact information:

Date and time of visit: 7/13/2010 5:10

Personnel present: MCF, JF

Site Specific Data

General Site Description (general description, current land use; adjacent area land use, impervious surface or general soil type):

~~Mercadante~~ Mercadante Beach at West end of site - has paved parking area with launching ramp to water - beach here shows signs of erosion

Surrounding land use: Commercial, Industrial, Open Space, Yacht Club

Public walking trail along water - seaward of site

paved walking trail w/ lighting

Resource Areas/Types if any:

- Wetlands
  - Fringing marsh
  - Salt marsh
- Fresh water areas
  - Pond, Lake, Stream
- Bluff
- Other:

W end of site has large depression w/ berms in place - low shrubby vegetation ± 10' deep from bottom of depression to top of berms

NY-7A-6

Dominant vegetation (if any): \_\_\_\_\_

Number of photos of site: \_\_\_\_\_

**Shoreline Characteristics**

Shoreline stabilization structures: steel sheet pile bulkhead; rip rap revetment

Approximate water depth just offshore: at least 6-7' - large sailboats in marina on South side of channel - some parts are extremely shallow adjacent to site

**Site Access**

Road access

Road name: \_\_\_\_\_

Describe access road/driveway if there is one: \_\_\_\_\_

Shore access

Adjacent waterway name: \_\_\_\_\_

Offshore and nearshore description (mooring field, rocky intertidal, busy channel, etc.): Marine w/ floating docks on S side of channel; mooring field at entrance to channel

**Areas available for staging, equipment maneuvering, building dikes**

West end of site has a broad flat meadow - power poles w/ lights; grasses; nearby concrete pad & groundwater well; small depression near concrete pad (mostly dry) pond w/ phragmites further N near center of the site - crushed gravel between pond and depression  
*lines are above ground*

**Site preparation**

Area N of the pond has been cleared - now contains coarse grained sands - no vegetation also has a groundwater well; lateral ditch; fishing vessel along walking path; educational display; area N of fishing vessel continues as walking trail but adjacent

**Other notes or observations**

Parcel is elevated above water by  $\pm 10-12'$ ; fringing marsh along shore with rip rap (along edges of shallow cove area - also a small sandy beach)  
*moderately sloping*

Area is under construction

paved parking area W of meadow

chain link fence separates site from road  
mature trees along the shoreline in areas where bulkhead stops

W shoreline also has steel bulkhead

narrow gravel beach in front of bulkhead

marsh in pieces

4 interior wetlands - sumac, phrag, cattail, willow, alowood

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-1

Site Owner/Operator: Various - Privately owned farm land

Site Address: Oregon Rd.  
Mattituck, NY

Date and Time of Site Visit: 7/12/2010 3:00 PM

WHG Personnel Present: NLF, JF

Is the owner/operator receptive to using the site for dewatering at this time?

Are there any regulatory restrictions to using the site as a CDF? Parcels w/ development rights owned by town or county would require local review; lands are to be used for agricultural purposes - stated in legal docs. during purchase of development rights  
Are there limitations on the type of material that can be placed at the site?

Land Use

Current land use at the site Farming - corn; field crops; Vineyard; sod;  
nursery stock

Prior/historical land use farming

Has there been any recent construction at the site? only farming

What is the construction history at the site? Farming

What are the characteristics and land uses of adjacent properties? South of NY-1: farms & homes of farmers  
North of NY-1: ~~large (long & narrow) land;~~

seaward parcels are wooded lots; some developed w/ homes; all on  $\approx 60'$  bluff

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? 1 residence within dewatering site; homes on N side are within 200-300 ft;

NY-1-2

### Soils and Topography

What is the existing topography at the site? Flat-level fields, area between EIS and the site contains  $\approx 60'$  bluff; residences on top of bluff

What soil types are present at the site? Top soil underlain by glacial till

Are there any recent excavations at the site that show the soil stratigraphy? None on-site  
Nearby eroding bank - poorly sorted glacial till

Are there borrow sources nearby that could be used for dike construction? Dikes could be built from material on site

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? N/A

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? \_\_\_\_\_

Are there groundwater wells on the site? Yes

Is the site within known ground water supplies? Yes

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? No

Are there apparent means to accommodate effluent runoff from the site? NO

What are the surrounding water depths where effluent will discharge into? Nearshore areas offshore of the beach; depths from 0  $\rightarrow$  30'

Are there wetlands on the site? No

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? No

NY-1-3

What is the existing vegetation regime? Crops: corn, sod, grapes, field crops

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

No

### Site Access

#### Roadways

Major roadway Oregon Rd along S side; No roads along N side

Access road or driveway Numerous gravel roads N-S through site

#### Water access

Adjacent waterbody LIS

Depth range (deep enough for barge?) \_\_\_\_\_

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? nearshore area has many glacial  
erotics;

If mechanical offloading were to occur, is there waterfront access for barges? No - only  
access is from beach

#### Rail access

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? 1.3 miles

#### Public Access

Is the site accessible to the public? No

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? Potentially - <sup>all privately</sup> owned

Is there a current means of access for construction equipment? Upland construction equip

Via Oregon Rd. → various gravel roadways into site; narrow roadways

NY-1-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Via Oregon Rd. and then existing gravel drives

Are there existing staging areas on the site? None presently; would have to

be developed

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes, potentially

### Other Site Characteristics

Does the site have any utility crossings? unknown

What would be the consequences of dike failure at the site? Dike failure could

impact adjacent farmland; could cause erosion of adjacent bank

Contacts at Town of Southold re. Development Rights

Martin Finnegan (Town Attorney) (631) 765-1939

Melissa Spira (Land Preservation Coordinator) (431) 765-5711

Development Rights - land owner sells them to town (or Suffolk Co)  
for  $\frac{1}{2}$  appraised value of land; uses of land then  
restricted to agricultural - no subdividing allowed; restrictions  
move with deed from owner to owner

7/26/10  
per  
M. Spira

Town of Suffolk Chapter 70 of town code deals w/ Transfer  
of Development Rights; has not been updated lately; specifies  
of allowable uses stipulated in each properties agreement -  
but mainly agricultural

Uses other than agriculture ~~must~~ must be approved by  
Land Preservation Committee and sometimes by Town Board

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-10 Port Washington Landfill

Site Owner/Operator: Town of North Hempstead

Site Address: 802 West Shore Rd., Port Washington, NY  
POC Igor Sikiric (516) 883-6241

Date and Time of Site Visit: 7/13/2010 ; 4:00

WHG Personnel Present: MLF, JF

Is the owner/operator receptive to using the site for dewatering at this time? No

Are there any regulatory restrictions to using the site as a CDF? Yes, the site was used previously as a landfill and has been closed/capped

Are there limitations on the type of material that can be placed at the site? Yes, see above

Land Use

Current land use at the site Closed/capped landfill

Prior/historical land use Disposal of residential, commercial, industrial solid waste, raw sewage sludge; C&D, & incinerator residue

Has there been any recent construction at the site? L4 ~~closed~~ closed in 1993 - capped 1997  
L5 closed & capped 2002

What is the construction history at the site? ~~see~~ Landfill use between 1970 & 2002

What are the characteristics and land uses of adjacent properties? industrial park; golf courses, residential, harbor

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? NA



N4-10-2

### Soils and Topography

What is the existing topography at the site? rounded

What soil types are present at the site? cap material is sand w/ organics for growing stabilizing vegetation

Are there any recent excavations at the site that show the soil stratigraphy? NO

Are there borrow sources nearby that could be used for dike construction? NO

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? NO

### Water Resources

What is the existing hydrology/surface water drainage regime at the site?

Are there groundwater wells on the site? NO

Is the site within known ground water supplies? NO

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? Nearby retention ponds

Are there apparent means to accommodate effluent runoff from the site? NO

What are the surrounding water depths where effluent will discharge into? NA

Are there wetlands on the site? Retention ponds to the W & N

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? NO

NY-10-3

What is the existing vegetation regime? grasses mainly

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

### Site Access

#### Roadways

Major roadway West Shive Rd.

Access road or driveway Entrance to Solid Waste Management Authority office

#### Water access

Adjacent waterbody Hempstead Harbor

Depth range (deep enough for barge?) 1/2 - 3 ft south of Ben Beach

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? too shallow for barges

If mechanical offloading were to occur, is there waterfront access for barges? No

Shoreline is wooded & natural; no bulkheads/sec walls

#### Rail access

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ≈ 2 miles

#### Public Access

Is the site accessible to the public? Not really

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? Access to site is limited to existing roads around landfill and across top

NY-10-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

see above

Are there existing staging areas on the site? Minimal room for staging due to existing office buildings

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? No

### Other Site Characteristics

Does the site have any utility crossings? NA

What would be the consequences of dike failure at the site? NA

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY 29 Town of N. Hempstead Aerodrome

Site Owner/Operator: Town of N. Hempstead

Site Address: West Shore Rd; Port Washington NY  
(516) 869-7711

POC: Fred Pollack, Councilman Port Washington Dist, Town of North Hempstead

Date and Time of Site Visit: 7/13/2010; 4:30

WHG Personnel Present: MLF, JF

Is the owner/operator receptive to using the site for dewatering at this time? \_\_\_\_\_

Are there any regulatory restrictions to using the site as a CDF? \_\_\_\_\_

Are there limitations on the type of material that can be placed at the site? \_\_\_\_\_

Land Use

Current land use at the site Methane remediation site; aerodrome site; woodlands

Prior/historical land use clean fill site for cuttings & rock debris

Has there been any recent construction at the site? installation of methane vent pipes; top soil stripping

What is the construction history at the site? aerodrome use - runway; methane remediation

What are the characteristics and land uses of adjacent properties? residential, golf course,

Tilcon or Becker Aggregates, Ltd.,  
Merine industry Buchanan Merine; transformer station next to Buchanan Merine  
What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? direct abutters

NY-29-2

### Soils and Topography

What is the existing topography at the site? Site rises in elevation between 100 and 200 ft from Hempstead Harbor

What soil types are present at the site? Sandy and then fill material

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? possibly on site

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? unknown

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? Surface water

drains from W → E across site; grassy surles on sides of gravel road that drain through pipe → offsite

Are there groundwater wells on the site? No

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? no mapped ~~no~~ wetlands on the parcel although freshwater wetland areas are visible at south end of parcel  
in PM10

Are there apparent means to accommodate effluent runoff from the site? ~~NO~~ NO

What are the surrounding water depths where effluent will discharge into? across west shore road into Hempstead Harbor

Are there wetlands on the site? possibly some wetlands at south end of parcel - outside dewatering boundary

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? No

NY-29-3

What is the existing vegetation regime? grasses in remediation area; woodlands elsewhere

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

### Site Access

#### Roadways

Major roadway West Shore rd; 6 lane road <sup>primary</sup>

Access road or driveway access to aerodrome via paved roadway off West Shore rd.

#### Water access

Adjacent waterbody Hempstead Harbor

Depth range (deep enough for barge?) Yes

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? approx. depths 10-15 ft

If mechanical offloading were to occur, is there waterfront access for barges? adjacent waterfront

perceps have some bulkheading (scowells; others are naturally vegetated bank)

#### Rail access

Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ≈ 4 miles

#### Public Access

Is the site accessible to the public? Yes, via aerodrome when it opens

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? gravel roads through remediation site; no roadways otherwise

NY-29-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes - via existing aerodrome access road; quite steep

Are there existing staging areas on the site? No

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes - but new/additional roads would need to

be built on site

#### Other Site Characteristics

Does the site have any utility crossings? unknown

What would be the consequences of dike failure at the site? washout across

west shore rd which is major thruway

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-8 N Hempstead, NY

Site Owner/Operator: National Grid; Shore Rd. Construction; Oyster Bay

Site Address: 200 Shore Rd; Glenwood Landing

Date and Time of Site Visit: 8/2/2010 4:30

WHG Personnel Present: MLF, HC

Is the owner/operator receptive to using the site for dewatering at this time? potentially in areas of site W of Shore Rd.

Are there any regulatory restrictions to using the site as a CDF? No

Are there limitations on the type of material that can be placed at the site? potentially

Land Use

Current land use at the site E side of Shore Rd - transformer station & materials hauling Co; W side of Rd - open space, remediation site

Prior/historical land use Former underground propane storage

Has there been any recent construction at the site? Remediation - removal of tanks

What is the construction history at the site? Propane tank burial - then removal

What are the characteristics and land uses of adjacent properties? Industrial; Residential; municipal zoning

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? adjacent to site

↙ data for parcels W of Shore Rd. only



NY-8-2

**Soils and Topography**

What is the existing topography at the site? slopes gently to Hempstead Harbor

What soil types are present at the site? Sandy loam

Are there any recent excavations at the site that show the soil stratigraphy? NO

Are there borrow sources nearby that could be used for dike construction? NO

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? NO

**Water Resources**

What is the existing hydrology/surface water drainage regime at the site? Surface water drains to Harbor

Are there groundwater wells on the site? NO

Is the site within known ground water supplies? NO

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? possibly behind low/deteriorating bulkhead on open space parcel

Are there apparent means to accommodate effluent runoff from the site? NO

What are the surrounding water depths where effluent will discharge into? ≈ 6 ft in Harbor

Are there wetlands on the site? yes - mostly on open space parcel

**Other Environmental Resources**

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? mapped habitat across site

NY-8-3

What is the existing vegetation regime? Wooded area w/ woody shrubs  
and grasses and weeds

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? Yes

### Site Access

#### Roadways

- Major roadway Shore Rd.
- Access road or driveway none presently

#### Water access

- Adjacent waterbody  Hempstead Harbor
- Depth range (deep enough for barge?) ~ 6'

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? bulkhead along shoreline of site; very low in elevation (~ 2-4 ft above water)

If mechanical offloading were to occur, is there waterfront access for barges? yes - but bulkhead repairs would be needed

#### Rail access

- Is there access to the site by rail? No

What is the approximate distance to the nearest rail line? ~ 1.5 miles; connector via I

#### Public Access

- Is the site accessible to the public? No

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? No

Is there a current means of access for construction equipment? Via Shore Rd.

N4-8-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

yes - Shore Rd.

Are there existing staging areas on the site? None presently - but could be developed on open space parcel

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? yes

### Other Site Characteristics

Does the site have any utility crossings? yes - open space parcel has underground power cable to nearby plect

What would be the consequences of dike failure at the site? Siltation in Harbor; possibly flooding to Shore Rd.

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY-3 Northville, NY

Site Owner/Operator: Conoco Phillips, Private owners Laura Shoenberger  
James Menden

Site Address: Penny's Ln ; Sound Shore Rd. Northville, NY

Date and Time of Site Visit: 7-13-10 4:30

WHG Personnel Present: HC, SC

Is the owner/operator receptive to using the site for dewatering at this time? Conoco Phillips  
does not want dewatering; potential small-scale dewatering on 3 northern properties

Are there any regulatory restrictions to using the site as a CDF? Yes, majority of site  
has sold development rights - preserves land for agricultural use only

Are there limitations on the type of material that can be placed at the site? \_\_\_\_\_

Land Use

Current land use at the site ~~Tank Farm for Conoco Phillips~~; Farms/  
agriculture

Prior/historical land use Farming; corn, wheat, potatoes

Has there been any recent construction at the site? No

What is the construction history at the site? None

What are the characteristics and land uses of adjacent properties? Farms; tank farm

Owned by Conoco Phillips

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? ≈ 200 ft to closest house

NY-3-2

### Soils and Topography

What is the existing topography at the site? Fict - no relief

What soil types are present at the site? glacial till and outwash; significant quantities of clay + sand

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? No

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? No

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? unknown

Are there groundwater wells on the site? Yes - residential wells for irrigation

Is the site within known ground water supplies? Yes

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? No

Are there apparent means to accommodate effluent runoff from the site? No

What are the surrounding water depths where effluent will discharge into? effluent would have to be directed back into nearshore areas of LIS

Are there wetlands on the site? No

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Mapped habitat

NY-3-3

What is the existing vegetation regime? off crops

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? No

### Site Access

#### Roadways

Major roadway Pennys Rd ; Sound Shore Rd.

Access road or driveway Would need to be developed off of Sound Shore Rd.

#### Water access

Adjacent waterbody LIS

Depth range (deep enough for barge?) beach nearshore area  $\approx$  2-10 ft.

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? restrictions to water-based

access are  $\approx$  60 ft bluff-eroding; private properties between site & water

If mechanical offloading were to occur, is there waterfront access for barges? NO

#### Rail access

Is there access to the site by rail? NO

What is the approximate distance to the nearest rail line?  $\approx$  4 miles - commuter rail

#### Public Access

Is the site accessible to the public? NO

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? NO

Is there a current means of access for construction equipment? would need to be erected off Sound Shore Rd.

NY-3-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes - via Sound Shore Rd.

Are there existing staging areas on the site? No - they would need to be constructed

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes

### Other Site Characteristics

Does the site have any utility crossings? No

What would be the consequences of dike failure at the site? flooding of adjacent road, residences, and farmland

U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: NY 16-B

Site Owner/Operator: Dave Brickman 212-993-5706

Site Address: \_\_\_\_\_

Date and Time of Site Visit: <sup>Phone Interview</sup> 8-30-2010

WHG Personnel Present: HA

Is the owner/operator receptive to using the site for dewatering at this time? NO - Site has been developed into a shopping area + residential units - No room on any parcels, even small one at southwest corner.

Are there any regulatory restrictions to using the site as a CDF? \_\_\_\_\_

Are there limitations on the type of material that can be placed at the site? \_\_\_\_\_

Land Use

Current land use at the site Retail / Residential

Prior/historical land use \_\_\_\_\_

Has there been any recent construction at the site? Yes - center built + 2006-2009

What is the construction history at the site? \_\_\_\_\_

What are the characteristics and land uses of adjacent properties? \_\_\_\_\_

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? \_\_\_\_\_





**U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews**

**General Site Information**

Site ID & Name: R1 HC Potential Dewatering Site

Site Owner/Operator: Stephen King, Quonset Development Corp.

Site Address: 10 Mc Naught St.  
North Kingstown, RI

Date and Time of Site Visit: 07-15-10 14:00

WHG Personnel Present: SC, HC

Is the owner/operator receptive to using the site for dewatering at this time? Not at this time; Parcel is leased to Electric Boat (has been since 1978.)

Are there any regulatory restrictions to using the site as a CDF? None known

Are there limitations on the type of material that can be placed at the site? None known

**Land Use**

Current land use at the site Electric Boat - submarine manufacturing.

Produces sub hull cylinders at the Automated Frame & Cylinder Manufacturing Facility at Quonset Pt.

Prior/historical land use Naval base built in 1941; deactivated in 1974.

Was home to aviation squadrons; aircraft overhaul facility; Now Quonset Point Business Park - parcels are leased to offices, warehouse/distribution facilities; manufacturing, etc.

Has there been any recent construction at the site? Not on this parcel

What is the construction history at the site? Air base decommissioned in early 1970's.

Electric Boat Facility constructed soon after.

What are the characteristics and land uses of adjacent properties? Industrial

What is the approximate distance to residential areas, industrial areas, or other areas that might limit use as a dewatering site? Directly proximate to industry;

RI-4-C-2

### Soils and Topography

What is the existing topography at the site? Flat

What soil types are present at the site? Concrete

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Not on site

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? —

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? Paved over -

Are there groundwater wells on the site? Yes - EPA / Navy Monitoring wells

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? None apparent on aerials - access to site not granted due to security issue.

Are there apparent means to accommodate effluent runoff from the site? Yes - dams / catch basins

What are the surrounding water depths where effluent will discharge into? —

NORA chart indicates 7-11' - Did not measure due to access issue

Are there wetlands on the site? No - Paved area throughout

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? None known - See RI Natural Resource data layers + Site Summary sheet

RI-4-C-3

What is the existing vegetation regime? None on site

**Cultural Resources**

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

Entire area was airforce facility

**Site Access**

**Roadways**

Major roadway Rte 403 / Roger Williams Way (off Rte 1)

Access road or driveway Cosby Ave.

**Water access**

Adjacent waterbody Narragansett Bay

Depth range (deep enough for barge?) 7-11' (may be shoaled in immediately adjacent to site at bulkhead)

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? 7-11' adjacent to site;

channel from Quonset Pt => LIS is at least 33' deep; cable area just off Quonset Pt. but channel still 33'.

If mechanical offloading were to occur, is there waterfront access for barges? \_\_\_\_\_

Possibly - chart indicates Piles + Platforms

**Rail access**

Is there access to the site by rail? Yes

What is the approximate distance to the nearest rail line? At Quonset Pt. (~ 3000' from parcel)

**Public Access**

Is the site accessible to the public? No

**Transport of Material to and from the Site**

Is there a right of way for a pipeline from dredging or offloading locations? Possibly - not certain

Is there a current means of access for construction equipment? Yes - via Road

RI-4-C-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes

Are there existing staging areas on the site? Likely - entire area paved.

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes

**Other Site Characteristics**

Does the site have any utility crossings? Possible - chart indicates cable area just off site

What would be the consequences of dike failure at the site? Damage to abutter equipment; water quality/habitat injury to Narragansett Bay

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U.S. Army Corps of Engineers  
Dewatering Site Operator Interviews

General Site Information

Site ID & Name: RI 5 Potential Dewatering Site

Site Owner/Operator: Stephen King, Quonset Development Corp.

Site Address: 110 McNaught St  
North Kingstown, RI

Date and Time of Site Visit: 07-15-10 1400

WHG Personnel Present: SL, HC

Is the owner/operator receptive to using the site for dewatering at this time? Not at this time -  
1/2 of site is leased to N. Atlantic Dist'n (auto imports); other 1/2 has option to lease with  
offshore wind construction facility. A small portion of site is used as the port office.

Are there any regulatory restrictions to using the site as a CDF? None known

Are there limitations on the type of material that can be placed at the site? No contaminated  
material - site was air base + had groundwater + soil issues.

Land Use

Current land use at the site Auto import terminal (North Atlantic Dist'n Co.);

Port office area; Option to lease with offshore wind construction on currently  
vacant part of parcel.

Prior/historical land use Logistics yard for Navy. Northern part of the parcel  
was paved 4 years ago for auto import firm.

Has there been any recent construction at the site? Seawall was replaced in 2009

What is the construction history at the site? While <sup>↓</sup>NAVY property, various activities  
likely occurred on/new site

What are the characteristics and land uses of adjacent properties? Industrial - Auto Import;

seafood + vegetable import/packaging warehouse; small stormwater collection basin;  
What is the approximate distance to residential areas, industrial areas, or other areas that might  
limit use as a dewatering site? Auto import on parcel - this would be <sup>Large dock on</sup> N. side.  
adversely affected by dust/mud associated with dewatering.

RI-5-2

### Soils and Topography

What is the existing topography at the site? Flat

What soil types are present at the site? Gravelly loam + "urban land" mapped

Are there any recent excavations at the site that show the soil stratigraphy? No

Are there borrow sources nearby that could be used for dike construction? Not known

Are the borrow sources a bank run sand (construction-grade, clean, medium-coarse grained material)? —

### Water Resources

What is the existing hydrology/surface water drainage regime at the site? Flat - surface water drains to stormwater catch basin at west side of site

Are there groundwater wells on the site? Monitoring wells - Contamination issues in past. Wells belong to NAVY/EPA.

Is the site within known ground water supplies? No

Are any ponds, streams, drainage ditches, irrigation canals etc. present or within close proximity to the site? Wetland + stormwater catch basin on west side of parcel

Are there apparent means to accommodate effluent runoff from the site? Yes - Catch basin west side + drainage system in place.

What are the surrounding water depths where effluent will discharge into? Approx 3-11" directly adjacent to bulkhead; much deeper (30+ ft) in channel nearby.

Are there wetlands on the site? Catch basin on site. Salt marsh/wetland adjacent to site

### Other Environmental Resources

Are there any other sensitive environmental receptors or habitats on the site or adjacent to the site? Yes - wetland adjacent

RI-5-3

What is the existing vegetation regime? Little - none. Some weedy species on unpaved area; planted vegetation (cattails etc) <sup>near/in</sup> stormwater catch basin

### Cultural Resources

Are there any cultural, historical, or archaeological resources of concern on or near the site? \_\_\_\_\_

Yes. Former Naval station so site is historically significant

### Site Access

#### Roadways

Major roadway Rte. 1 to Rte 403 / Roger Williams Rd.

Access road or driveway Davisville Rd.

#### Water access

Adjacent waterbody Narragansett Bay

Depth range (deep enough for barge?) 3-30+ ft (shallower immediately adjacent to bulkhead) Chart indicates 7-11' at bulkhead

If close to open water, what are the nearby water depths, proximity of navigation channels, or other restrictions to water-based access? 3-11' at site; channel from

Quonset Pt → Narragansett Bay is 33+ ft deep.

If mechanical offloading were to occur, is there waterfront access for barges? Yes

#### Rail access

Is there access to the site by rail? At Quonset Pt.

What is the approximate distance to the nearest rail line? Virtually on the site (<1m)

#### Public Access

Is the site accessible to the public? No

### Transport of Material to and from the Site

Is there a right of way for a pipeline from dredging or offloading locations? Possibly - Quonset Pt is a quasi-public agency that owns parcels. May be able to accommodate.

Is there a current means of access for construction equipment? Yes - via road



RI-5-4

Is there access for truck traffic in case future excavation and removal of placed material occurs?

Yes - but not sludge or wet material

Are there existing staging areas on the site? No, but could be created.

If materials were offloaded at another property/waterfront area, could they be trucked to the site and placed? Yes.

### Other Site Characteristics

Does the site have any utility crossings? No

What would be the consequences of dike failure at the site? Damage to abutting property (brand new, imported cars; dock/offloading area for food import/processing facility; damage to stormwater catch basin, water quality + habitat damage to Narragansett Bay ecosystem)

## **APPENDIX D. SITE CAPACITY ESTIMATE MEMO**

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## DRAFT TECHNICAL MEMORANDUM

*Date:* May 5, 2010  
*To:* Mike Keegan, Mark Habel, USACE  
*From:* Nathan Dill, Leslie Fields, and Heidi Clark, Woods Hole Group, Inc.  
*Re:* Estimation of site capacity for dredged material disposal

This memorandum describes methodologies and assumptions for estimating dredged material capacity for potential upland and nearshore dredge material disposal sites. The methodologies presented in this memorandum are based purely on geometrical considerations and do not take in to account the physical, engineering, or chemical characteristics of the dredged material or specific properties of the disposal site other than the site's planform size and shape. It is generally assumed that the dredged material produced by a particular dredging project is free from pollutants, and compatible with the disposal site. Further, it is assumed the disposal sites are accessible, relatively flat, and suitable for the type of dredged material they will receive. For example, a site that is to be used for dewatering should have means to manage effluent runoff.

### 1.0 UPLAND AND BENEFICIAL USE SITES

There are a wide variety of options for beneficial utilization of dredge material. The Phase I LIS Upland Disposal Site Investigation report identified six (6) types of upland and beneficial use sites that are being considered for disposal of dredged material.

- Beach Nourishment
- Habitat Restoration
- Redevelopment/Construction
- Brownfield
- Active Landfill
- Mine Reclamation

Of the various types of upland and beneficial use sites, only site capacity for the beach nourishment sites will be estimated. For the other types of sites, it is assumed volume estimates will be available from site owner/operators or project engineers. For example, the non-beach nourishment sites likely have predetermined limits based on an engineering design or other project descriptions (e.g. construction plans at a construction/redevelopment site), and many of these volumes are available from the Phase I LIS Upland Disposal Site Investigation report. For the others, we assume that site capacity estimates will be provided by the site operator or project engineer.

#### BEACH NOURISHMENT SITES

The actual planning, design, and construction of a beach nourishment project involves many factors that are beyond the scope of this memorandum. In addition, site specific natural processes

at each nourishment location should be considered for successful implementation of any beach nourishment project.

For beneficial use of dredged material as beach nourishment, we assume the following:

- the dredged material is beach compatible,
- the native sand size falls into one of three categories (fine, medium, or coarse) ,
- the existing beach profile can be described using equilibrium profile theory,
- the width of possible beach nourishment may be limited by beach length,
- three beach widths will be considered (25 ft., 50 ft., or 100ft.), and
- the material will be placed on the beach with a slope no steeper than 10:1, horizontal:vertical.

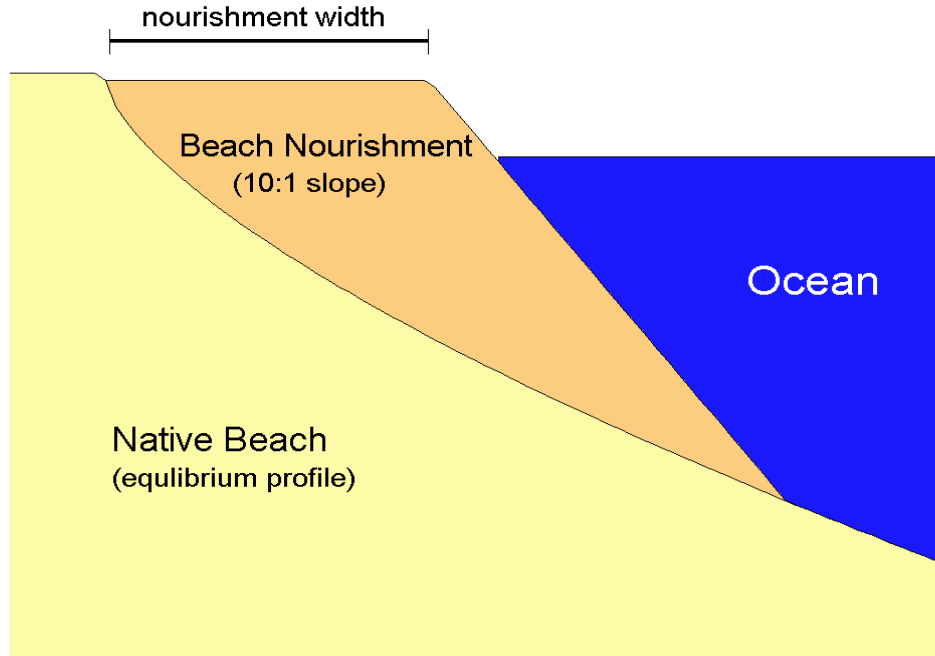
Information required for estimating beach nourishment volume will be gathered from site visits and by examining aerial photos and parcel maps. During the site visit, native beach material will be visually examined and categorized as fine, medium, or coarse grained. Aerial photos and parcel maps will be examined to determine the length of available beach for disposal. The width of beach nourishment will be determined after examining aerial photographs and using best professional judgement. For relatively long beaches, a maximum width of 100 feet will be assumed. For shorter beaches where a 100 foot nourishment width is impractical (e.g. creates too large a perturbation on the beach planform, or is not practical to construct), a 25 foot or 50 foot nourishment width will be assumed.

The equilibrium beach profile concept will be utilized to approximate the profile of the existing beaches, and to determine volume per unit beach length required to achieve the desired fill width. The equilibrium beach profile can be estimated by the empirical equation:

$$h(x) = Ax^{\frac{2}{3}}$$

where  $h(x)$  is the depth below the mean water surface,  $x$  is the cross shore distance, and  $A$  is a sediment scale parameter that can be related to physical properties of the beach sediment. Many studies have been conducted relating the sediment scale parameter to the median size of the beach sediment (USACE, 2002).

Appropriate values for the sediment scale parameter will be chosen based on the categorization of beach sediment during the site visits. Figure 1 shows an example of the equilibrium beach profile concept for a native beach and an assumed profile for the beach nourishment. The beach nourishment profile will be generated by extending the existing beach berm horizontally a distance equal to the proposed nourishment berm width, then grading the material down to the native profile with a slope no steeper than 10:1. A maximum 10:1 slope is recommended to accommodate potential shorebird habitat, to provide a conservative estimate of the capacity of the beach, and to make construction feasible. The volume per unit beach length is equivalent to “Beach Nourishment” area in Figure 1.



**Figure 1. Example equilibrium beach profile for native beach and assumed beach fill profile.**

The following steps will be taken to estimate beach fill capacity:

- 1) Visit beach and categorize the native sediment as fine, medium, or coarse based on visual inspection.
- 2) Estimate the length of beach available for nourishment from aerial photos and/or parcel maps
- 3) Use best professional judgment to determine a reasonable beach nourishment width based on information from the site visit, and examination of aerial photographs and/or parcel maps.
- 4) Determine the appropriate sediment scale parameter based on sediment grain size.
- 5) Calculate the equilibrium beach profile.
- 6) Draw the beach nourishment profile using the nourishment width determined in step 2 and assuming a 10:1 slope.
- 7) Calculate the area that is above native equilibrium profile and below the beach nourishment profile. This is the nourishment volume per unit beach length.
- 8) Multiply the beach length estimated in step 2 by the nourishment volume per unit beach length calculated in step 7 to get the site capacity.

## 2.0 DEWATERING SITES

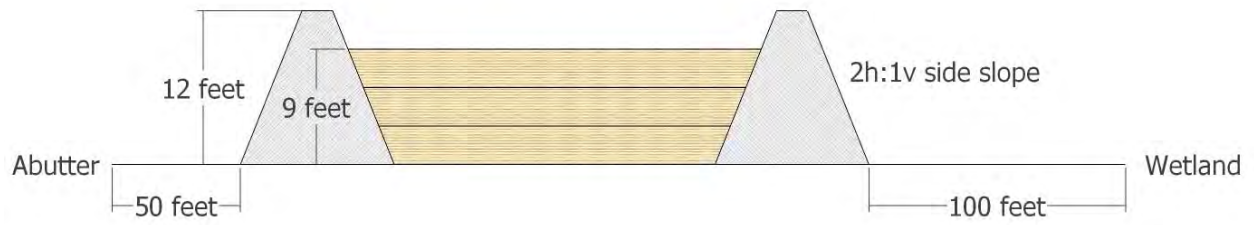
For dewatering sites a Confined Disposal Facility (CDF) must be designed and constructed based on site specific characteristics and consideration of properties of the dredge material. Details of the engineering design for the CDF are not considered here, however, some basic assumptions are made regarding the construction of the retaining dikes for the CDF:

- dikes have a 2:1 horizontal:vertical side slope,
- dikes have a maximum crest height of 12 feet,
- dikes have a minimum crest width of 12 feet,
- dikes are set back 50 feet from parcel boundaries and 100 feet from wetland boundaries, and
- maximum height of the dredged material will be 3 feet below the crest of the dike.

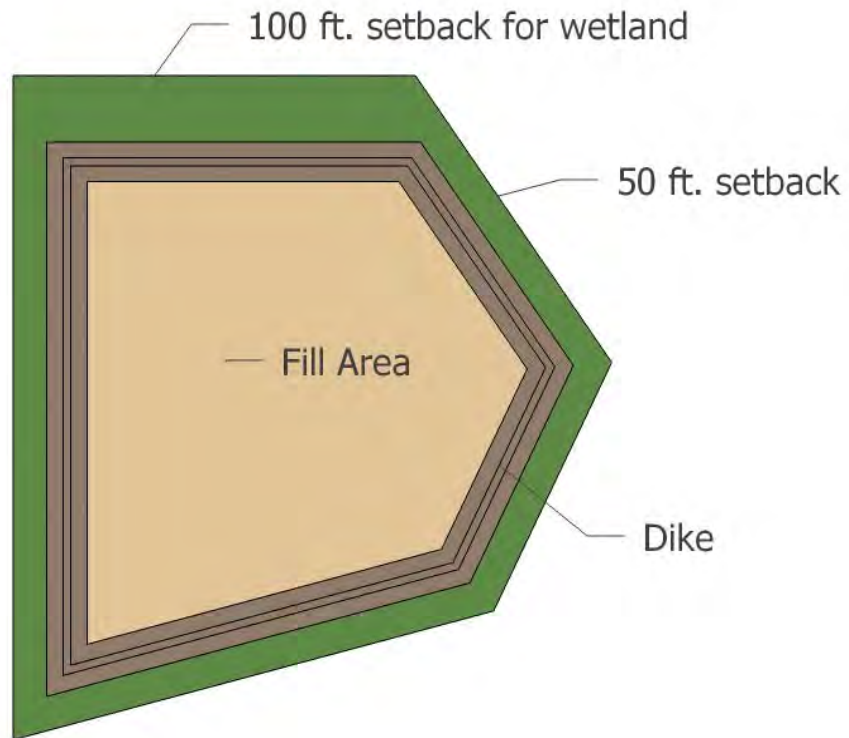
It is also assumed that the parcel on which the CDF is constructed is flat and level and has a means to accommodate effluent runoff. CDFs should be designed with a particular dredging program in mind with the amount and frequency of dredge deposits known beforehand. CDFs are generally sized on the basis of an evaluation of the quantity and frequency of dredge material input and changes in ponding depth to maintain good effluent quality (Herbich, 2000). It is often advantageous to construct interior dikes which divide the CDF into a number of series or parallel basins to facilitate proper placement and timely dewatering of sediments.

For the purpose of ultimate site capacity estimation however, it is assumed the entire CDF is a single basin, as large as possible, that will be filled with dredged material in a series of individual lifts. Placing the material in a series of thin lifts minimizes the time required for settling, decanting, drying, and consolidating of the dredged material. The proposed analysis does not consider the complex processes or duration of time involved in achieving the final volume, rather it calculates the total capacity of fully dewatered and consolidated sediment. It is assumed that the CDF will be filled in lifts with ultimate consolidated depth of 3 feet. Therefore ultimate fill depths of 3, 6, or 9 feet are considered for dike crest elevations of 6, 9 and 12 feet, respectively.

Figure 2 shows an example cross section of a CDF with a dike crest elevation of 12 feet and total fill depth of 9 feet. The dikes will be placed on the site after considering site specific setback distances. Specific setback requirements are generally imposed by local regulations that must be determined individually for each site during the CDF design process. In the absence of this site specific information, estimates of the ultimate site capacity will be developed assuming setbacks of 50 feet for parcel boundaries and 100 feet for wetlands boundaries, as conservative estimates. Figure 3 shows an example plan view with of an irregularly shaped parcel where the fill area of the parcel is indicated as well as the area required for setbacks and dike construction.



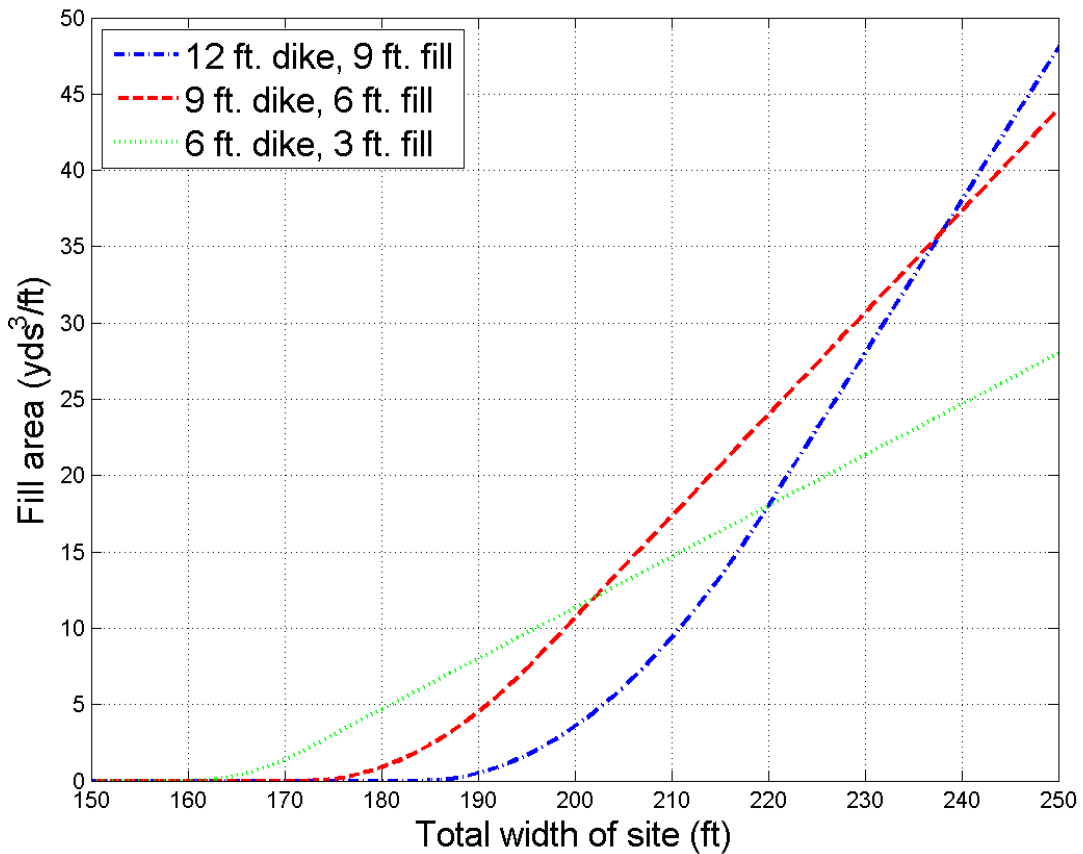
**Figure 2. Example confined disposal facility section.**



**Figure 3. Example confined disposal facility plan view.**



For relatively small sites, greater volume can be held with fewer lifts and smaller dikes. Figure 4 shows how the fill area varies with site width for a cross section similar to that shown in Figure 2 assuming three different fill depths. For example, for a site width of 210 feet, greater site capacity is available with 9 foot high dikes than with 12 foot high dikes when taking into account the setback distances and required footprint of the dikes. Because most potential sites will have an irregular shape, it may be necessary to calculate the capacity assuming multiple scenarios for dike height and fill depth, and when necessary the largest capacity will be assumed to be the site capacity.



**Figure 4. Site width versus fill area for various dike and fill heights.**

The following steps will be used to estimate the ultimate capacity of dredged material for dewatering sites:

- 1) The area of the parcel will be determined using the parcel map of the site.
- 2) Setback distances will be determined using site information along with assumptions noted above (100 ft setback from wetlands; 50 ft setback from property boundaries).

- 3) Fill volume will be calculated assuming 12 foot dikes and a fill depth of 9 feet while accounting for 2:1 horizontal:vertical interior and exterior side slopes for the dikes.
- 4) Fill volume will be calculated assuming 9 foot dikes and a fill depth of 6 feet while accounting for 2:1 horizontal:vertical interior side slopes for the dikes.
- 5) If the volume calculated in step 4 is greater than the volume calculated in step 3, fill volume will be calculated using 6 foot dikes and fill depth of 3 feet. Otherwise the volume calculated in step 3 is the maximum site capacity.
- 6) If the volume calculated in step 5 is greater than the volume calculated in step 4, the volume calculated in step 5 is the maximum site capacity. Otherwise the volume calculated in step 4 is the maximum site capacity.

### **3.0 REFERENCES**

U.S. Army Corps of Engineers. 2002. Coastal Engineering Manual. Engineer Manual 1110-2-1100, U.S. Army Corps of Engineers, Washington, D.C. (in 6 volumes).

Herbich, John B. 2000. *Handbook of Dredging Engineering*, McGraw-Hill New York, NY.

## **APPENDIX E. APPROACH FOR ESTIMATING BEACH CAPACITY**

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## MEMORANDUM

Date: July 22, 2010  
To: Mike Keegan, Mark Habel, USACE  
From: Heidi Clark, Leslie Fields, Nathan Dill, Joseph Famely  
Re: Approach for estimating beach capacity

This memorandum documents the approach Woods Hole Group will implement in determining the design berm width of potential nourishment at beaches identified in the Phase I Long Island Sound Upland Disposal Site Investigation. It expands upon Step 3 of the Beach Nourishment section of a previous Woods Hole Group Technical Memorandum dated May 5, 2010 (Estimation of Site Capacity for Dredged Material Disposal). Step 3 states: "Use best professional judgment to determine a reasonable beach nourishment width based on information from the site visit, and examination of aerial photographs and/or parcel maps."

Because site-specific conditions vary (beach size, sediment transport, coastal structures), we have grouped the beaches into a number of categories and developed general criteria for determining the design berm width for each.

Overall, we relied on best professional judgment in developing these conventions. Based on past experience with beach nourishment projects we suggest using a berm width equal to 10% of the length of the beach, but no more than 100 feet. As indicated in the May 5, 2010 memo, the nourishment template will continue seaward of the design berm crest at a slope of 10:1 until the nourishment meets existing grade. Other site specific constraints for the design berm width are addressed below.

**CONDITION 1: BEACH IS DOWNDRIFT OF TERMINAL STRUCTURE WITH NAVIGATIONAL CONCERNS**

*Example: Site 79 – Gull Pond Beach, Southold, NY*



*Approach: Choose the smaller of (a) extend berm to end of structure, (b) extend berm 10% of the length of the beach, or (c) extend berm to 100 feet.*

*Reasoning: Sand placed beyond the end of a terminal structure will be lost to longshore sediment transport. Therefore, in general it is desirable to fill to the end of the structure, unless the structure is so long that the fill would be disproportionate to the length of the beach. In this case, extension of the berm to the end of the jetty would result in a 120 ft wide berm. Engineering judgment suggests this would create a project out of equilibrium with the adjacent beach.*

**CONDITION 2: BEACH HAS NO TERMINAL STRUCTURES (OR HAS INEFFECTIVE STRUCTURES) AND NO NAVIGATIONAL CONCERNS**

*Example: Site 177 – Shadmoor State Park, East Hampton, NY*

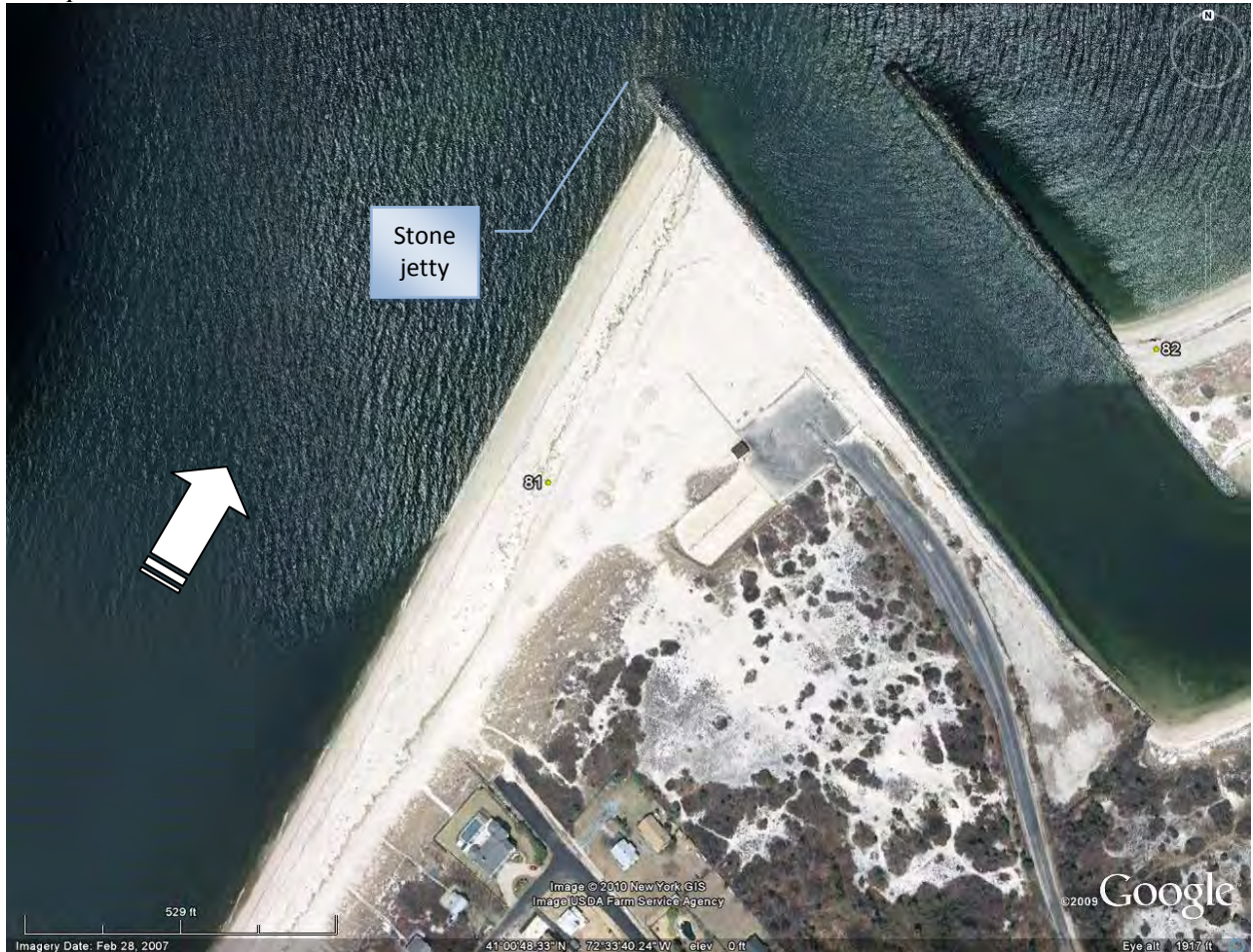


*Approach: Extend berm 10% of the length of the beach, to a maximum of 100 feet.*

*Reasoning: Sand placement is maximized in proportion to the site, but nourishment is limited so that it is not out of equilibrium with the adjacent shoreline.*

**CONDITION 3: BEACH IS UPDRIFT OF TERMINAL STRUCTURE WITH NAVIGATIONAL CONCERNS, AND STRUCTURE IS NEARLY FILLED TO ENTRAPMENT**

*Example: Site 81 – Breakwater Park Beach, Mattituck, NY*



*Approach: No nourishment recommended.*

*Reasoning: Sand has already accreted to entrapment against the updrift structure. Additional nourishment would likely cause shoaling in the adjacent channel.*



**CONDITION 4: BEACH IS UPDRIFT OF TERMINAL STRUCTURE WITH NAVIGATIONAL CONCERNS, AND STRUCTURE IS NOT FILLED TO ENTRAPMENT**

*Example: Site 121 – Gin Beach, East Hampton, NY*



*Approach: There is nourishment capacity, but amount and configuration to be determined by engineering judgment.*

*Reasoning: Sand is accreting, but not at a rate that immediately endangers the navigational channel. Although nourishment would bring the structure closer to entrapment and risk eventual shoaling in the navigational channel, best engineering judgment can be used to determine a reasonable capacity of these beaches for holding sand without immediate risk to the channel. In this case the new berm would be tapered in toward the existing beach at the jetty on the west end, in order to minimize the likelihood of passing sand to the channel.*

**CONDITION 5: BEACH WITH TERMINAL OR INTERMEDIATE STRUCTURES, AND NOURISHING TO A WIDTH OF 10% OF BEACH LENGTH DOES NOT FILL STRUCTURE TO ENTRAPMENT**

*Example: Site 67 – Crescent Beach, Huntington Bay, NY*

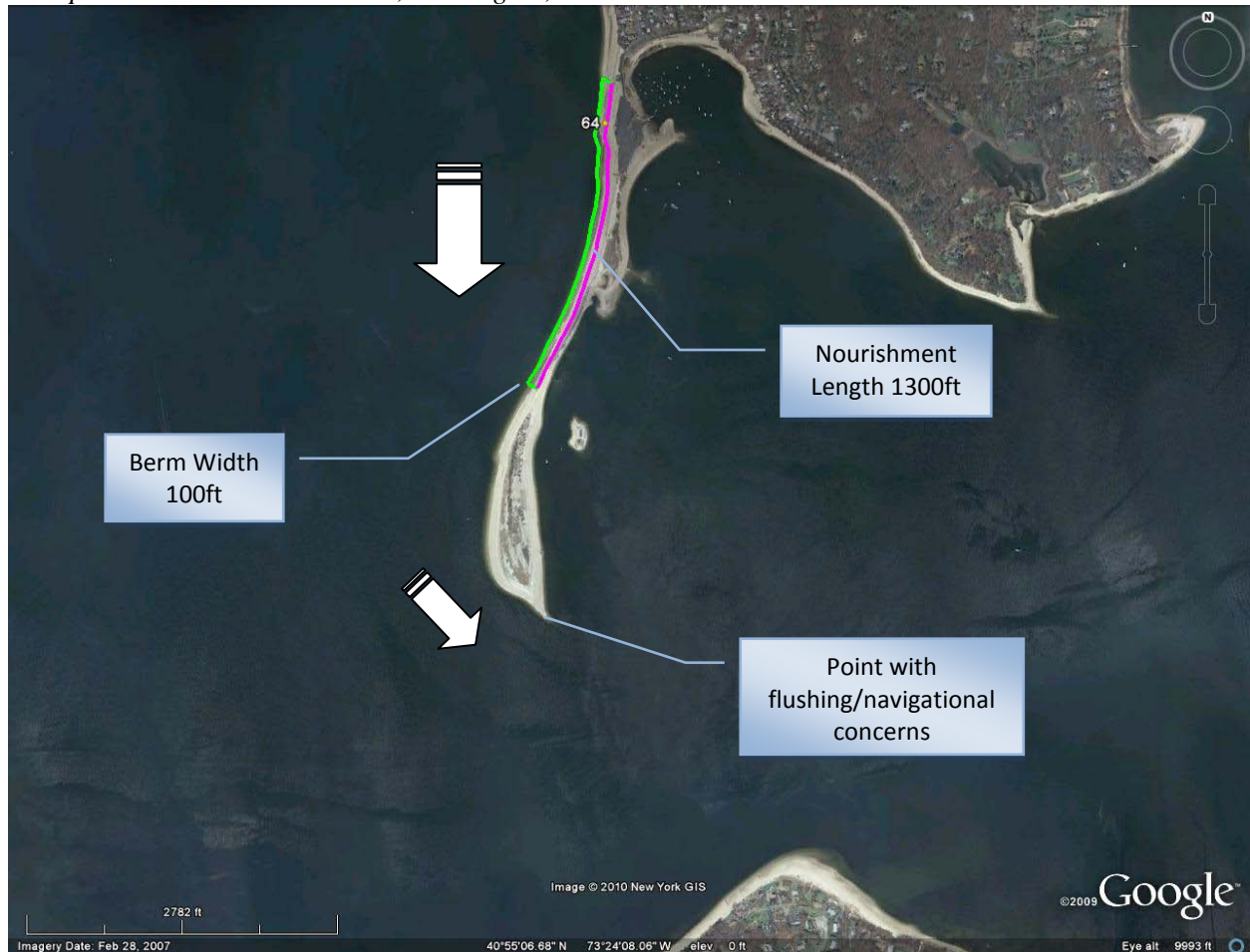


*Approach: Extend berm to end of structure (in this case, to a width of 14% of beach length).*

*Reasoning: Smaller beaches may be able to hold nourishment widths greater than 10% of their length if there are structures in place. Nourishing to the end of the structure maximizes capacity.*

**CONDITION 6: BEACH WITHOUT TERMINAL STRUCTURES UPDRIFT OF NAVIGATIONAL OR FLUSHING CONCERNS, AND/OR TERMINATES IN A SPIT**

*Example: Site 64 – Hobart Beach, Huntington, NY*



*Approach: Use engineering judgment to determine appropriate length of beach nourishment, then extend berm 10% of the length of the beach, to a maximum of 100 feet.*

*Reasoning: Sand placed near the downdrift end of a beach without a terminal structure or on a migrating spit will cause shoaling in the adjacent navigation channel.*