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New Bedford Harbor Superfund Site

U.S. Army Corps of Engineers New England District

Final East Zone 1 Remedial Action Report

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New Bedford Harbor Superfund Site

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Acronyms and Abbreviations

bgs	below ground surface
CDE	Cornell Dubilier Electronic, Inc.
cy	cubic yards
DDA	debris disposal area
EPA	U.S. Environmental Protection Agency
ft.	foot or feet
GPS	global positioning system
Jacobs	Jacobs Engineering Group, Inc.
LH	Lower Harbor
mg/kg	milligrams per kilogram
NAE	U.S. Army Corps of Engineers – New England District
NPL	Superfund National Priorities List
OH	Outer Harbor
PCB	polychlorinated biphenyl
PCPT	Pre-Excavation Confirmatory Pilot Test
ppm	parts per million
RBG	risk-based goals
ROD	Record of Decision
RTK	real-time kinematic
Sevenson	Sevenson Environmental Services, Inc.
TCL	target cleanup level
TSCA	Toxic Substances Control Act
UH	Upper Harbor

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1. Introduction

Remediation and restoration of the East Zone 1 intertidal zone were conducted by Jacobs Engineering Group, Inc. (Jacobs) under U.S. Army Corps of Engineers – New England District (NAE) Remediation Action Contract No. W912WJ-15-D-0001 between April and November 2020. The primary objective of remedial action at East Zone 1 was to remove soil and sediment with polychlorinated biphenyl (PCB) concentrations greater than the site-specific target cleanup level (TCL) of 50 milligrams per kilogram (mg/kg), as established in the *1998 Record of Decision for the New Bedford Harbor Superfund Site* (EPA 1998) for remote wetlands, and to restore the site to baseline or comparable conditions. Collectively, the East Zone 1 area includes four tax parcels of land. The excavation areas in total comprised approximately 381,509 square feet (8.7 acres) (Figure 1-1). Approximately 23,460 cubic yards of soil was excavated[1].

The purpose of this Remedial Action Report is to document the remediation activity and final disposition of the restored East Zone 1 area. Contaminated sediments were removed and disposed off-site, and the area was restored in accordance with the four parcel-specific work plans (Jacobs 2019a, 2019b, 2019c, 2019d). The proposed excavation areas are presented on Figure 1-1.

1.1 Site History

New Bedford Harbor (the Site) was proposed for the Superfund National Priorities List (NPL) in 1982 and finalized on the NPL in 1983. Pursuant to 40 CFR 300.425 (c)(2), the Commonwealth of Massachusetts nominated the harbor as its priority site for listing on the NPL. The Site is located approximately 55 miles south of Boston, in Bristol County, Massachusetts and is bounded to the east by the Town of Acushnet and Town of Fairhaven; and bounded to the west by the City of New Bedford and the Town of Dartmouth. The Site covers approximately 18,000 acres, extending from the shallow northern reaches of the Acushnet River Estuary, southward through the commercial harbor of New Bedford and into the adjacent section of Buzzards Bay. Based on the different geographic, environmental, and man-made features in the harbor, it has been subdivided into three sections identified as the Upper Harbor (UH), Lower Harbor (LH), and the Outer Harbor (OH).

The subtidal area and impacted intertidal zones of the UH comprise approximately 236 acres and are bounded to the North by the Wood Street Bridge area and to the South by the Coggeshall Street Bridge (Figure 1-1). The LH comprises approximately 750 acres and is bounded to the north by the Coggeshall Street Bridge and to the south by the New Bedford Hurricane Barrier. The OH (approximately 17,000 acres) begins at the Hurricane Barrier and extends southward into Buzzards Bay to an imaginary line extending from Rock Point (the southern tip of West Island in Fairhaven) southwesterly to a New Bedford Harbor navigational channel buoy, Buoy C3 and then southwesterly to Mishaum Point in Dartmouth.

PCB contamination of the sediments and seafood in and around New Bedford Harbor was first identified in the mid-1970s. Site-specific investigations by the EPA began in 1983 and 1984 and included pilot dredging and disposal studies and extensive physical and chemical computer modeling. These early studies are

[1] The total volume of approximately 23,460 cy includes approximately 2,000 cy of soil containing PCBs below the TCL that were removed to achieve the restoration design elevations.

summarized in the 1990 Feasibility Study for the Site (Ebasco 1990), and in the 1998 ROD for OU1/UH and LH.

Based on the results of these investigations and knowledge of the operations at the former Aerovox Site at 740 Belleville Avenue in New Bedford, the Aerovox site was identified as the principal source of PCB contamination in the UH. During operations at this facility (1940s – 1970s), PCB wastes were discharged directly to the UH through open trenches/spills and direct dumping, and indirectly via the City's sewerage system. During the same general time period, inputs of PCBs were also contributed to the Site by operations at the Cornell Dubilier Electronics, Inc. (CDE) facility, located just south of the New Bedford Hurricane Barrier in the OH.

Operations at the Aerovox Site resulted in significantly elevated PCB concentrations in UH sediments that generally decreased from north to south across the Site. Prior to the completion of remedial efforts, UH sediments contained PCB concentrations that ranged from below detection to more than 100,000 parts per million (ppm) in localized areas. As a tidal embayment with diurnal 4-ft tides, intertidal mudflats and vegetated saltmarshes became contaminated with PCBs in the UH and in certain, localized shoreline areas of the LH. This report documents the Remedial Action that occurred during 2020 in one of these UH shoreline areas, East Zone 1, in Acushnet, Massachusetts located across the Acushnet River from the former Aerovox mill.

2. Remedial Activities

The methods used to complete the remedial activities at the Site are presented below.

2.1 Site Preparation

Sampling of sediment and soil from the subtidal, intertidal, and upland areas around East Zone 1 was conducted in 1999, 2000, and 2001. These data allowed estimation of the horizontal and vertical boundaries of the areas requiring remediation. Additional characterization sampling was conducted in 2015, 2017, and 2018 to further refine excavation boundaries. Figures 2-1a, 2-1b, 2-1c, and 2-1d and Table 2-1 present all characterization sample locations used to determine the final remedial boundaries. These figures also identify those characterization locations used as the basis of post-excavation compliance, as described in Section 2.3.

Pre-existing conditions at East Zone 1 were documented prior to the initiation of remedial activities to establish baseline conditions for backfill, contouring, re-establishment of native vegetation, and deterrence of invasive species. This included a pre-excavation elevation survey and mapping of wetland cover type within the intertidal area (Figures 2-2a, 2-2b, 2-2c, and 2-2d). Other pre-excavation preparation activities included clearing of trees and removal of debris, construction of access roads and staging areas, and mobilization of equipment.

2.2 Removal of Contaminated Sediments

Excavation was conducted by Sevenson Environmental Services, Inc. (Sevenson) with track-mounted amphibious excavators operated in the intertidal zone and guided by real-time kinematic global positioning system (RTK GPS) (Figure 2-3). Target elevations were guided by the cut depth figures presented in the

parcel-specific work plans (Jacobs 2019a, 2019b, 2019c, 2019d). While performing the pre-excavation surface elevation check with the excavator bucket in the southern portion of Parcel 25-24, it was discovered that the pre-excavation aerial survey was not accurate where heavy vegetation covered the ground. USACE was notified and a field survey was performed with the RTK GPS to reset the target elevations, where necessary, prior to soil removal.

Excavated material was loaded into Hydrema all-terrain dump trucks and moved to the staging areas for stabilization with Portland cement and load out or transported to the Debris Disposal Area (DDA) in Area C for further stabilization and load out. See Section 3 below for disposal details. Concrete pieces and boulders found within the excavation areas were removed, cleaned, and used as fill in deeper excavations.

A total of 23,460 cubic yards (cy) of contaminated sediment was removed from the East Zone 1 intertidal zone. This value is based on estimates derived from the pre-excavation and post-excavation survey data. The as-built limits of excavation are presented on Figure 2-3.

2.3 Environmental Sampling

Consistent with the Record of Decision (ROD) (EPA 1998), for saltmarshes and shoreline areas with little or no public access, the 50 mg/kg TCL was used as a not-to-exceed value. The TCL compliance for parcels 25-24 and 24-31 was confirmed with a combination of post-excavation congener-based confirmatory sampling and collection of post-excavation land survey data to demonstrate that the excavation achieved the target horizontal and vertical design limits (Jacobs 2020a). Collection of multiple lines of evidence (chemistry and elevation data) formed the basis of the site-specific Pre-Excavation Confirmatory Pilot Test (PCPT) designed to evaluate using elevation as the basis for establishing compliance with the TCL. The post-excavation congener confirmatory samples were analyzed for 209 PCB congeners from samples collected immediately after confirmation that target excavation elevations were met. The samples from the floor locations were collected within the excavation footprint at the target depth interval (i.e., the 1-foot [ft.] interval immediately below the post-excavation, pre-backfill elevation). The sidewall sample locations were collected on the lateral boundary of the excavated areas at the target depth/sidewall interval. All sidewall sample locations in EZ1 were in areas with 1-foot cut depths so the sidewall samples were collected 0-1 ft. below ground surface (bgs). Collection of elevation data is quickly completed and allows for rapid evaluation of compliance. The PCPT concluded that a dense pre-excavation congener-based sampling grid, combined with post-excavation compliance land surveying, can be a successful compliance verification approach for the NBH intertidal excavation areas (Jacobs 2020a). The pre- and post-excavation PCB compliance data are shown in Table 2-2, and the pre- and post-excavation land survey data are shown in Table 2-3[2]. Based on the results of the PCPT, the remaining parcels (25-34A and 25-34) in EZ1 were evaluated for compliance based on the post-excavation elevation[3]. Compliance locations were co-located on pre-excavation characterization samples (Figure 2-4).

[2] Two locations (ES079C and INT07) were excavated an additional foot beyond the design elevation after post-excavation floor sample analysis indicated PCB contamination above the TCL remained in the vicinity of the samples. Both locations had a steep PCB concentration gradient through the 1-ft depth intervals above and below the target elevation. The presence of the steep concentration gradient presented uncertainty in determining the exact elevation at which the PCB concentration was below the TCL. ES079C also had two large industrial outfalls in close proximity.

[3] A lesson learned from the PCPT was the practice of sampling after excavation at locations that had steep PCB concentration gradients to ensure that the TCL had been met, rather than relying solely on elevation.

The pre- and post-excavation PCB compliance data are shown in Table 2-2, and the pre- and post-excavation land survey data are shown in Table 2-3.

Ambient air monitoring was conducted by an independent party at fixed monitoring locations during East Zone 1 remedial activities in accordance with the *Draft Final Ambient Air Monitoring Plan for Remediation Activities* (Jacobs 2020b), plus one additional location set up in East Zone 1 to monitor local concentrations during the field work only. No exceedances to Risk-Based Goals (RBGs) were identified (EPA 2020).

2.4 Site Restoration

Site restoration activities were completed following the removal of contaminated sediments according to the methods defined in the work plans (Jacobs 2019a, 2019b, 2019c, 2019d) and final planting plans developed by CR Environmental to incorporate the areas cleared for temporary roadways and for the Parcel 25-24 walk way area (CR Environmental 2020). The final planting plans can be found in Attachment B. Restoration activities included backfill, installation of coir logs and gravel for erosion protection, planting of native shrubs, trees and saltmarsh grasses, and broadcasting a conservation seed mix which included a fast germinating winter rye to provide soil stabilization until the 2021 spring growing season arrives. An East Zone 1 Planting Summary is presented in Table 2-4. A pre-final inspection of the restored parcels was performed by Jacobs and NAE, accompanied by EPA and SES, on December 10, 2020, and a final inspection was performed on June 10, 2021.

Backfill of excavated areas was performed by Sevenson using fill material as specified in the *Draft Final Generic Upper Harbor Intertidal Work Plan* (2019e). Proposed and as-built restoration elevations are listed in Table 2-3. All topsoil was tested for quality requirements identified in the *Draft Final Topsoil Acceptance Plan* (Jacobs 2019f). A summary of the topsoil analysis results by vendor batch is provided in Attachment A. Topsoil Batch 2 was amended with fertilizer in the field to meet the quality requirements so that all topsoil placed met the quality requirements.

The following field changes were made to the work plan specifications. The parcel-specific work plans for Parcels 25-34 and 25-34A required gravel to be installed continuously within the main stream channel; however, this was modified to allow more depth in the channel for better flow and, instead, gravel was placed in a 10-ft. band along the seaward edge of the coir log, and also behind (upland of) the coir log as needed to prevent channel erosion. The edges of swales and streams were completely lined with coir log, instead of only the first 10 ft., as designed in the work plans. This change will allow the streams and swales to maintain their shape and depth while plantings along their margins establish. Additional measures were also taken in areas where the restored slope was steep, and erosion became evident. The shoreline by Ball Plant 1 in Parcel 25-24 was redesigned to reduce the grade and erosion blankets and riprap were installed near the outfalls. Rocks recovered during excavation were installed as wave breaks seaward of the coir log on the south facing shoreline of Parcel 25-34 (after washing), additionally a layer of gravel was placed over topsoil on the south facing point of this parcel where wave action was likely to cause erosion.

The ecological habitat composition at East Zone 1 was restored on an approximate 1:1 basis, as compared between the pre-excavation (Figures 2-2a, 2-2b, 2-2c, and 2-2d) and post-excavation (Figures 2-5a, 2-5b, 2-5c, 2-5d) wetland distribution. The exception to this restoration ratio is mudflat; excavated mudflat areas were not backfilled and restored, except to establish a stable slope near the low marsh border. A post-excavation drone survey was conducted by Meridian Surveying and Mapping Inc. on April 27, 2021 to

document post-restoration topography. Some of the proposed tree and shrub plantings from the work plans were substituted with species recommended by CR Environmental as more suitable for the as-built elevations (see Attachment B). Additional planting details are provided in Table 2-4.

Site monitoring and maintenance will continue through the first five full growing seasons (Fall 2025) to document the extent to which the wetland restoration and, where applicable, upland restoration goals of the project are being met. The monitoring and maintenance protocols are described in *Draft Final Generic Upper Harbor Intertidal Work Plan* (2019e).

3. Waste Management

Sediment generated from the East Zone 1 Intertidal Remediation was disposed in accordance with the Toxic Substances Control Act (TSCA). Approximately 25,830 tons of stabilized sediment generated during the East Zone 1 Intertidal Remediation were transported via truck from the East Zone 1 site or the Sawyer Street facility to Worcester, Massachusetts where it was transloaded to rail cars for ultimate disposal at the Wayne Disposal, Inc. Site #2 Landfill, operated by US Ecology, Inc. in Belleville, MI.

4. References

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———. 2020a. *Final Pre-Excavation Confirmatory Pilot Test Technical Memorandum*. ACE-J23-35BG2000-M17-0079. November.

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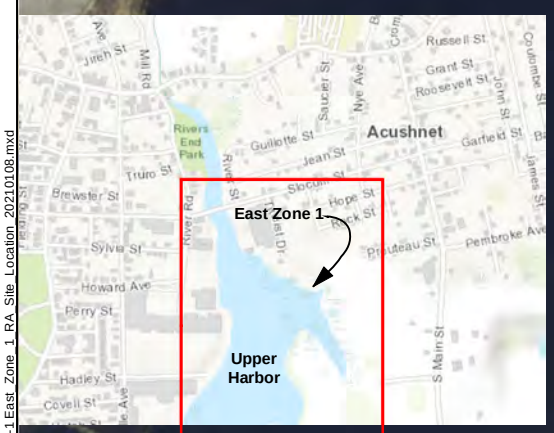
———. 2020. Air Monitoring Data Status as of August 2020. Table E-1, Ambient Air Monitoring Program—Total Detectable PCB Homologues. https://www.epa.gov/new-bedford-harbor/new-bedford-harbor-cleanup-plans-technical-documents-and-environmental-data

Figures

Wood Street

Upper Harbor

Former Aerovox Site



USGS, MassGIS

Legend

- MLLW
- MHHW
- Limits of Excavation

0 200 400 Feet

Basemap Data Source: MassGIS, ESRI

January 2020

East Zone 1 Pre-Excavation Site Location and Features

New Bedford Harbor Superfund Site

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Figure 1-1

Path: Y:\NBH\Projects\35BG1001\20210108_EZ1_RA_Report\ArcGIS\Figure 1-1 East_Zone_1_RA_Site_Location_20210108.mxd

Legend

- PCB Characterization and Survey Compliance Location
- PCB Characterization Sample Location
- Limits of Excavation
- NWS Remediation Area
- MHHW (1.99 ft)
- MLLW (-1.97 ft)
- Parcel Boundary

0 120 240 Feet

Basemap Data Source:
MassGIS, ESRI

June 2021

East Zone 1 Parcel 25-24
Proposed Excavation Boundaries and PCB Sample Locations

New Bedford Harbor Superfund Site

JACOBS

Figure 2-1a

Path: Y:\NBHP\Projects\35BG1001\20210518_EZ1_RA_Report_Final\ArcGIS\Figure 2-1a East_Zone_1_Parcel_25_24_RA_Sample_Locations_20210518.mxd

Legend

- PCB Characterization and Survey Compliance Location
- PCB Characterization Sample Location
- Limits of Excavation
- MHHW (1.99 ft)
- MLLW (-1.97 ft)
- Parcel Boundary

0 120 240 Feet

Basemap Data Source:
MassGIS, ESRI

June 2021

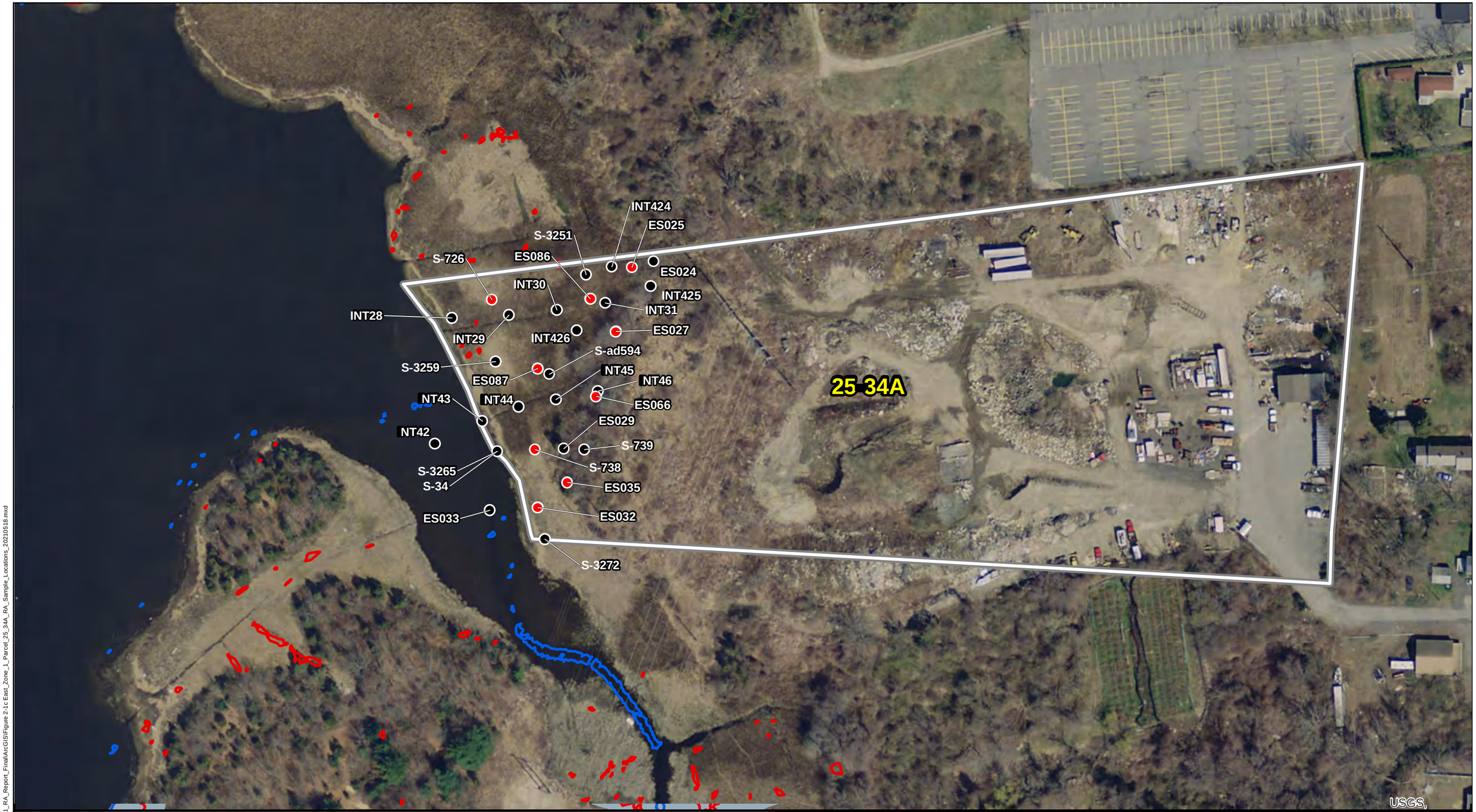
East Zone 1 Parcel 25-31
Proposed Excavation Boundaries and PCB Sample Locations

New Bedford Harbor Superfund Site

JACOBS

Figure 2-1b

Path: Y:\NBH\Projects\358G1001\20210518_E21_RA_Report_Final\ArcGIS\Figure 2-1b East_Zone_1_Parcel_25_31_RA_Sample_Locations_20210518.mxd



Legend

- PCB Characterization and Survey Compliance Location
- PCB Characterization Sample Location
- Limits of Excavation
- MHHW (1.99 ft)
- MLLW (-1.97 ft)
- Parcel Boundary

0 100 200 Feet

Basemap Data Source:
MassGIS, ESRI

June 2021

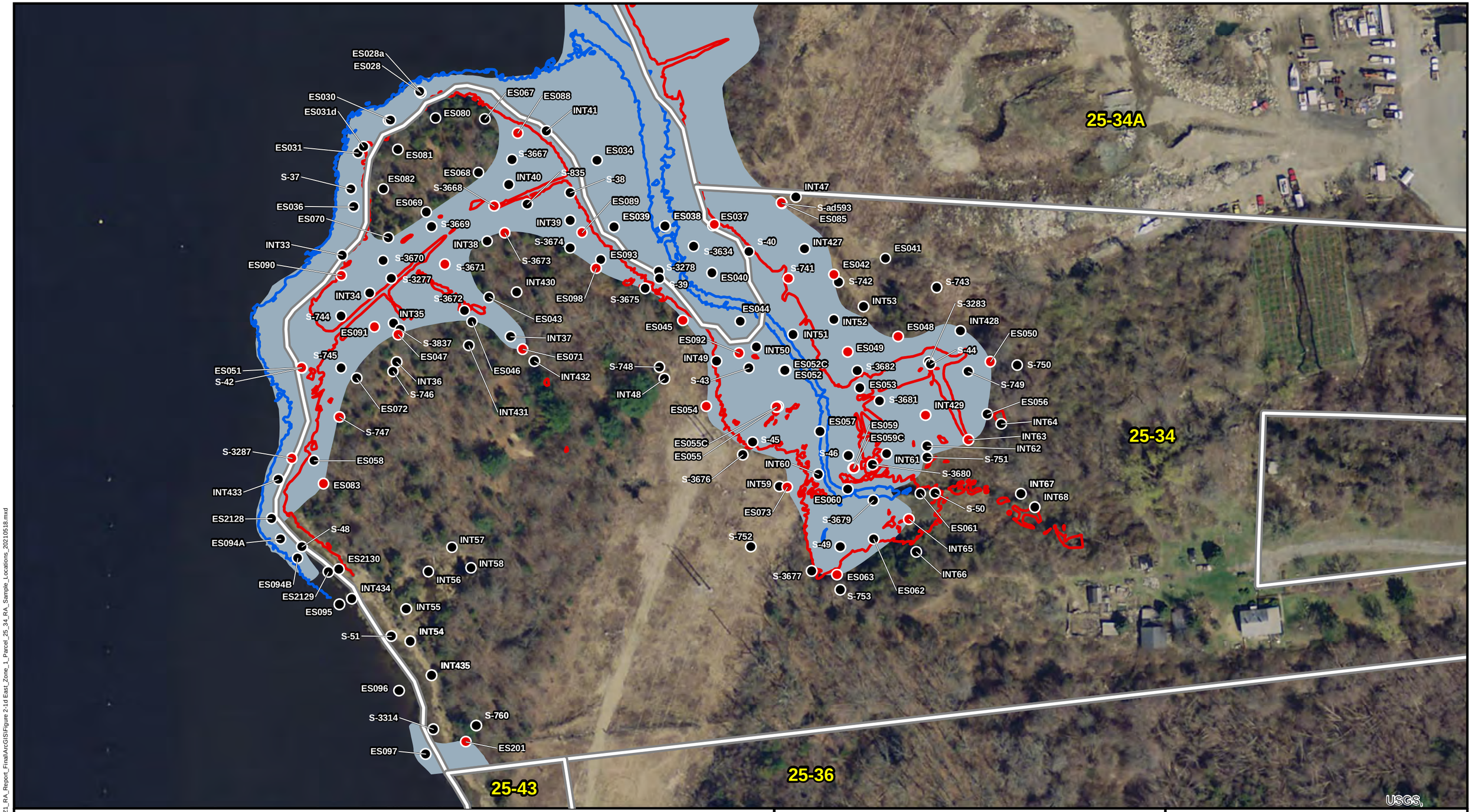
East Zone 1 Parcel 25-34A Proposed Excavation Boundaries and PCB Sample Locations

New Bedford Harbor Superfund Site

JACOBS

Figure 2-1c

Path: Y:\NBH\Projects\35BG10013\20210518_EZ1_RA_Report_Final\ArcGIS\Figure 2-1c East_Zone_1_Parcel_25_34A_RA_Sample_Locations_20210518.mxd



Legend

- PCB Characterization and Survey Compliance Location
- PCB Characterization Sample Location
- Limits of Excavation
- MHHW (1.99 ft)
- MLLW (-1.97 ft)
- Parcel Boundary

Vertical Datum NAVD88 ft

0 100 200 Feet

Basemap Data Source: MassGIS, ESRI

June 2021

East Zone 1 Parcel 25-34
Proposed Excavation Boundaries and PCB Sample Locations

New Bedford Harbor Superfund Site

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Figure 2-1d

Path: Y:\NBH\Projects\35BG100\20210518_EZ1_RA_Report_Final\ArcGIS\Figure 2-1d East_Zone_1_Parcel_25_34_RA_Sample_Locations_20210518.mxd

Notes:

Existing vegetative cover was surveyed by Nearview, LLC (October 2017).

Shoreline rip rap is also present outside the vegetation survey area.

25-24

25-31

5

5

5

0

Legend

- Mean Higher High Water
- Mean Lower Low Water
- 1-foot Contour
- Parcel Boundary
- 0-1' Excavation Depth
- 1-2' Excavation Depth
- 2-3' Excavation Depth
- 3-4' Excavation Depth
- Phragmites
- Low Marsh
- Mudflat
- Rip Rap
- Upland

0 50 100 Feet

January 2021

Basemap Data Source:
MassGIS, ESRI

Vertical Datum:
NAVD88

East Zone 1 Parcel 25-24
Pre-Excavation Wetland Cover and Topography in Excavation Areas

New Bedford Harbor Superfund Site

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Figure 2-2a

Legend

- Mean Higher High Water
- Mean Lower Low Water
- 1-foot Contour
- Parcel Boundary
- 0-1' Excavation Depth
- 1-2' Excavation Depth
- 2-3' Excavation Depth
- 3-4' Excavation Depth
- 4-5' Excavation Depth
- Phragmites
- High Marsh
- Low Marsh
- Mudflat
- Stream

0 50 100 Feet

January 2021

Basemap Data Source:
MassGIS, ESRI

Vertical Datum:
NAVD88

East Zone 1 Parcel 25-31
Pre-Excavation Wetland Cover and Topography in Excavation Areas

New Bedford Harbor Superfund Site

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Figure 2-2b

Notes:

Existing vegetative cover was surveyed by Nearview, LLC (October 2017).

25-31

25-34A

25-34

0

0

0

USGS, MassGIS

Legend

- Mean Higher High Water
- Mean Lower Low Water
- 1-foot Contour
- 0-1' Excavation Depth
- 1-2' Excavation Depth
- 2-3' Excavation Depth
- Parcel Boundary
- Phragmites
- Scrub-Shrub Marsh
- High Marsh
- Low Marsh
- Mudflat

0 50 100 Feet

January 2021

Basemap Data Source: MassGIS

Vertical Datum NAVD88

East Zone 1 Parcel 25-34A Pre-Excavation Wetland Cover and Topography in Excavation Areas

New Bedford Harbor Superfund Site

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Figure 2-2c

Notes:

Existing vegetative cover was surveyed by Nearview, LLC (October 2017).

25-34A

25-34

25-36

25-43

0'

5'

10'

USGS, MassGIS

Legend

- 0-1' Excavation Depth
- 1-2' Excavation Depth
- 2-3 Excavation Depth
- 3-4' Excavation Depth
- 4-5' Excavation Depth
- 5-6' Excavation Depth
- Mean Lower Low Water
- Mean Higher High Water
- Parcel Boundary
- 1-foot Contour
- Beach
- High Marsh
- Low Marsh
- Mudflat
- Palustrine Forested Wetland
- Phragmites
- Scrub-Shrub Marsh
- Stream
- Upland

0 50 100 Feet

January 2021

Basemap Data Source: MassGIS, ESRI

Vertical Datum: NAVD88

East Zone 1 Parcel 25-34 Pre-Excavation Wetland Cover and Topography in Excavation Areas

New Bedford Harbor Superfund Site

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Figure 2-2d

Wood Street

Upper Harbor

Former Aerovox Site

East Zone 1

Upper Harbor

Site Location

USGS, MassGIS

Legend

MLLW (-1.97 ft. Post-Excavation)

MHHW (1.99 ft. Post-Excavation)

As-built Limits of Excavation

0 200 400 Feet

Basemap Data Source: MassGIS, ESRI

June 2021

East Zone 1
Post-Excavation Limits

New Bedford Harbor Superfund Site

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Figure 2-3

Path: Y:\NBH\Projects\35BG1001\20210518_EZ1_RA_Report_Final\ArcGIS\Figure 2-3 East_Zone_1_RA_Post_Excavation_Limits_20210518.mxd

Note: Excavation was extended into parcel 25-43 to install fence.

Legend

- MHHW (1.99 ft. Post-Excavation)
- MLLW (-1.97 ft. Post-Excavation)
- Parcel Boundary
- As-built Limits of Excavation

Compliance Location

- Sidewall Survey Compliance Location
- Floor Survey Compliance Location
- PCB Compliance Location

N

Basemap Data Source: MassGIS, ESRI

0 75 150 Feet

1:1,800

Post-Excavation MHHW and MLLW Elevations NAVD88 ft. (Maridian, May, 2021)

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East Zone 1 Compliance Locations

New Bedford Harbor Superfund Site

June 2021 | Figure 2-4

Path: Y:\NBH\Projects\35BG1001\20210518_EZ1_RA_Report_Final\ArcGIS\Eiqure 2-4 East_Zone_1_RA_Compliance_Locations_20210518.mxd

Legend

- Post-Excavation 1-foot Contours
- Post-Excavation 5-foot Contours
- MHHW (1.99 ft. Post-Excavation)
- MLLW (-1.97 ft. Post-Excavation)
- As-built Limits of Excavation
- Parcel Boundary
- Stream
- Drain Pipe
- Walking Path

Note: 75 willow stakes installed within the Bayberry areas between marked line "A" and "B". No high marsh was added north of "B". Coir log installed on slope at top of marsh zone in this area.

Restoration Aerial: Maridian May 2021

0 50 100 Feet

June 2021

Basemap Data Source: MassGIS

East Zone 1 Parcel 25-24 Post-Excavation and Restoration Record Drawing

New Bedford Harbor Superfund Site

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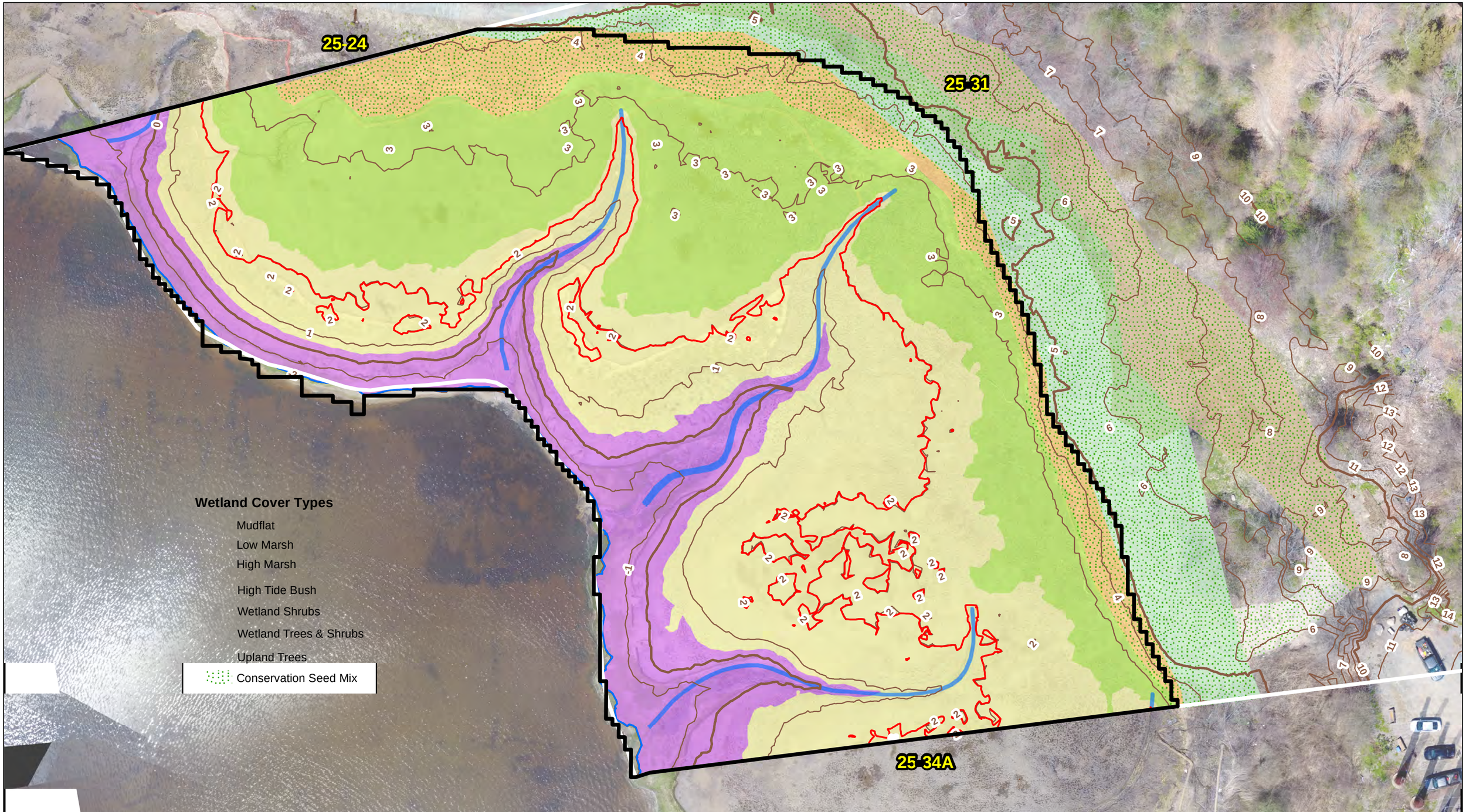
Figure 2-5a



Legend

- Post-Excavation 1-foot Contours
- Post-Excavation 5-foot Contours
- MHHW (1.99 ft. Post-Excavation)
- MLLW (-1.97 ft. Post-Excavation)
- As-built Limits of Excavation
- Parcel Boundary
- Stream

Restoration Aerial: Maridian May 2021

0 50 100 Feet

June 2021

Basemap Data Source: MassGIS

East Zone 1 Parcel 25-31 Post-Excavation and Restoration Record Drawing

New Bedford Harbor Superfund Site

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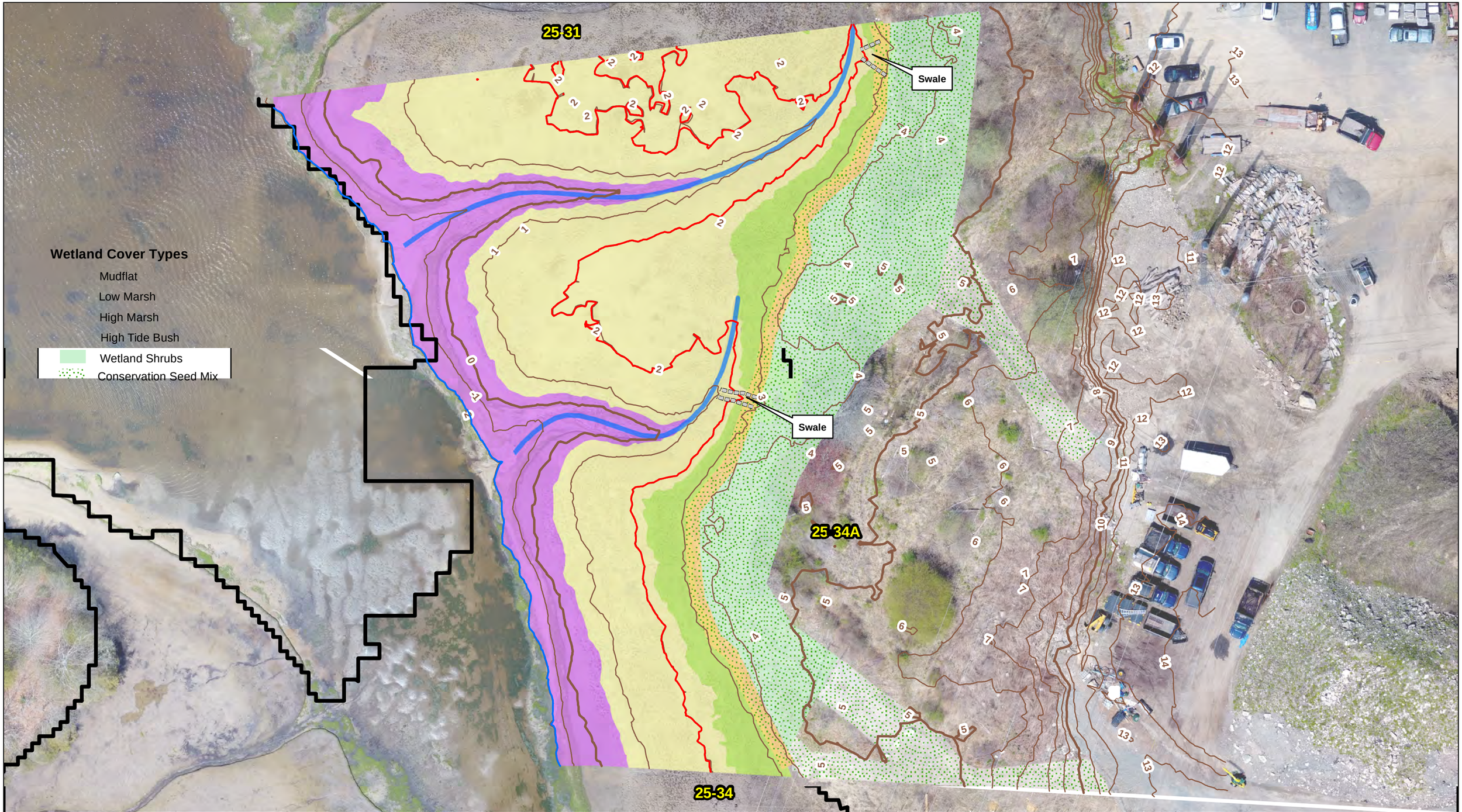
Figure 2-5b



Legend

- Post-Excavation 1-foot Contours
- Post-Excavation 5-foot Contours
- MHHW (1.99 ft. Post-Excavation)
- MLLW (-1.97 ft. Post-Excavation)
- As-built Limits of Excavation
- Parcel Boundary
- Coir logs used to create drainage swale
- Stream

Restoration Aerial: Maridian May 2021

0 50 100 Feet

June 2021

Basemap Data Source: MassGIS

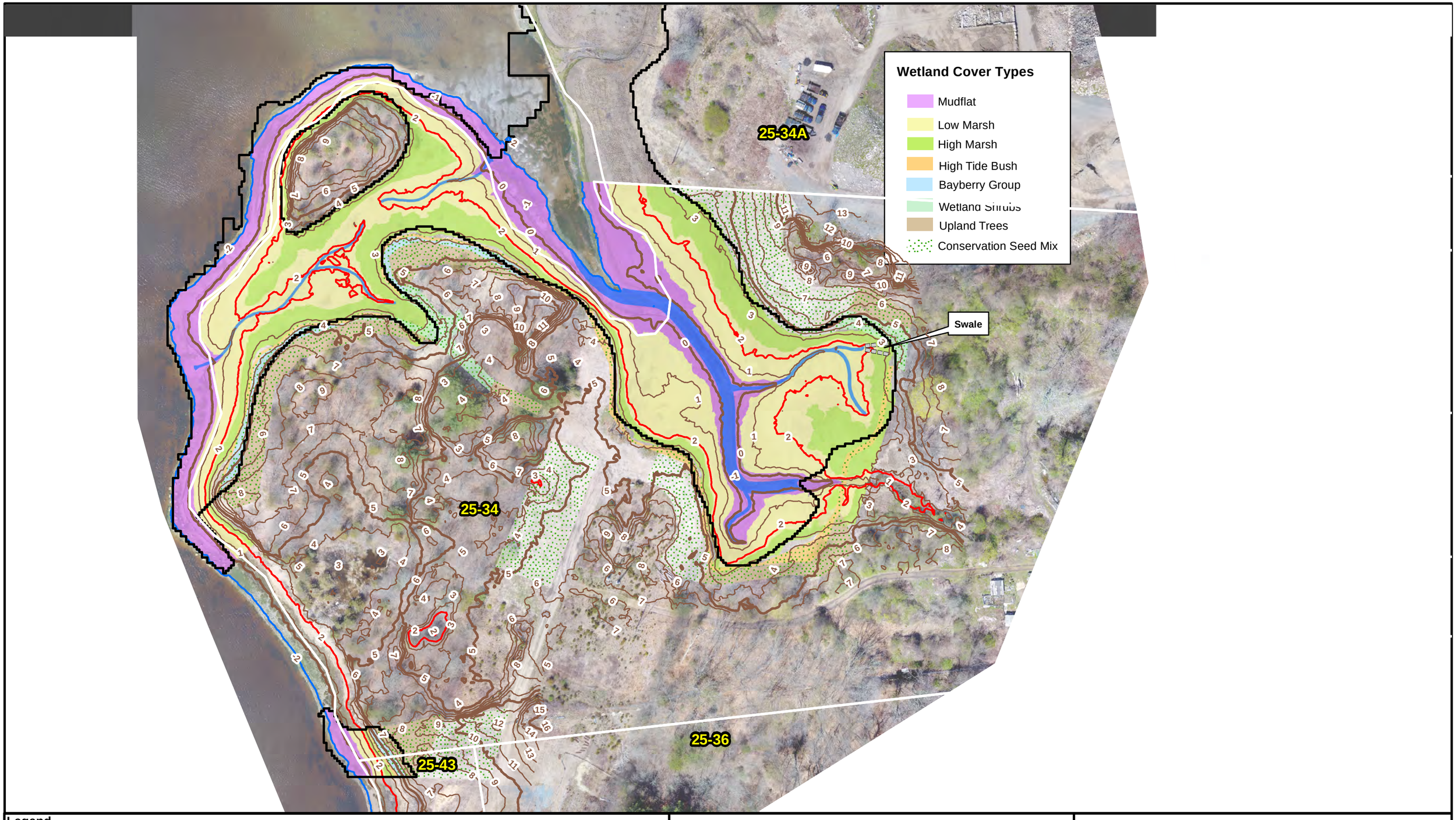
Vertical Datum: NAVD88

East Zone 1 Parcel 25-34A Post-Excavation and Restoration Record Drawing

New Bedford Harbor Superfund Site

JACOBS

Figure 2-5c



Legend

- Post-Excavation 1-foot Contours
- Post-Excavation 5-foot Contours
- MLLW (-1.97 ft. Post-Excavation)
- MHHW (1.99 ft. Post-Excavation)
- As-built Limits of Excavation
- Parcel Boundary
- Coir logs used to create drainage swale
- Stream

Restoration Aerial: Maridian May 2021

0 60 120 Feet

June 2021

Basemap Data Source: MassGIS, ESRI

Vertical Datum: NAVD88

East Zone 1 Parcel 25-34 Post-Excavation and Restoration Record Drawing

New Bedford Harbor Superfund Site

JACOBS

Figure 2-5d

Tables

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-24	Mudflat	S-ES001-18FSP4-10-20	ES001	1.0	2.0	3/12/2018	Sum 209 PCB congeners	0.613	
25-24	Mudflat	S-ES001-18FSP4-20-30	ES001	2.0	3.0	3/12/2018	Sum 209 PCB congeners	0.548	
25-24	Saltmarsh	S-ES002-18FSP4-00-10	ES002	0.0	1.0	3/7/2018	Sum 209 PCB congeners	1.01	
25-24	Mudflat	S-ES003-18FSP4-10-20	ES003	1.0	2.0	3/20/2018	Sum 209 PCB congeners	0.124	
25-24	Mudflat	S-ES003-18FSP4-20-30	ES003	2.0	3.0	3/20/2018	Sum 209 PCB congeners	0.0682	
25-24	Mudflat	S-ES004-18FSP4-10-20	ES004	1.0	2.0	3/22/2018	Sum 209 PCB congeners	0.0745	
25-24	Mudflat	S-ES004-18FSP4-20-30	ES004	2.0	3.0	3/22/2018	Sum 209 PCB congeners	0.08	
25-24	Saltmarsh	S-ES005-18FSP4-00-10	ES005	0.0	1.0	3/7/2018	Sum 209 PCB congeners	0.455	
25-24	Saltmarsh	S-ES006-18FSP4-00-10	ES006	0.0	1.0	3/15/2018	Sum 209 PCB congeners	5.42	
25-24	Saltmarsh	S-ES007-18FSP4-00-10	ES007	0.0	1.0	3/7/2018	Sum 209 PCB congeners	0.761	
25-24	Saltmarsh	S-ES008-18FSP4-00-10	ES008	0.0	1.0	3/8/2018	Sum 209 PCB congeners	0.329	
25-24	Saltmarsh	S-ES009-18FSP4-10-20	ES009	1.0	2.0	3/8/2018	Sum 209 PCB congeners	29.8	
25-24	Saltmarsh	S-ES009-18FSP4-20-30	ES009	2.0	3.0	3/8/2018	Sum 209 PCB congeners	19.8	
25-24	Saltmarsh	S-ES010-18FSP4-10-20	ES010	1.0	2.0	3/20/2018	Sum 209 PCB congeners	0.223	
25-24	Saltmarsh	S-ES010-18FSP4-20-30	ES010	2.0	3.0	3/20/2018	Sum 209 PCB congeners	0.135	
25-24	Saltmarsh	S-ES010-18FSP4-30-32	ES010	3.0	3.2	3/20/2018	Sum 209 PCB congeners	3.62	
25-24	Saltmarsh	S-ES013-18FSP4-10-20	ES013	1.0	2.0	3/7/2018	Sum 209 PCB congeners	113	
25-24	Saltmarsh	S-ES013-18FSP4-20-29	ES013	2.0	2.9	3/7/2018	Sum 209 PCB congeners	158	
25-24	Saltmarsh	S-ES013-18FSP4-30-40	ES013	3.0	4.0	5/16/2018	Sum 209 PCB congeners	11.8	
25-24	Mudflat	S-ES014-18FSP4-10-20	ES014	1.0	2.0	3/7/2018	Sum 209 PCB congeners	0.00713	
25-24	Mudflat	S-ES014-18FSP4-20-30	ES014	2.0	3.0	3/7/2018	Sum 209 PCB congeners	0.0779	
25-24	Saltmarsh	S-ES074-18FSP4-10-20	ES074	1.0	2.0	4/16/2018	Sum 209 PCB congeners	12.2	
25-24	Saltmarsh	S-ES079-18FSP4-10-20	ES079	1.0	2.0	4/16/2018	Sum 209 PCB congeners	728	
25-24	Saltmarsh	S-ES079-18FSP4-20-30	ES079	2.0	3.0	4/16/2018	Sum 209 PCB congeners	1380	
25-24	Saltmarsh	S-ES079-18FSP4-30-40	ES079	3.0	4.0	5/16/2018	Sum 209 PCB congeners	140	
25-24	Saltmarsh	S-ES079C-18FSP4-40-50	ES079C	4.0	5.0	6/14/2018	Sum 209 PCB congeners	2.12	
25-24	Saltmarsh	S-ES079C-18FSP4-50-60	ES079C	5.0	6.0	6/14/2018	Sum 209 PCB congeners	0.00351	
25-24	Saltmarsh	S-ES079C-18FSP4-60-65	ES079C	6.0	6.5	6/14/2018	Sum 209 PCB congeners	0.0542	
25-24	Saltmarsh	S-ES084-18FSP4-35-45	ES084	3.5	4.5	6/14/2018	Sum 209 PCB congeners	2.28	
25-24	Saltmarsh	S-ES084-18FSP4-45-50	ES084	4.5	5.0	6/14/2018	Sum 209 PCB congeners	0.415	
25-24	Saltmarsh	S-ES084-18FSP4-50-60	ES084	5.0	6.0	6/14/2018	Sum 209 PCB congeners	0.53	
25-24	Saltmarsh	S-ES084-18FSP4-60-70	ES084	6.0	7.0	6/14/2018	Sum 209 PCB congeners	0.347	
25-24	Mudflat	S-15A-INT01-00-10	INT01	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	1910	D
25-24	Mudflat	S-15A-INT01-10-20	INT01	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	3.20	
25-24	Saltmarsh	S-15A-INT02-00-10	INT02	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	962	D
25-24	Saltmarsh	S-15A-INT02-10-20	INT02	1.0	2.0	4/15/2015	Aroclor 1254 - Immunoassay	4.30	
25-24	Saltmarsh	S-15A-INT03-00-10	INT03	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	1217	D

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-24	Saltmarsh	S-15A-INT03-10-20	INT03	1.0	2.0	4/15/2015	Aroclor 1254 - Immunoassay	3.90	
25-24	Saltmarsh	S-15A-INT04-00-10	INT04	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	2.30	
25-24	Saltmarsh	S-15A-INT04-10-17	INT04	1.0	1.7	4/15/2015	Aroclor 1254 - Immunoassay	1.50	
25-24	Saltmarsh	S-15A-INT05-00-10	INT05	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	3918	D
25-24	Saltmarsh	S-15A-INT05-10-20	INT05	1.0	2.0	4/15/2015	Aroclor 1254 - Immunoassay	4.10	
25-24	Saltmarsh	S-15A-INT13-00-10	INT13	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	0.90	
25-24	Saltmarsh	S-15A-INT13-10-20	INT13	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	1.20	
25-24	Saltmarsh	S-17Y-INT416-00-10	INT416	0.0	1.0	5/25/2017	Aroclor 1254 - Immunoassay	584	D
25-24	Saltmarsh	S-17Y-INT416-10-20	INT416	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	123	D
25-24	Saltmarsh	S-17Y-INT417-00-10	INT417	0.0	1.0	5/25/2017	Aroclor 1254 - Immunoassay	7.9	D
25-24	Saltmarsh	S-17Y-INT417-10-20	INT417	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	1.2	
25-24	Saltmarsh	S-0021-1	S-21	0.0	1.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	1800	
25-24	Saltmarsh	S-0021-2	S-21	1.0	2.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	230	
25-24	Saltmarsh	S-0021-3DUP	S-21	2.0	3.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	1.70	
25-24	Saltmarsh	S-0021-3	S-21	2.0	3.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	1.60	
25-24	Saltmarsh	S-0024-1	S-24	0.0	1.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	4800	
25-24	Saltmarsh	S-0024-2	S-24	1.0	2.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	430	
25-24	Saltmarsh	S-0024-3	S-24	2.0	3.0	8/31/1999	Sum 18 NOAA PCB congeners X factor	9.30	
25-24	Saltmarsh	S-0025-2	S-25	1.0	2.0	9/3/1999	Sum 18 NOAA PCB congeners X factor	450	
25-24	Saltmarsh	S-0026-1	S-26	0.0	1.0	9/9/1999	Sum 18 NOAA PCB congeners X factor	800	
25-24	Saltmarsh	S-0026-2	S-26	1.0	2.0	9/9/1999	Sum 18 NOAA PCB congeners X factor	240	
25-24	Saltmarsh	S-0026-3DUP	S-26	2.0	3.0	9/9/1999	Sum 18 NOAA PCB congeners X factor	300	
25-24	Saltmarsh	S-0026-3	S-26	2.0	3.0	9/9/1999	Sum 18 NOAA PCB congeners X factor	110	
25-24	Saltmarsh	S-3229-0.0-1.0	S-3229	0.0	1.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	133	
25-24	Saltmarsh	S-3231-0.0-1.0	S-3231	0.0	1.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	107	
25-24	Saltmarsh	S-3231-1.0-2.0	S-3231	1.0	2.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	4.16	
25-24	Mudflat	S-3236-0.8-1.3	S-3236	0.8	1.3	9/4/2001	Sum 18 NOAA PCB congeners X 2.6	3.64	
25-24	Mudflat	S-3236-0.8-1.3REP	S-3236	0.8	1.3	9/4/2001	Sum 18 NOAA PCB congeners X 2.6	2.60	
25-24	Saltmarsh	S-3237-0.0-1.0REP	S-3237	0.0	1.0	10/25/2001	Sum 18 NOAA PCB congeners X 2.6	12740	
25-24	Saltmarsh	S-3237-0.0-1.0	S-3237	0.0	1.0	10/25/2001	Sum 18 NOAA PCB congeners X 2.6	11440	
25-24	Saltmarsh	S-3656-0.0-1.0	S-3656	0.0	1.0	11/15/2001	Sum 18 NOAA PCB congeners X 2.6	0.47	
25-24	Saltmarsh	S-3656-1.0-2.0	S-3656	1.0	2.0	11/15/2001	Sum 18 NOAA PCB congeners X 2.6	0.19	
25-24	Saltmarsh	S-3656-2.0-3.0	S-3656	2.0	3.0	11/15/2001	Sum 18 NOAA PCB congeners X 2.6	4.16	
25-24	Saltmarsh	S-3659-0.0-1.0	S-3659	0.0	1.0	11/14/2001	Sum 18 NOAA PCB congeners X 2.6	21.1	
25-24	Saltmarsh	S-3659-1.0-2.0	S-3659	1.0	2.0	11/14/2001	Sum 18 NOAA PCB congeners X 2.6	1.46	
25-24	Saltmarsh	S-3661-0.0-1.0	S-3661	0.0	1.0	10/5/2001	Sum 18 NOAA PCB congeners X 2.6	3.90	
25-24	Saltmarsh	S-3662-0.0-.6	S-3662	0.0	0.6	10/5/2001	Sum 18 NOAA PCB congeners X 2.6	0.75	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-24	Saltmarsh	S-3662-.6-1.0	S-3662	0.6	1.0	10/5/2001	Sum 18 NOAA PCB congeners X 2.6	1.87	
25-24	Saltmarsh	S-3663-0.0-1.0	S-3663	0.0	1.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	0.12	
25-24	Saltmarsh	S-3663-0.0-1.0REP	S-3663	0.0	1.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	0.12	
25-24	Saltmarsh	S-3664-0.0-.5	S-3664	0.0	0.5	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	12.0	
25-24	Saltmarsh	S-3664-2.0-3.0	S-3664	2.0	3.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	31.2	
25-24	Saltmarsh	S-0724-1	S-724	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	0.36	
25-24	Saltmarsh	S-0724-2	S-724	1.0	2.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	0.44	
25-24	Saltmarsh	S-0729-1	S-729	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	12.2	
25-24	Saltmarsh	S-0729-2	S-729	1.0	2.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	0.70	
25-24	Saltmarsh	S-0730-1	S-730	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	5460	
25-24	Saltmarsh	S-0730-2	S-730	1.0	2.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	28.6	
25-24	Saltmarsh	S-0730-3	S-730	2.0	3.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	1.74	
25-31	Saltmarsh	S-ES011-18FSP4-00-10	ES011	0.0	1.0	3/8/2018	Sum 209 PCB congeners	7.37	
25-31	Saltmarsh	S-ES012-18FSP4-00-10	ES012	0.0	1.0	3/8/2018	Sum 209 PCB congeners	6.27	
25-31	Saltmarsh	S-ES015-18FSP4-00-10	ES015	0.0	1.0	3/9/2018	Sum 209 PCB congeners	2.72	
25-31	Saltmarsh	S-ES016-18FSP4-10-20	ES016	1.0	2.0	3/8/2018	Sum 209 PCB congeners	3610	
25-31	Saltmarsh	S-ES016-18FSP4-20-30	ES016	2.0	3.0	3/8/2018	Sum 209 PCB congeners	1240	
25-31	Saltmarsh	S-ES016-18FSP4-30-40	ES016	3.0	4.0	5/16/2018	Sum 209 PCB congeners	27.3	
25-31	Saltmarsh	S-ES017-18FSP4-10-20	ES017	1.0	2.0	3/12/2018	Sum 209 PCB congeners	2360	
25-31	Saltmarsh	S-ES017-18FSP4-20-30	ES017	2.0	3.0	3/12/2018	Sum 209 PCB congeners	55.2	
25-31	Saltmarsh	S-ES017-18FSP4-30-40	ES017	3.0	4.0	3/12/2018	Sum 209 PCB congeners	20.8	
25-31	Saltmarsh	S-ES018-18FSP4-10-20	ES018	1.0	2.0	3/15/2018	Sum 209 PCB congeners	157	
25-31	Saltmarsh	S-ES018-18FSP4-20-30	ES018	2.0	3.0	3/15/2018	Sum 209 PCB congeners	29.9	
25-31	Saltmarsh	S-ES019-18FSP4-10-20	ES019	1.0	2.0	3/15/2018	Sum 209 PCB congeners	685	
25-31	Saltmarsh	S-ES019-18FSP4-20-30	ES019	2.0	3.0	3/15/2018	Sum 209 PCB congeners	779	
25-31	Saltmarsh	S-ES019-18FSP4-30-35	ES019	3.0	3.5	3/15/2018	Sum 209 PCB congeners	2.53	
25-31	Saltmarsh	S-ES020-18FSP4-10-20	ES020	1.0	2.0	3/15/2018	Sum 209 PCB congeners	123	
25-31	Saltmarsh	S-ES020-18FSP4-20-30	ES020	2.0	3.0	3/15/2018	Sum 209 PCB congeners	58.5	
25-31	Saltmarsh	S-ES020-18FSP4-30-40	ES020	3.0	4.0	4/16/2018	Sum 209 PCB congeners	0.384	
25-31	Saltmarsh	S-ES021-18FSP4-10-20	ES021	1.0	2.0	3/12/2018	Sum 209 PCB congeners	60.3	
25-31	Saltmarsh	S-ES021-18FSP4-20-30	ES021	2.0	3.0	3/12/2018	Sum 209 PCB congeners	39.7	
25-31	Saltmarsh	S-ES022-18FSP4-10-20	ES022	1.0	2.0	3/15/2018	Sum 209 PCB congeners	8.48	
25-31	Saltmarsh	S-ES022-18FSP4-20-30	ES022	2.0	3.0	3/15/2018	Sum 209 PCB congeners	51.1	
25-31	Saltmarsh	S-ES023-18FSP4-00-10	ES023	0.0	1.0	3/9/2018	Sum 209 PCB congeners	0.236	
25-31	Saltmarsh	S-ES026-18FSP4-10-20	ES026	1.0	2.0	3/15/2018	Sum 209 PCB congeners	68.3	
25-31	Saltmarsh	S-ES026-18FSP4-20-30	ES026	2.0	3.0	3/15/2018	Sum 209 PCB congeners	42.1	
25-31	Saltmarsh	S-ES064-18FSP4-00-10	ES064	0.0	1.0	3/9/2018	Sum 209 PCB congeners	3.36	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-31	Saltmarsh	S-ES065-18FSP4-00-10	ES065	0.0	1.0	3/9/2018	Sum 209 PCB congeners	0.703	
25-31	Saltmarsh	S-ES075-18FSP4-10-20	ES075	1.0	2.0	4/16/2018	Sum 209 PCB congeners	3.66	
25-31	Saltmarsh	S-ES076-18FSP4-10-20	ES076	1.0	2.0	4/16/2018	Sum 209 PCB congeners	142	
25-31	Saltmarsh	S-ES076-18FSP4-20-30	ES076	2.0	3.0	4/16/2018	Sum 209 PCB congeners	23.1	
25-31	Saltmarsh	S-ES076C-18FSP4-30-40	ES076C	3.0	4.0	6/14/2018	Sum 209 PCB congeners	27.5	
25-31	Saltmarsh	S-ES076C-18FSP4-40-50	ES076C	4.0	5.0	6/14/2018	Sum 209 PCB congeners	67.6	
25-31	Saltmarsh	S-ES076C-18FSP4-50-60	ES076C	5.0	6.0	6/14/2018	Sum 209 PCB congeners	44.5	
25-31	Saltmarsh	S-ES076C-18FSP4-60-70	ES076C	6.0	7.0	6/14/2018	Sum 209 PCB congeners	27.7	
25-31	Saltmarsh	S-ES077-18FSP4-10-20	ES077	1.0	2.0	4/16/2018	Sum 209 PCB congeners	60.2	
25-31	Saltmarsh	S-ES077-18FSP4-20-30	ES077	2.0	3.0	4/16/2018	Sum 209 PCB congeners	30.9	
25-31	Saltmarsh	S-ES078-18FSP4-10-20	ES078	1.0	2.0	4/16/2018	Sum 209 PCB congeners	4.2	
25-31	Saltmarsh	S-ES078-18FSP4-20-30	ES078	2.0	3.0	4/16/2018	Sum 209 PCB congeners	0.519	
25-31	Saltmarsh	S-15A-INT06-00-10	INT06	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	1377	D
25-31	Saltmarsh	S-15A-INT06-10-20	INT06	1.0	2.0	4/15/2015	Sum 139 PCB congeners	2.00	
25-31	Saltmarsh	S-15A-INT07-00-10	INT07	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	4768	D
25-31	Saltmarsh	S-15A-INT07-10-20	INT07	1.0	2.0	4/15/2015	Sum 139 PCB congeners	6.80	
25-31	Saltmarsh	S-15A-INT08-00-10	INT08	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	935	D
25-31	Saltmarsh	S-15A-INT08-10-20	INT08	1.0	2.0	4/15/2015	Sum 139 PCB congeners	0.45	
25-31	Saltmarsh	S-15A-INT09-00-10	INT09	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	3719	D
25-31	Saltmarsh	S-15A-INT09-10-20	INT09	1.0	2.0	4/15/2015	Aroclor 1254 - Immunoassay	3.20	
25-31	Saltmarsh	S-15A-INT09-00-10-REP	INT09-REP	0.0	1.0	4/15/2015	Aroclor 1254 - Immunoassay	1638	D
25-31	Saltmarsh	S-15A-INT09-10-20-REP	INT09-REP	1.0	2.0	4/15/2015	Aroclor 1254 - Immunoassay	4.90	
25-31	Saltmarsh	S-15A-INT10-00-10	INT10	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	955	D
25-31	Saltmarsh	S-15A-INT10-10-20	INT10	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	3.30	
25-31	Saltmarsh	S-15A-INT11-00-10	INT11	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	762	D
25-31	Saltmarsh	S-15A-INT11-10-20	INT11	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	7.00	
25-31	Saltmarsh	S-15A-INT12-00-10	INT12	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	248	D
25-31	Saltmarsh	S-15A-INT12-10-20	INT12	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	6.30	
25-31	Mudflat	S-15A-INT14-00-10	INT14	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	823	D
25-31	Mudflat	S-15A-INT14-10-20	INT14	1.0	2.0	4/16/2015	Sum 139 PCB congeners	1.60	
25-31	Saltmarsh	S-15A-INT15-00-10	INT15	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	2986	D
25-31	Saltmarsh	S-15A-INT15-10-20	INT15	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	4.30	
25-31	Saltmarsh	S-15A-INT16-00-10	INT16	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	3680	D
25-31	Saltmarsh	S-15A-INT16-10-20	INT16	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	2.60	
25-31	Saltmarsh	S-15A-INT17-00-10	INT17	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	362	D
25-31	Saltmarsh	S-15A-INT17-10-20	INT17	1.0	2.0	4/16/2015	Sum 139 PCB congeners	6.80	
25-31	Saltmarsh	S-15A-INT17-20-26	INT17	2.0	2.6	4/16/2015	Aroclor 1254 - Immunoassay	1.30	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-31	Saltmarsh	S-15A-INT18-00-10	INT18	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	912	D
25-31	Saltmarsh	S-15A-INT18-10-20	INT18	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	1.60	
25-31	Saltmarsh	S-15A-INT19-00-10	INT19	0.0	1.0	4/16/2015	Aroclor 1254 - Immunoassay	2997	D
25-31	Saltmarsh	S-15A-INT19-10-20	INT19	1.0	2.0	4/16/2015	Aroclor 1254 - Immunoassay	6.50	
25-31	Saltmarsh	S-15A-INT20-00-10	INT20	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	234	D
25-31	Saltmarsh	S-15A-INT20-10-20	INT20	1.0	2.0	4/17/2015	Sum 139 PCB congeners	20.0	
25-31	Saltmarsh	S-15A-INT20-20-25	INT20	2.0	2.5	4/17/2015	Aroclor 1254 - Immunoassay	0.50	U
25-31	Saltmarsh	S-15A-INT20-00-10-REP	INT20-REP	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	688	D
25-31	Saltmarsh	S-15A-INT20-10-20-REP	INT20-REP	1.0	2.0	4/17/2015	Sum 139 PCB congeners	1.40	
25-31	Saltmarsh	S-15A-INT21-00-10	INT21	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	3983	D
25-31	Saltmarsh	S-15A-INT21-10-20	INT21	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	2.90	
25-31	Saltmarsh	S-15A-INT22-00-10	INT22	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	3275	D
25-31	Saltmarsh	S-15A-INT22-10-20	INT22	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	3.70	
25-31	Saltmarsh	S-15A-INT23-00-10	INT23	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	495	D
25-31	Saltmarsh	S-15A-INT23-10-20	INT23	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	3.60	
25-31	Saltmarsh	S-15A-INT24-00-10	INT24	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	492	D
25-31	Saltmarsh	S-15A-INT24-10-20	INT24	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	4.70	
25-31	Saltmarsh	S-15A-INT25-00-10	INT25	0.0	1.0	4/17/2015	Sum 139 PCB congeners	46.0	
25-31	Saltmarsh	S-15A-INT25-10-20	INT25	1.0	2.0	4/17/2015	Sum 139 PCB congeners	0.02	
25-31	Saltmarsh	S-15A-INT26-00-10	INT26	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	223	D
25-31	Saltmarsh	S-15A-INT26-10-20	INT26	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	6.30	
25-31	Saltmarsh	S-15A-INT27-00-10	INT27	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	418	D
25-31	Saltmarsh	S-15A-INT27-10-20	INT27	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	2.10	
25-31	Saltmarsh	S-17Y-INT418-00-10	INT418	0.0	1.0	5/25/2017	Aroclor 1254 - Immunoassay	379	D
25-31	Saltmarsh	S-17Y-INT418-10-20	INT418	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	6.2	
25-31	Saltmarsh	S-17Y-INT419-00-10	INT419	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	1.9	
25-31	Saltmarsh	S-17Y-INT419-10-20	INT419	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	0.52	
25-31	Saltmarsh	S-17Y-INT420-00-10	INT420	0.0	1.0	5/24/2017	Sum 139 PCB congeners	1700	
25-31	Saltmarsh	S-17Y-INT420-10-19	INT420	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	639	D
25-31	Saltmarsh	S-17Y-INT421-00-10	INT421	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	7.6	D
25-31	Saltmarsh	S-17Y-INT421-10-20	INT421	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	0.5	U
25-31	Saltmarsh	S-17Y-INT422-00-10	INT422	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	0.6	
25-31	Saltmarsh	S-17Y-INT422-10-20	INT422	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	2	
25-31	Saltmarsh	S-17Y-INT423-00-10	INT423	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	1.1	
25-31	Saltmarsh	S-17Y-INT423-10-20	INT423	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	0.5	U
25-31	Saltmarsh	S-0028-1	S-28	0.0	1.0	9/7/1999	Sum 18 NOAA PCB congeners X factor	350	
25-31	Saltmarsh	S-0028-2	S-28	1.0	2.0	9/7/1999	Sum 18 NOAA PCB congeners X factor	8.50	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-31	Saltmarsh	S-0031-1	S-31	0.0	1.0	9/9/1999	Sum 18 NOAA PCB congeners X factor	4500	
25-31	Saltmarsh	S-3232-0.0-1.0	S-3232	0.0	1.0	10/25/2001	Sum 18 NOAA PCB congeners X 2.6	6.50	
25-31	Saltmarsh	S-3243-0.0-.5	S-3243	0.0	0.5	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	17160	
25-31	Saltmarsh	S-3243-.5-1.0	S-3243	0.5	1.0	10/24/2001	Sum 18 NOAA PCB congeners X 2.6	25480	
25-31	Mudflat	S-3250-1.0-1.5	S-3250	1.0	1.5	9/4/2001	Sum 18 NOAA PCB congeners X 2.6	21.8	
25-31	Mudflat	S-3250-1.5-2.0	S-3250	1.5	2.0	9/4/2001	Sum 18 NOAA PCB congeners X 2.6	10.7	
25-31	Saltmarsh	S-0731-1DUP	S-731	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	88.4	
25-31	Saltmarsh	S-0731-1	S-731	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	46.8	
25-31	Saltmarsh	S-0731-2	S-731	1.0	2.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	0.20	
25-31	Saltmarsh	S-0732-1	S-732	0.0	1.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	14.6	
25-31	Saltmarsh	S-0732-2	S-732	1.0	2.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	1.69	
25-31	Saltmarsh	S-0733-1	S-733	0.0	1.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	0.22	
25-31	Saltmarsh	S-0733-2	S-733	1.0	2.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	0.20	
25-31	Saltmarsh	S-0734-1	S-734	0.0	1.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	3900	
25-31	Saltmarsh	S-0734-2	S-734	1.0	2.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	31.2	
25-31	Saltmarsh	S-0734-3	S-734	2.0	3.0	10/3/2000	Sum 18 NOAA PCB congeners X 2.6	8.32	
25-31	Saltmarsh	S-0735-1	S-735	0.0	1.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	2548	
25-31	Saltmarsh	S-0735-2	S-735	1.0	2.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	138	
25-31	Saltmarsh	S-0735-3	S-735	2.0	3.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	3.90	
25-31	Saltmarsh	S-0735-3DUP	S-735	2.0	3.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	3.38	
25-31	Saltmarsh	S-0736-1	S-736	0.0	1.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	1248	
25-31	Saltmarsh	S-0736-2	S-736	1.0	2.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	10.1	
25-31	Saltmarsh	S-0736-3	S-736	2.0	3.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	1.40	
25-31	Saltmarsh	S-0737-1	S-737	0.0	1.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	442	
25-31	Saltmarsh	S-0737-2	S-737	1.0	2.0	10/4/2000	Sum 18 NOAA PCB congeners X 2.6	3.38	
25-31	Saltmarsh	S-ad582 - 1	S-ad582	0.0	1.0	pre-ROD	Sum 18 NOAA PCB congeners X factor[1]	300	
25-31	Saltmarsh	S-ad582 - 2	S-ad582	1.0	2.0	pre-ROD	Sum 18 NOAA PCB congeners X factor[1]	3.00	
25-31	Saltmarsh	S-ad582 - 3	S-ad582	2.0	3.0	pre-ROD	Sum 18 NOAA PCB congeners X factor[1]	5.00	
25-34	Saltmarsh	S-ES028-18FSP4-00-10	ES028	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	157	
25-34	Saltmarsh	S-ES028-18FSP4-10-20	ES028	1.0	2.0	3/12/2018	Total 209 PCB cong (excl non-detects)	23.3	
25-34	Saltmarsh	S-ES028-18FSP4-20-25	ES028a	2.0	2.5	5/17/2018	Total 209 PCB cong (excl non-detects)	80.6	
25-34	Saltmarsh	S-ES028R-18FSP4-00-10-REP	ES028	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	80.6	
25-34	Saltmarsh	S-ES030-18FSP4-00-10	ES030	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	135	
25-34	Saltmarsh	S-ES030-18FSP4-10-20	ES030	1.0	2.0	3/12/2018	Total 209 PCB cong (excl non-detects)	11	
25-34	Saltmarsh	S-ES030-18FSP4-20-30	ES030	2.0	3.0	5/17/2018	Total 209 PCB cong (excl non-detects)	2.93	
25-34	Saltmarsh	S-ES030R-18FSP4-20-30-REP	ES030	2.0	3.0	5/17/2018	Total 209 PCB cong (excl non-detects)	10.7	
25-34	Saltmarsh	S-ES031-18FSP4-00-10	ES031	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	120	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-ES031-18FSP4-10-20	ES031	1.0	2.0	3/12/2018	Total 209 PCB cong (excl non-detects)	4.48	
25-34	Saltmarsh	S-ES031-18FSP4-20-30	ES031d	2.0	3.0	5/17/2018	Total 209 PCB cong (excl non-detects)	1.24	
25-34	Mudflat	S-ES034-18FSP4-10-20	ES034	1.0	2.0	3/7/2018	Total 209 PCB cong (excl non-detects)	18.9	
25-34	Mudflat	S-ES034-18FSP4-20-29	ES034	2.0	2.9	3/7/2018	Total 209 PCB cong (excl non-detects)	0.106	
25-34	Saltmarsh	S-ES036-18FSP4-00-10	ES036	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	124	
25-34	Saltmarsh	S-ES036-18FSP4-10-20	ES036	1.0	2.0	3/13/2018	Total 209 PCB cong (excl non-detects)	35.7	
25-34	Saltmarsh	S-ES036-18FSP4-20-30	ES036	2.0	3.0	5/16/2018	Total 209 PCB cong (excl non-detects)	4.31	
25-34	Saltmarsh	S-ES037-18FSP4-10-20	ES037	1.0	2.0	3/19/2018	Total 209 PCB cong (excl non-detects)	1150	
25-34	Saltmarsh	S-ES037-18FSP4-20-30	ES037	2.0	3.0	3/19/2018	Total 209 PCB cong (excl non-detects)	143	
25-34	Saltmarsh	S-ES037-18FSP4-30-40	ES037	3.0	4.0	5/17/2018	Total 209 PCB cong (excl non-detects)	42.5	
25-34	Mudflat	S-ES038-18FSP4-10-20	ES038	1.0	2.0	3/20/2018	Total 209 PCB cong (excl non-detects)	428	
25-34	Mudflat	S-ES038-18FSP4-20-30	ES038	2.0	3.0	3/20/2018	Total 209 PCB cong (excl non-detects)	0.139	
25-34	Mudflat	S-ES038-18FSP4-30-35	ES038	3.0	3.5	3/20/2018	Total 209 PCB cong (excl non-detects)	0.84	
25-34	Mudflat	S-ES039-18FSP4-10-20	ES039	1.0	2.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.585	
25-34	Mudflat	S-ES039-18FSP4-20-30	ES039	2.0	3.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.0549	
25-34	Mudflat	S-ES039-18FSP4-30-33	ES039	3.0	3.3	3/22/2018	Total 209 PCB cong (excl non-detects)	4.5	
25-34	Mudflat	S-ES040-18FSP4-10-20	ES040	1.0	2.0	3/20/2018	Total 209 PCB cong (excl non-detects)	780	
25-34	Mudflat	S-ES040-18FSP4-20-30	ES040	2.0	3.0	3/20/2018	Total 209 PCB cong (excl non-detects)	26.4	
25-34	Mudflat	S-ES040-18FSP4-30-32	ES040	3.0	3.2	3/20/2018	Total 209 PCB cong (excl non-detects)	0.326	
25-34	Saltmarsh	S-ES041-18FSP4-00-10	ES041	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	0.0567	
25-34	Saltmarsh	S-ES042-18FSP4-00-10	ES042	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	1.77	
25-34	Saltmarsh	S-ES043-18FSP4-00-10	ES043	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	0.804	
25-34	Mudflat	S-ES044-18FSP4-10-20	ES044	1.0	2.0	3/12/2018	Total 209 PCB cong (excl non-detects)	152	
25-34	Mudflat	S-ES044-18FSP4-20-30	ES044	2.0	3.0	3/12/2018	Total 209 PCB cong (excl non-detects)	2.42	
25-34	Mudflat	S-ES044-18FSP4-30-33	ES044	3.0	3.3	3/12/2018	Total 209 PCB cong (excl non-detects)	1.45	
25-34	Saltmarsh	S-ES045-18FSP4-00-10	ES045	0.0	1.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.356	
25-34	Saltmarsh	S-ES046-18FSP4-00-10	ES046	0.0	1.0	3/12/2018	Total 209 PCB cong (excl non-detects)	1.46	
25-34	Saltmarsh	S-ES047-18FSP4-00-10	ES047	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	2.28	
25-34	Saltmarsh	S-ES048-18FSP4-00-10	ES048	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	2.3	
25-34	Saltmarsh	S-ES049-18FSP4-10-20	ES049	1.0	2.0	3/19/2018	Total 209 PCB cong (excl non-detects)	24.2	
25-34	Saltmarsh	S-ES049-18FSP4-20-30	ES049	2.0	3.0	3/19/2018	Total 209 PCB cong (excl non-detects)	9.51	
25-34	Saltmarsh	S-ES050-18FSP4-00-10	ES050	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	1.91	
25-34	Saltmarsh	S-ES051-18FSP4-10-20	ES051	1.0	2.0	3/12/2018	Total 209 PCB cong (excl non-detects)	13.7	
25-34	Saltmarsh	S-ES051-18FSP4-20-30	ES051	2.0	3.0	3/12/2018	Total 209 PCB cong (excl non-detects)	12.5	
25-34	Saltmarsh	S-ES052-18FSP4-10-20	ES052	1.0	2.0	3/20/2018	Total 209 PCB cong (excl non-detects)	52.9	
25-34	Saltmarsh	S-ES052-18FSP4-20-30	ES052	2.0	3.0	3/20/2018	Total 209 PCB cong (excl non-detects)	41.5	
25-34	Saltmarsh	S-ES052-18FSP4-30-40	ES052	3.0	4.0	3/20/2018	Total 209 PCB cong (excl non-detects)	281	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-ES052-18FSP4-40-50	ES052	4.0	5.0	5/16/2018	Total 209 PCB cong (excl non-detects)	139	
25-34	Saltmarsh	S-ES052C-18FSP4-50-60	ES052C	5.0	6.0	6/15/2018	Total 209 PCB cong (excl non-detects)	3.37	
25-34	Saltmarsh	S-ES052C-18FSP4-60-67	ES052C	6.0	6.7	6/15/2018	Total 209 PCB cong (excl non-detects)	11.3	
25-34	Mudflat	S-ES053-18FSP4-10-20	ES053	1.0	2.0	3/22/2018	Total 209 PCB cong (excl non-detects)	52	
25-34	Mudflat	S-ES053-18FSP4-20-30	ES053	2.0	3.0	3/22/2018	Total 209 PCB cong (excl non-detects)	3.21	
25-34	Saltmarsh	S-ES054-18FSP4-00-10	ES054	0.0	1.0	3/22/2018	Total 209 PCB cong (excl non-detects)	1.17	
25-34	Saltmarsh	S-ES055-18FSP4-10-20	ES055	1.0	2.0	3/20/2018	Total 209 PCB cong (excl non-detects)	305	
25-34	Saltmarsh	S-ES055-18FSP4-20-30	ES055	2.0	3.0	3/20/2018	Total 209 PCB cong (excl non-detects)	846	
25-34	Saltmarsh	S-ES055-18FSP4-30-40	ES055	3.0	4.0	3/20/2018	Total 209 PCB cong (excl non-detects)	219	
25-34	Saltmarsh	S-ES055-18FSP4-40-50	ES055	4.0	5.0	5/16/2018	Total 209 PCB cong (excl non-detects)	97.2	
25-34	Saltmarsh	S-ES055C-18FSP4-50-60	ES055C	5.0	6.0	6/13/2018	Total 209 PCB cong (excl non-detects)	55.2	
25-34	Saltmarsh	S-ES055C-18FSP4-60-68	ES055C	6.0	6.8	6/13/2018	Total 209 PCB cong (excl non-detects)	9.48	
25-34	Saltmarsh	S-ES056-18FSP4-00-10	ES056	0.0	1.0	3/20/2018	Total 209 PCB cong (excl non-detects)	3.04	
25-34	Mudflat	S-ES057-18FSP4-10-20	ES057	1.0	2.0	3/26/2018	Total 209 PCB cong (excl non-detects)	0.017	
25-34	Mudflat	S-ES057-18FSP4-20-30	ES057	2.0	3.0	3/26/2018	Total 209 PCB cong (excl non-detects)	0.016	
25-34	Mudflat	S-ES057-18FSP4-30-41	ES057	3.0	4.1	3/26/2018	Total 209 PCB cong (excl non-detects)	0.0126	
25-34	Saltmarsh	S-ES058-18FSP4-00-10	ES058	0.0	1.0	3/15/2018	Total 209 PCB cong (excl non-detects)	116	
25-34	Saltmarsh	S-ES058-18FSP4-10-20	ES058	1.0	2.0	3/15/2018	Total 209 PCB cong (excl non-detects)	3.96	
25-34	Saltmarsh	S-ES059-18FSP4-10-20	ES059	1.0	2.0	3/20/2018	Total 209 PCB cong (excl non-detects)	743	
25-34	Saltmarsh	S-ES059-18FSP4-20-30	ES059	2.0	3.0	3/20/2018	Total 209 PCB cong (excl non-detects)	620	
25-34	Saltmarsh	S-ES059-18FSP4-30-40	ES059	3.0	4.0	3/20/2018	Total 209 PCB cong (excl non-detects)	580	
25-34	Saltmarsh	S-ES059-18FSP4-40-50	ES059	4.0	5.0	5/16/2018	Total 209 PCB cong (excl non-detects)	205	
25-34	Saltmarsh	S-ES059C-18FSP4-50-60	ES059C	5.0	6.0	6/15/2018	Total 209 PCB cong (excl non-detects)	176	
25-34	Saltmarsh	S-ES059C-18FSP4-60-70	ES059C	6.0	7.0	6/15/2018	Total 209 PCB cong (excl non-detects)	2.34	
25-34	Mudflat	S-ES060-18FSP4-10-20	ES060	1.0	2.0	3/26/2018	Total 209 PCB cong (excl non-detects)	14.3	
25-34	Mudflat	S-ES060-18FSP4-20-30	ES060	2.0	3.0	3/26/2018	Total 209 PCB cong (excl non-detects)	0.0165	
25-34	Mudflat	S-ES060-18FSP4-30-32	ES060	3.0	3.2	3/26/2018	Total 209 PCB cong (excl non-detects)	0.896	
25-34	Saltmarsh	S-ES061-18FSP4-00-10	ES061	0.0	1.0	3/20/2018	Total 209 PCB cong (excl non-detects)	5.6	
25-34	Saltmarsh	S-ES062-18FSP4-10-20	ES062	1.0	2.0	3/26/2018	Total 209 PCB cong (excl non-detects)	24.3	
25-34	Saltmarsh	S-ES062-18FSP4-20-30	ES062	2.0	3.0	3/26/2018	Total 209 PCB cong (excl non-detects)	4.55	
25-34	Saltmarsh	S-ES063-18FSP4-00-10	ES063	0.0	1.0	3/22/2018	Total 209 PCB cong (excl non-detects)	32.9	
25-34	Saltmarsh	S-ES067-18FSP4-00-10	ES067	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	1.38	
25-34	Saltmarsh	S-ES068-18FSP4-00-10	ES068	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	8.53	
25-34	Saltmarsh	S-ES069-18FSP4-00-10	ES069	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	15.6	
25-34	Saltmarsh	S-ES070-18FSP4-00-10	ES070	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	32.8	
25-34	Saltmarsh	S-ES071-18FSP4-00-10	ES071	0.0	1.0	3/6/2018	Total 209 PCB cong (excl non-detects)	1.45	
25-34	Saltmarsh	S-ES072-18FSP4-00-10	ES072	0.0	1.0	3/15/2018	Total 209 PCB cong (excl non-detects)	1.61	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-ES073-18FSP4-00-10	ES073	0.0	1.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.0263	
25-34	Saltmarsh	S-ES080-18FSP4-00-10	ES080	0.0	1.0	5/16/2018	Total 209 PCB cong (excl non-detects)	0.272	
25-34	Saltmarsh	S-ES081-18FSP4-00-10	ES081	0.0	1.0	5/16/2018	Total 209 PCB cong (excl non-detects)	0.563	
25-34	Saltmarsh	S-ES082-18FSP4-00-10	ES082	0.0	1.0	5/16/2018	Total 209 PCB cong (excl non-detects)	0.143	
25-34	Saltmarsh	S-ES083-18FSP4-00-10	ES083	0.0	1.0	5/16/2018	Total 209 PCB cong (excl non-detects)	1.51	
25-34	Saltmarsh	S-ES085-18FSP4-00-10	ES085	0.0	1.0	7/12/2018	Total 209 PCB cong (excl non-detects)	10.3	
25-34	Saltmarsh	S-ES088-18FSP4-10-20	ES088	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	6.7	
25-34	Saltmarsh	S-ES089-18FSP4-10-20	ES089	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	11	
25-34	Saltmarsh	S-ES090-18FSP4-10-20	ES090	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	2.41	
25-34	Saltmarsh	S-ES091-18FSP4-10-20	ES091	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	14.3	
25-34	Saltmarsh	S-ES092-18FSP4-20-30	ES092	2.0	3.0	7/12/2018	Total 209 PCB cong (excl non-detects)	4.39	
25-34	Saltmarsh	S-ES093-18FSP4-00-10	ES093	0.0	1.0	7/12/2018	Total 209 PCB cong (excl non-detects)	2140	
25-34	Mudflat	S-ES094A-17ADD5-00-10	ES094A	0.0	1.0	7/19/2018	Aroclor 1254 - Immunoassay	29.7	D
25-34	Mudflat	S-ES094A-17ADD5-10-15	ES094A	1.0	1.5	7/19/2018	Aroclor 1254 - Immunoassay	2.59	
25-34	Mudflat	S-ES094B-17ADD5-00-10	ES094B	0.0	1.0	7/19/2018	Aroclor 1254 - Immunoassay	81.5	D
25-34	Mudflat	S-ES094B-17ADD5-10-20	ES094B	1.0	2.0	7/19/2018	Aroclor 1254 - Immunoassay	37.3	D
25-34	Mudflat	S-ES095-17ADD5-00-10	ES095	0.0	1.0	7/19/2018	Aroclor 1254 - Immunoassay	3.57	
25-34	Mudflat	S-ES095-17ADD5-10-20	ES095	1.0	2.0	7/19/2018	Aroclor 1254 - Immunoassay	0.53	
25-34	Mudflat	S-ES096-17ADD5-00-10	ES096	0.0	1.0	7/19/2018	Aroclor 1254 - Immunoassay	0.27	
25-34	Mudflat	S-ES096-17ADD5-10-20	ES096	1.0	2.0	7/19/2018	Aroclor 1254 - Immunoassay	0.50	U
25-34	Mudflat	S-ES097-17ADD5-00-10	ES097	0.0	1.0	7/20/2018	Aroclor 1254 - Immunoassay	85.0	D
25-34	Mudflat	S-ES097-17ADD5-10-20	ES097	1.0	2.0	7/20/2018	Aroclor 1254 - Immunoassay	221	D
25-34	Mudflat	S-ES097-17ADD5-20-30	ES097	2.0	3.0	7/20/2018	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-ES098-18FSP4-00-10	ES098	0.0	1.0	7/31/2018	Total 209 PCB cong (excl non-detects)	4.83	
25-34	Saltmarsh	S-ES201-18FSP11-00-10	ES201	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	2.13	
25-34	Saltmarsh	S-ES2128-18FSP11-00-10	ES2128	0.0	1.0	10/2/2018	Total 209 PCB cong (excl non-detects)	681	
25-34	Saltmarsh	S-ES2128-18FSP11-10-20	ES2128	1.0	2.0	10/2/2018	Aroclor 1254 - Immunoassay	1.8	J
25-34	Saltmarsh	S-ES2129-18FSP11-00-10	ES2129	0.0	1.0	10/2/2018	Total 209 PCB cong (excl non-detects)	9.48	
25-34	Saltmarsh	S-ES2129-18FSP11-10-20	ES2129	1.0	2.0	10/2/2018	Aroclor 1254 - Immunoassay	0.88	J
25-34	Saltmarsh	S-ES2130-18FSP11-00-10	ES2130	0.0	1.0	10/2/2018	Total 209 PCB cong (excl non-detects)	8.26	
25-34	Saltmarsh	S-ES2130-18FSP11-10-20	ES2130	1.0	2.0	10/2/2018	Aroclor 1254 - Immunoassay	1.8	J
25-34	Saltmarsh	S-15A-INT33-00-10	INT33	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	763	D
25-34	Saltmarsh	S-15A-INT33-10-20	INT33	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-15A-INT34-00-10	INT34	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	1636	D
25-34	Saltmarsh	S-15A-INT34-10-20	INT34	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-15A-INT35-00-10	INT35	0.0	1.0	4/27/2015	Total 139 PCB cong (excl non-detects)	130	
25-34	Saltmarsh	S-15A-INT35-10-20	INT35	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.60	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-15A-INT36-00-10	INT36	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	0.80	
25-34	Saltmarsh	S-15A-INT36-10-20	INT36	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.70	
25-34	Saltmarsh	S-15A-INT37-00-10	INT37	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	844	D
25-34	Saltmarsh	S-15A-INT37-10-20	INT37	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.80	
25-34	Saltmarsh	S-15A-INT38-00-10	INT38	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	9.20	
25-34	Saltmarsh	S-15A-INT38-10-20	INT38	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.80	
25-34	Saltmarsh	S-15A-INT39-00-10	INT39	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	486	D
25-34	Saltmarsh	S-15A-INT39-10-20	INT39	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.60	
25-34	Saltmarsh	S-15A-INT40-00-10	INT40	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	33.0	D
25-34	Saltmarsh	S-15A-INT40-10-20	INT40	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.70	
25-34	Saltmarsh	S-15A-INT40-00-10-REP	INT40	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	234	D
25-34	Saltmarsh	S-15A-INT40-10-20-REP	INT40	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	0.90	
25-34	Saltmarsh	S-15A-INT41-00-10	INT41	0.0	1.0	4/27/2015	Aroclor 1254 - Immunoassay	1749	D
25-34	Saltmarsh	S-15A-INT41-10-20	INT41	1.0	2.0	4/27/2015	Aroclor 1254 - Immunoassay	3.60	
25-34	Saltmarsh	S-17Y-INT427-00-10	INT427	0.0	1.0	5/25/2017	Aroclor 1254 - Immunoassay	274	D
25-34	Saltmarsh	S-17Y-INT427-10-20	INT427	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	5.1	
25-34	Saltmarsh	S-17Y-INT428-00-10	INT428	0.0	1.0	5/25/2017	Total 139 PCB cong (excl non-detects)	38	
25-34	Saltmarsh	S-17Y-INT428-10-20	INT428	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	3.9	
25-34	Saltmarsh	S-17Y-INT429-00-10	INT429	0.0	1.0	5/25/2017	Total 139 PCB cong (excl non-detects)	62	
25-34	Saltmarsh	S-INT429-18FSP4-10-20	INT429	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	6.53	
25-34	Saltmarsh	S-17U-INT430-00-10	INT430	0.0	1.0	6/1/2017	Aroclor 1254 - Immunoassay	3.6	
25-34	Saltmarsh	S-17U-INT430-10-20	INT430	1.0	2.0	6/1/2017	Aroclor 1254 - Immunoassay	3.8	J
25-34	Saltmarsh	S-17U-INT431-00-10	INT431	0.0	1.0	6/1/2017	Aroclor 1254 - Immunoassay	1.7	
25-34	Saltmarsh	S-17U-INT431-10-20	INT431	1.0	2.0	6/1/2017	Aroclor 1254 - Immunoassay	1.7	
25-34	Saltmarsh	S-17U-INT432-00-10	INT432	0.0	1.0	6/1/2017	Aroclor 1254 - Immunoassay	1.9	
25-34	Saltmarsh	S-17U-INT432-10-20	INT432	1.0	2.0	6/1/2017	Aroclor 1254 - Immunoassay	3.4	
25-34	Saltmarsh	S-17Y-INT433-00-10	INT433	0.0	1.0	5/30/2017	Aroclor 1254 - Immunoassay	386	D
25-34	Saltmarsh	S-17Y-INT433-10-20	INT433	1.0	2.0	5/30/2017	Total 139 PCB cong (excl non-detects)	190	
25-34	Saltmarsh	S-17U-INT434-00-10	INT434	0.0	1.0	6/1/2017	Aroclor 1254 - Immunoassay	6.4	D
25-34	Saltmarsh	S-17U-INT434-10-20	INT434	1.0	2.0	6/1/2017	Aroclor 1254 - Immunoassay	2	
25-34	Saltmarsh	S-17Y-INT435-00-10	INT435	0.0	1.0	5/30/2017	Aroclor 1254 - Immunoassay	0.52	
25-34	Saltmarsh	S-17Y-INT435-10-20	INT435	1.0	2.0	5/30/2017	Aroclor 1254 - Immunoassay	0.55	
25-34	Saltmarsh	S-15A-INT47-00-10	INT47	0.0	1.0	4/23/2015	Total 139 PCB cong (excl non-detects)	0.60	
25-34	Saltmarsh	S-15A-INT47-10-20	INT47	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-15A-INT48-00-10	INT48	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	0.90	
25-34	Saltmarsh	S-15A-INT48-10-20	INT48	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	0.60	
25-34	Saltmarsh	S-15A-INT49-00-10	INT49	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	733	D

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-15A-INT49-10-20	INT49	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	5.10	
25-34	Saltmarsh	S-15A-INT50-00-10	INT50	0.0	1.0	4/22/2015	Total 139 PCB cong (excl non-detects)	110	
25-34	Saltmarsh	S-15A-INT50-10-20	INT50	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	288	D
25-34	Saltmarsh	S-15A-INT50-20-30	INT50	2.0	3.0	4/22/2015	Aroclor 1254 - Immunoassay	360	D
25-34	Saltmarsh	S-15A-INT51-00-10	INT51	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	2348	D
25-34	Saltmarsh	S-15A-INT51-10-20	INT51	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	261	D
25-34	Saltmarsh	S-15A-INT52-00-10	INT52	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	315	D
25-34	Saltmarsh	S-15A-INT52-10-20	INT52	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	2.70	
25-34	Saltmarsh	S-15A-INT53-00-10	INT53	0.0	1.0	4/23/2015	Total 139 PCB cong (excl non-detects)	0.16	
25-34	Saltmarsh	S-15A-INT53-10-20	INT53	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-15A-INT54-00-10	INT54	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	5.40	D
25-34	Saltmarsh	S-15A-INT54-10-20	INT54	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	2.80	
25-34	Saltmarsh	S-15A-INT55-00-10	INT55	0.0	1.0	4/20/2015	Total 139 PCB cong (excl non-detects)	22.0	
25-34	Saltmarsh	S-15A-INT55-10-20	INT55	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	3.00	
25-34	Saltmarsh	S-15A-INT56-00-10	INT56	0.0	1.0	4/20/2015	Total 139 PCB cong (excl non-detects)	8.70	
25-34	Saltmarsh	S-15A-INT56-10-20	INT56	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	1.10	
25-34	Saltmarsh	S-15A-INT57-00-10	INT57	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	1.90	
25-34	Saltmarsh	S-15A-INT57-10-20	INT57	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	0.60	
25-34	Saltmarsh	S-15A-INT58-00-10	INT58	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	3.90	
25-34	Saltmarsh	S-15A-INT58-10-20	INT58	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34	Saltmarsh	S-15A-INT59-00-10	INT59	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	0.80	
25-34	Saltmarsh	S-15A-INT59-10-20	INT59	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	1.10	
25-34	Saltmarsh	S-15A-INT60-00-10	INT60	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	143	D
25-34	Saltmarsh	S-15A-INT60-10-20	INT60	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	378	D
25-34	Saltmarsh	S-15A-INT60-20-28	INT60	2.0	2.8	4/22/2015	Aroclor 1254 - Immunoassay	8.30	
25-34	Saltmarsh	S-15A-INT61-00-10	INT61	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	359	D
25-34	Saltmarsh	S-15A-INT61-10-20	INT61	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	1.50	
25-34	Saltmarsh	S-15A-INT62-00-10	INT62	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	93.3	D
25-34	Saltmarsh	S-15A-INT62-10-20	INT62	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	2.00	
25-34	Saltmarsh	S-15A-INT63-00-10	INT63	0.0	1.0	4/23/2015	Total 139 PCB cong (excl non-detects)	25.0	
25-34	Saltmarsh	S-15A-INT63-10-20	INT63	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	3.00	
25-34	Saltmarsh	S-15A-INT64-00-10	INT64	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	1.20	
25-34	Saltmarsh	S-15A-INT64-10-20	INT64	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	0.70	
25-34	Saltmarsh	S-15A-INT65-00-10	INT65	0.0	1.0	4/22/2015	Total 139 PCB cong (excl non-detects)	31.0	
25-34	Saltmarsh	S-15A-INT65-10-20	INT65	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	3.50	
25-34	Saltmarsh	S-15A-INT66-00-10	INT66	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	0.90	
25-34	Saltmarsh	S-15A-INT67-00-10	INT67	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	2.30	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-15A-INT67-10-20	INT67	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	2.40	
25-34	Saltmarsh	S-15A-INT68-00-10	INT68	0.0	1.0	4/22/2015	Aroclor 1254 - Immunoassay	8.00	D
25-34	Saltmarsh	S-15A-INT68-10-20	INT68	1.0	2.0	4/22/2015	Aroclor 1254 - Immunoassay	1.30	
25-34	Saltmarsh	S-3277-0.0-1.0	S-3277	0.0	1.0	10/8/2001	Total 18 NOAA PCB cong (excl non-detects)	1690	
25-34	Saltmarsh	S-3277-1.0-2.0	S-3277	1.0	2.0	10/5/2001	Total 18 NOAA PCB cong (excl non-detects)	7.28	
25-34	Saltmarsh	S-3277-2.0-3.0	S-3277	2.0	3.0	10/5/2001	Total 18 NOAA PCB cong (excl non-detects)	31.2	
25-34	Saltmarsh	S-3278-1.4-1.9	S-3278	1.4	1.9	10/2/2001	Total 18 NOAA PCB cong (excl non-detects)	3120	
25-34	Saltmarsh	S-3278-2.1-2.6	S-3278	2.1	2.6	10/2/2001	Total 18 NOAA PCB cong (excl non-detects)	2.60	
25-34	Saltmarsh	S-3283-0.0-1.0	S-3283	0.0	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	3640	
25-34	Saltmarsh	S-3287-0.0-.3	S-3287	0.0	0.3	10/24/2001	Total 18 NOAA PCB cong (excl non-detects)	338	
25-34	Saltmarsh	S-3287-2.0-3.0	S-3287	2.0	3.0	10/24/2001	Total 18 NOAA PCB cong (excl non-detects)	1.66	
25-34	Saltmarsh	S-3314-0.0-1.0	S-3314	0.0	1.0	10/24/2001	Total 18 NOAA PCB cong (excl non-detects)	4.94	
25-34	Saltmarsh	S-3314-1.0-2.0	S-3314	1.0	2.0	10/24/2001	Total 18 NOAA PCB cong (excl non-detects)	0.07	
25-34	Mudflat	S-3634-2.5-3.0	S-3634	2.5	3.0	10/2/2001	Total 18 NOAA PCB cong (excl non-detects)	3.38	
25-34	Saltmarsh	S-3667-0.0-1.0	S-3667	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	1066	
25-34	Saltmarsh	S-3668-0.0-1.0	S-3668	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	62.4	
25-34	Saltmarsh	S-3668-1.0-2.0	S-3668	1.0	2.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	0.21	
25-34	Saltmarsh	S-3668-2.0-3.0	S-3668	2.0	3.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	1.59	
25-34	Saltmarsh	S-3669-0.0-1.0	S-3669	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	260	
25-34	Saltmarsh	S-3669-1.0-1.5	S-3669	1.0	1.5	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	1.27	
25-34	Saltmarsh	S-3670-0.0-1.0	S-3670	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	1508	
25-34	Saltmarsh	S-3671-0.0-1.0	S-3671	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	18.7	
25-34	Saltmarsh	S-3671-1.0-2.0	S-3671	1.0	2.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	0.52	
25-34	Saltmarsh	S-3672-0.0-1.0	S-3672	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	88.4	
25-34	Saltmarsh	S-3673-0.0-1.0	S-3673	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	5.20	
25-34	Saltmarsh	S-3673-1.0-2.0	S-3673	1.0	2.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	0.81	
25-34	Saltmarsh	S-3674-0.0-.5	S-3674	0.0	0.5	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	5.98	
25-34	Saltmarsh	S-3675-.5-1.0	S-3675	0.5	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	2.37	
25-34	Saltmarsh	S-3675-2.0-3.0	S-3675	2.0	3.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	0.14	
25-34	Saltmarsh	S-3675-3.0-4.0	S-3675	3.0	4.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	0.01	
25-34	Saltmarsh	S-3676-0.0-1.0	S-3676	0.0	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	0.94	
25-34	Saltmarsh	S-3676-2.0-3.0	S-3676	2.0	3.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	0.08	
25-34	Saltmarsh	S-3677-.3-1.0	S-3677	0.3	1.0	10/5/2001	Total 18 NOAA PCB cong (excl non-detects)	8.06	
25-34	Saltmarsh	S-3677-1.0-2.0	S-3677	1.0	2.0	10/5/2001	Total 18 NOAA PCB cong (excl non-detects)	0.42	
25-34	Saltmarsh	S-3679-0.0-.5	S-3679	0.0	0.5	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	468	
25-34	Saltmarsh	S-3679-1.5-2.0	S-3679	1.5	2.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	85.8	
25-34	Saltmarsh	S-3680-0.0-1.0	S-3680	0.0	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	728	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-3680-1.0-2.0	S-3680	1.0	2.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	65.0	
25-34	Saltmarsh	S-3681-0.0-1.0	S-3681	0.0	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	120	
25-34	Saltmarsh	S-3681-1.0-2.0	S-3681	1.0	2.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	12.0	
25-34	Saltmarsh	S-3681-2.0-3.0	S-3681	2.0	3.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	1.95	
25-34	Saltmarsh	S-3682-0.0-1.0	S-3682	0.0	1.0	10/22/2001	Total 18 NOAA PCB cong (excl non-detects)	122	
25-34	Saltmarsh	S-0037-1	S-37	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	3.50	
25-34	Saltmarsh	S-0037-2	S-37	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.68	
25-34	Saltmarsh	S-0037-3	S-37	2.0	3.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.42	
25-34	Saltmarsh	S-0038-1	S-38	0.0	1.0	8/31/1999	Total PCB Congeners (sum CONG x factor)	21.0	
25-34	Saltmarsh	S-0038-2	S-38	1.0	2.0	8/31/1999	Total PCB Congeners (sum CONG x factor)	16.0	
25-34	Saltmarsh	S-3837-1.2-2.0	S-3837	1.2	2.0	10/5/2001	Total 18 NOAA PCB cong (excl non-detects)	0.19	
25-34	Saltmarsh	S-0039-1	S-39	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	1100	
25-34	Saltmarsh	S-0039-2	S-39	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	1300	
25-34	Saltmarsh	S-0040-1	S-40	0.0	1.0	9/9/1999	Total PCB Congeners (sum CONG x factor)	3800	
25-34	Saltmarsh	S-0040-2	S-40	1.0	2.0	9/9/1999	Total PCB Congeners (sum CONG x factor)	70.0	
25-34	Saltmarsh	S-0042-1	S-42	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	5000	
25-34	Saltmarsh	S-0043-1	S-43	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	190	
25-34	Saltmarsh	S-0043-1DUP	S-43	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	230	
25-34	Saltmarsh	S-0043-2	S-43	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	2500	
25-34	Saltmarsh	S-0043-3	S-43	2.0	3.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	280	
25-34	Saltmarsh	S-0044-2	S-44	1.0	2.0	9/9/1999	Total PCB Congeners (sum CONG x factor)	280	
25-34	Saltmarsh	S-0044-3	S-44	2.0	3.0	9/9/1999	Total PCB Congeners (sum CONG x factor)	21.0	
25-34	Saltmarsh	S-0045-1	S-45	0.0	1.0	8/31/1999	Total PCB Congeners (sum CONG x factor)	1300	
25-34	Saltmarsh	S-0045-2	S-45	1.0	2.0	8/31/1999	Total PCB Congeners (sum CONG x factor)	2500	
25-34	Saltmarsh	S-0046-1	S-46	0.0	1.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	85.0	
25-34	Saltmarsh	S-0046-2	S-46	1.0	2.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	88.0	
25-34	Saltmarsh	S-0046-3	S-46	2.0	3.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	72.0	
25-34	Saltmarsh	S-0048-1	S-48	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	25.0	
25-34	Saltmarsh	S-0048-2	S-48	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.88	
25-34	Saltmarsh	S-0048-3	S-48	2.0	3.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.62	
25-34	Saltmarsh	S-0049-1	S-49	0.0	1.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	9800	
25-34	Saltmarsh	S-0049-2	S-49	1.0	2.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	680	
25-34	Saltmarsh	S-0049-3	S-49	2.0	3.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	3.20	
25-34	Saltmarsh	S-0050-1	S-50	0.0	1.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	1.40	
25-34	Saltmarsh	S-0050-2	S-50	1.0	2.0	8/30/1999	Total PCB Congeners (sum CONG x factor)	0.06	
25-34	Saltmarsh	S-0051-1	S-51	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	3.20	
25-34	Saltmarsh	S-0051-1DUP	S-51	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	3.50	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34	Saltmarsh	S-0051-2	S-51	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	2.10	
25-34	Saltmarsh	S-0741-1	S-741	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	3120	
25-34	Saltmarsh	S-0741-2	S-741	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	33.8	
25-34	Saltmarsh	S-0742-1	S-742	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	28.6	
25-34	Saltmarsh	S-0742-2	S-742	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.57	
25-34	Saltmarsh	S-0743-1	S-743	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.13	
25-34	Saltmarsh	S-0743-2	S-743	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0744-1	S-744	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	2860	
25-34	Saltmarsh	S-0744-2	S-744	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	3.90	
25-34	Saltmarsh	S-0745-1	S-745	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	3900	
25-34	Saltmarsh	S-0745-2	S-745	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	2.26	
25-34	Saltmarsh	S-0746-1	S-746	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	0.03	
25-34	Saltmarsh	S-0746-2	S-746	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0747-1	S-747	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	0.78	
25-34	Saltmarsh	S-0747-1DUP	S-747	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	0.83	
25-34	Saltmarsh	S-0747-2	S-747	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	1.72	
25-34	Saltmarsh	S-0748-1	S-748	0.0	1.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	1.87	
25-34	Saltmarsh	S-0748-2	S-748	1.0	2.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	0.04	
25-34	Saltmarsh	S-0749-1	S-749	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	67.6	
25-34	Saltmarsh	S-0749-2	S-749	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	2.47	
25-34	Saltmarsh	S-0749-3	S-749	2.0	3.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0750-1	S-750	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.44	
25-34	Saltmarsh	S-0750-2	S-750	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0751-1	S-751	0.0	1.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	2.08	
25-34	Saltmarsh	S-0751-2	S-751	1.0	2.0	10/17/2000	Total 18 NOAA PCB cong (excl non-detects)	1.77	
25-34	Saltmarsh	S-0752-1	S-752	0.0	1.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0752-2	S-752	1.0	2.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0753-1	S-753	0.0	1.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	1.33	
25-34	Saltmarsh	S-0753-2	S-753	1.0	2.0	10/20/2000	Total 18 NOAA PCB cong (excl non-detects)	0.29	
25-34	Saltmarsh	S-0760-1	S-760	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	16.4	
25-34	Saltmarsh	S-0760-2	S-760	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34	Saltmarsh	S-0835-1	S-835	0.0	1.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	59.8	
25-34	Saltmarsh	S-0835-2	S-835	1.0	2.0	10/11/2000	Total 18 NOAA PCB cong (excl non-detects)	1.01	
25-34	Saltmarsh	S-ad593	S-ad593	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor)[1]	2.00	
25-34A	Saltmarsh	S-ES024-18FSP4-00-10	ES024	0.0	1.0	3/9/2018	Total 209 PCB cong (excl non-detects)	1.28	
25-34A	Saltmarsh	S-ES025-18FSP4-00-10	ES025	0.0	1.0	3/9/2018	Total 209 PCB cong (excl non-detects)	4	
25-34A	Saltmarsh	S-ES027-18FSP4-00-10	ES027	0.0	1.0	3/9/2018	Total 209 PCB cong (excl non-detects)	1.18	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34A	Saltmarsh	S-ES029-18FSP4-00-10	ES029	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	2.49	
25-34A	Saltmarsh	S-ES029R-18FSP4-00-10-REP	ES029R	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	0.875	
25-34A	Saltmarsh	S-ES032-18FSP4-10-20	ES032	1.0	2.0	3/15/2018	Total 209 PCB cong (excl non-detects)	170	
25-34A	Saltmarsh	S-ES032-18FSP4-20-30	ES032	2.0	3.0	3/15/2018	Total 209 PCB cong (excl non-detects)	19.5	
25-34A	Mudflat	S-ES033-18FSP4-20-30	ES033	2.0	3.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.289	
25-34A	Mudflat	S-ES033-18FSP4-10-20	ES033	1.0	2.0	3/22/2018	Total 209 PCB cong (excl non-detects)	0.047	
25-34A	Mudflat	S-ES033-18FSP4-30-32	ES033	3.0	3.2	3/22/2018	Total 209 PCB cong (excl non-detects)	0.0427	
25-34A	Saltmarsh	S-ES035-18FSP4-00-10	ES035	0.0	1.0	3/19/2018	Total 209 PCB cong (excl non-detects)	2.97	
25-34A	Saltmarsh	S-ES066-18FSP4-00-10	ES066	0.0	1.0	3/9/2018	Total 209 PCB cong (excl non-detects)	0.964	
25-34A	Saltmarsh	S-ES086-18FSP4-10-20	ES086	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	1.01	
25-34A	Saltmarsh	S-ES087-18FSP4-10-20	ES087	1.0	2.0	7/12/2018	Total 209 PCB cong (excl non-detects)	0.204	
25-34A	Saltmarsh	S-15A-INT28-00-10	INT28	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	5654	D
25-34A	Saltmarsh	S-15A-INT28-10-20	INT28	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	1.30	
25-34A	Saltmarsh	S-15A-INT29-00-10	INT29	0.0	1.0	4/17/2015	Aroclor 1254 - Immunoassay	369	D
25-34A	Saltmarsh	S-15A-INT29-10-20	INT29	1.0	2.0	4/17/2015	Aroclor 1254 - Immunoassay	3.90	
25-34A	Saltmarsh	S-15A-INT30-00-10	INT30	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	464	D
25-34A	Saltmarsh	S-15A-INT30-10-20	INT30	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	3.50	
25-34A	Saltmarsh	S-15A-INT31-00-10	INT31	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	128	D
25-34A	Saltmarsh	S-15A-INT31-10-20	INT31	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34A	Mudflat	S-15A-INT42-00-10	INT42	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	1287	D
25-34A	Mudflat	S-15A-INT42-10-20	INT42	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	5.20	
25-34A	Saltmarsh	S-17Y-INT424-00-10	INT424	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	10.4	D
25-34A	Saltmarsh	S-17Y-INT424-10-19	INT424	1.0	1.9	5/24/2017	Aroclor 1254 - Immunoassay	1.2	
25-34A	Saltmarsh	S-17Y-INT425-00-10	INT425	0.0	1.0	5/24/2017	Aroclor 1254 - Immunoassay	2.2	
25-34A	Saltmarsh	S-17Y-INT425-10-20	INT425	1.0	2.0	5/24/2017	Aroclor 1254 - Immunoassay	0.5	U
25-34A	Saltmarsh	S-17Y-INT426-00-10	INT426	0.0	1.0	5/25/2017	Total 139 PCB cong (excl non-detects)	44	
25-34A	Saltmarsh	S-17Y-INT426-10-20	INT426	1.0	2.0	5/25/2017	Aroclor 1254 - Immunoassay	2.1	
25-34A	Saltmarsh	S-17Y-INT426-20-23	INT426	2.0	2.3	5/25/2017	Aroclor 1254 - Immunoassay	0.5	U
25-34A	Mudflat	S-15A-INT43-00-10	INT43	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	990	D
25-34A	Mudflat	S-15A-INT43-10-20	INT43	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	2.00	
25-34A	Saltmarsh	S-15A-INT44-00-10	INT44	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	1766	D
25-34A	Saltmarsh	S-15A-INT44-10-20	INT44	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	0.90	
25-34A	Saltmarsh	S-15A-INT45-00-10	INT45	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	1192	D
25-34A	Saltmarsh	S-15A-INT45-10-20	INT45	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	0.80	
25-34A	Saltmarsh	S-15A-INT46-00-10	INT46	0.0	1.0	4/23/2015	Aroclor 1254 - Immunoassay	0.80	
25-34A	Saltmarsh	S-15A-INT46-10-20	INT46	1.0	2.0	4/23/2015	Aroclor 1254 - Immunoassay	0.50	U
25-34A	Saltmarsh	S-3251-0.0-1.0	S-3251	0.0	1.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	49.4	

Table 2-1
East Zone 1 Pre-Excavation PCB Characterization Sample Results

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-34A	Saltmarsh	S-3251-1.0-1.5	S-3251	1.0	1.5	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	1.53	
25-34A	Saltmarsh	S-3251-1.5-1.7	S-3251	1.5	1.7	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	0.05	
25-34A	Saltmarsh	S-3259-0.0-1.0	S-3259	0.0	1.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	252	
25-34A	Saltmarsh	S-3259-1.0-2.0	S-3259	1.0	2.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	0.88	
25-34A	Saltmarsh	S-3259-2.0-3.0	S-3259	2.0	3.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	0.09	
25-34A	Mudflat	S-3265-0.0-1.0	S-3265	0.0	1.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	7020	
25-34A	Mudflat	S-3265-1.0-2.0	S-3265	1.0	2.0	10/23/2001	Total 18 NOAA PCB cong (excl non-detects)	10.9	
25-34A	Saltmarsh	S-3272-0.0-1.0	S-3272	0.0	1.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	130	
25-34A	Saltmarsh	S-3272-1.0-2.0REP	S-3272	1.0	2.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	49.4	
25-34A	Saltmarsh	S-3272-2.0-3.0	S-3272	2.0	3.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	25.7	
25-34A	Saltmarsh	S-3272-1.0-2.0	S-3272	1.0	2.0	10/9/2001	Total 18 NOAA PCB cong (excl non-detects)	16.9	
25-34A	Mudflat	S-0034-3	S-34	2.0	3.0	9/9/1999	Total PCB Congeners (sum CONG x factor)	230	
25-34A	Saltmarsh	S-0726-1	S-726	0.0	1.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	1924	
25-34A	Saltmarsh	S-0726-2	S-726	1.0	2.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	2.86	
25-34A	Saltmarsh	S-0738-1	S-738	0.0	1.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	52.0	
25-34A	Saltmarsh	S-0738-2	S-738	1.0	2.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	23.9	
25-34A	Saltmarsh	S-0738-2DUP	S-738	1.0	2.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	2.44	
25-34A	Saltmarsh	S-0739-1	S-739	0.0	1.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	8.06	
25-34A	Saltmarsh	S-0739-2	S-739	1.0	2.0	10/16/2000	Total 18 NOAA PCB cong (excl non-detects)	0.0	U
25-34A	Saltmarsh	S-ad594	S-ad594	0.0	1.0	1/1/2000	Total PCB Congeners (sum CONG x factor)[1]	6.00	

Notes:

Highlighted samples were used as PCB Compliance Samples. See Table 2-2.

D - reported value is from a dilution; J - estimated value; U - not detected.

Total 18 NOAA PCB congeners are reported here as the sum of 18 NOAA congeners multiplied by a site-specific factor of 2.6 (FWENC 2001).

[1] Pre-ROD sample result is most likely a total Aroclor value although it is reported in the project database as Sum 18 NOAA PCB congeners X factor.

Table 2-2
East Zone 1 PCB Compliance Sample Results

Location	Pre-Excavation Total PCB Congener[3] (mg/kg)	Pre-Excavation Sample Depth Interval (ft.)	Post-Excavation Total PCB Congener[4,5] (mg/kg)
Excavation Floor Locations			
ES009	29.8	1-2	0.424
ES010	0.223	1-2	0.00538
ES013	11.8	3-4	0.259
ES018	29.9	2-3	1.25
ES020B	0.384	3-4	0.00345
ES074	12.2	1-2	3.07
ES075	3.66	1-2	0.186
ES076C	44.5	5-6	4.99
ES077	30.9	2-3	0.168
ES078	4.2	1-2	0.000349
ES079C[1]	2.12	4-5	0.681
INT07[1]	6.80	1-2	27.4
INT17	6.80	1-2	3.96
INT20[2]	10.7	1-2	1.39
S-3231	4.16	1-2	0.0257
S-726	2.86	1-2	0.0619
S-731	0.20	1-2	0.0212
S-741	33.8	1-2	1.25
Excavation Sidewall Locations			
ES002	1.01	0-1	3.06
ES005	0.455	0-1	1.02
ES006	5.42	0-1	3.08
ES007	0.761	0-1	0.718
ES008	0.33	0-1	0.0192
ES011	7.37	0-1	5.01
ES012	6.27	0-1	0.312
ES015	2.72	0-1	3.77
ES064	3.36	0-1	4.5
ES065	0.703	0-1	0.737

Notes:

[1] ES079C and INT07 were excavated an additional foot.

[2] Pre-excavation value is an average of the sample and the field replicate.

[3] Values are a mix of various congener-based analytical approaches (i.e., NOAA-18 x factor, sum of 139 congeners, sum of 209 congeners); see Table 2-1.

[4] Values are the sum of 209 congeners.

[5] Post-excavation floor and sidewall samples were collected in the 0-1-ft. interval.

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-24	ES002	Sidewall	816006.5	2707865.8	5.6	5.3	-0.33	6.3	6.4	0.1
25-24	ES005	Sidewall	816047.9	2707749.1	5.8	5.7	-0.06	6.9	7.2	0.3
25-24	ES006	Sidewall	816212.9	2707717.2	4.50	4.38	-0.12	Under walking path, not restored to plan		
25-24	ES007	Sidewall	816106.8	2707709.1	5.30	5.12	-0.18	6.33	6.37	0.04
25-24	ES008	Sidewall	816329.5	2707661.8	3.90	3.73	-0.17	Under walking path, not restored to plan		
25-24	ES009	Floor	816055.8	2707645.8	-0.40	-0.67	-0.27	0.44	0.47	0.03
25-24	ES010	Floor	816197.8	2707638.5	-0.10	-0.17	-0.07	0.80	1.14	0.34
25-24	ES013	Floor	816153.4	2707613.7	-0.90	-1.15	-0.25	1.34	1.66	0.32
25-24	ES074	Floor	816212.9	2707688.7	2.09	1.83	-0.26	3.86	4.07	0.21
25-24	ES079C	Floor	815982.6	2707878.3	-2.70	-3.05	-0.35	additional excavation performed, see below		
25-24	ES079C (post-re-dig)	Floor	815982.6	2707878.3	-3.52	-3.72	-0.20	0.72	1.24	0.52
25-24	S-3231	Floor	816092.0	2707678.0	1.80	1.62	-0.18	3.12	3.36	0.24
25-31	ES011	Sidewall	816490.1	2707638.3	3.5	3.5	0.0	4.2	4.3	0.1
25-31	ES012	Sidewall	816577.4	2707628.0	3.5	3.1	-0.4	4.3	4.5	0.2
25-31	ES015	Sidewall	816646.4	2707583.8	3.5	3.4	-0.1	4.2	4.8	0.6

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-31	ES064	Sidewall	816679.7	2707500.2	3.3	3.0	-0.3	3.5	4.3	0.8
25-31	ES065	Sidewall	816721.4	2707408.5	4.5	4.4	-0.1	5.1	5.2	0.1
25-31	ES075	Floor	816418.9	2707613.5	2.0	2.0	0.0	3.6	3.9	0.3
25-31	ES078	Floor	816666.9	2707346.4	0.0	0.0	0.0	2.2	2.4	0.3
25-31	INT07	Floor	816284.7	2707607.7	2.0	1.9	-0.1	2.7	2.9	0.1
25-31	INT17	Floor	816517.6	2707551.3	2.1	2.1	0.0	3.1	3.3	0.2
25-31	INT20	Floor	816632.3	2707535.9	2.4	2.4	0.0	3.1	3.3	0.1
25-31	S-731	Floor	816501.0	2707600.0	2.6	2.1	-0.5	3.1	3.3	0.2
25-31	ES018	Floor	816496.8	2707460.1	0.0	-0.1	-0.1	0.9	1.3	0.4
25-31	ES077	Floor	816531.3	2707344.4	-0.3	-0.3	0.0	0.7	1.1	0.3
25-31	ES020B	Floor	816610.4	2707454.1	-1.0	-1.1	-0.1	1.6	2.3	0.6
25-31	ES076C	Floor	816379.4	2707537.6	-2.2	-2.4	-0.2	2.8	3.0	0.2
25-34A	ES025	Sidewall	816752.0	2707305.0	2.4	2.0	-0.4	3.1	3.5	0.3
25-34A	ES027	Sidewall	816734.0	2707233.0	2.5	2.2	-0.3	3.6	4.0	0.5
25-34A	ES035	Sidewall	816680.0	2707065.0	2.7	2.6	-0.1	3.6	4.2	0.6

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-34A	ES066	Sidewall	816712.0	2707161.0	2.5	2.4	-0.1	3.3	3.6	0.2
25-34A	ES086	Floor	816706.0	2707270.0	0.2	0.0	-0.2	1.8	2.0	0.3
25-34A	ES087	Floor	816647.0	2707192.0	1.5	1.4	-0.1	2.3	2.5	0.2
25-34A	S-726	Floor	816596.0	2707269.0	1.0	0.8	-0.2	2.0	2.1	0.1
25-34A	S-738	Floor	816644.0	2707102.0	1.5	1.5	-0.1	2.3	2.6	0.3
25-34A	ES032	Floor	816647.0	2707037.0	0.5	0.4	-0.1	1.5	1.7	0.2
25-34	ES037	Floor	816659.9	2706958.8	-2.0	-2.9	-0.9	0.7	1.1	0.4
25-34	ES049	Floor	816810.4	2706817.8	1.5	1.4	-0.1	2.5	2.6	0.1
25-34	ES051	Floor	816199.9	2706800.1	0.2	0.2	0.0	0.3	0.7	0.4
25-34	ES055C	Floor	816730.7	2706756.1	-4.1	-4.2	-0.1	1.6	1.7	0.1
25-34	ES059C	Floor	816817.6	2706688.0	-4.5	-4.6	-0.1	1.4	1.6	0.2
25-34	ES088	Floor	816441.6	2707062.7	1.7	1.5	-0.2	2.3	2.6	0.4
25-34	ES089	Floor	816513.3	2706951.1	1.5	1.3	-0.2	2.5	2.7	0.2
25-34	ES090	Floor	816244.6	2706903.2	1.4	1.2	-0.3	2.0	2.2	0.2
25-34	ES091	Floor	816281.5	2706845.8	1.3	1.2	-0.1	2.5	2.9	0.4

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-34	ES092	Floor	816689.0	2706816.6	-2.3	-2.5	-0.2	0.9	1.1	0.2
25-34	INT429	Floor	816897.6	2706747.2	1.5	1.3	-0.2	2.3	2.5	0.2
25-34	S-3287	Floor	816189.0	2706699.0	-0.5	-0.6	-0.1	0.9	1.4	0.5
25-34	S-3668	Floor	816415.0	2706981.0	1.0	0.7	-0.3	1.5	2.0	0.5
25-34	S-3671	Floor	816360.0	2706916.0	1.2	0.9	-0.3	2.4	2.7	0.2
25-34	S-741	Floor	816744.0	2706900.0	1.1	0.9	-0.2	2.0	2.2	0.2
25-34	ES115	Floor	816353.5	2706364.5	-0.1	-1.5	-1.4	0.5	0.8	0.3
25-34	ES042	Sidewall	816795.2	2706904.2	2.3	2.1	-0.2	3.9	4.0	0.1
25-34	ES045	Sidewall	816626.2	2706852.8	4.0	3.5	-0.5	3.8	4.1	0.4
25-34	ES047	Sidewall	816307.7	2706837.1	2.5	2.3	-0.2	3.7	4.2	0.5
25-34	ES048	Sidewall	816866.8	2706834.9	2.9	2.6	-0.3	4.3	4.6	0.4
25-34	ES050	Sidewall	816970.1	2706806.8	2.4	1.9	-0.6	3.5	4.1	0.5
25-34	ES054	Sidewall	816652.4	2706756.8	2.7	2.0	-0.7	3.5	3.6	0.1
25-34	ES063	Sidewall	816798.5	2706568.7	1.4	1.2	-0.2	2.6	3.0	0.4
25-34	ES071	Sidewall	816447.2	2706821.0	2.4	2.2	-0.2	3.7	4.0	0.3

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-34	ES073	Sidewall	816742.8	2706666.6	4.0	3.8	-0.2	4.1	4.3	0.1
25-34	ES083	Sidewall	816224.5	2706670.5	5.2	5.2	0.0	6.1	6.2	0.1
25-34	ES085	Sidewall	816736.6	2706984.5	2.1	1.9	-0.2	3.5	3.8	0.3
25-34	ES098	Sidewall	816529.0	2706911.3	3.7	3.3	-0.4	4.8	5.1	0.3
25-34	ES201	Sidewall	816383.4	2706382.0	6.1	5.1	-1.0	7.0	7.3	0.2
25-34	INT63	Sidewall	816945.6	2706719.7	1.4	1.0	-0.4	2.5	2.7	0.2
25-34	INT65	Sidewall	816878.9	2706630.9	0.7	0.6	-0.1	1.6	1.9	0.3
25-34	S-3673	Sidewall	816427.0	2706951.0	1.5	1.4	-0.1	2.8	3.1	0.3
25-34	S-747	Sidewall	816242.0	2706745.0	2.9	2.8	-0.1	4.4	4.9	0.5
25-34	ES100	Sidewall	816537.8	2707055.4	-2.5	-2.7	-0.2	Unrestored Mudflat		
25-34	ES101	Sidewall	816492.9	2707055.2	-2.0	-2.1	-0.1	0.4	0.6	0.3
25-34	ES102	Sidewall	816404.7	2707116.9	-1.7	-1.8	-0.1	0.1	0.4	0.3
25-34	ES103	Sidewall	816307.5	2707108.6	-3.0	-3.0	0.0	Unrestored Mudflat		
25-34	ES104	Sidewall	816242.9	2707053.2	-3.1	-3.2	-0.1	Unrestored Mudflat		
25-34	ES105	Sidewall	816209.0	2706949.4	-3.5	-3.6	-0.1	Unrestored Mudflat		

Table 2-3
East Zone 1 Compliance Survey Control Table

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation[1]	Δ (ft)	Proposed Restoration Elevation	As-built Restoration Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft			NAVD88 ft		
25-34	ES106	Sidewall	816162.3	2706878.1	-3.3	-3.5	-0.2	-2.0	-1.9	0.2
25-34	ES107	Sidewall	816167.9	2706774.0	-3.3	-3.5	-0.2	-2.1	-1.9	0.2
25-34	ES108	Sidewall	816160.9	2706680.5	-3.0	-3.2	-0.2	-1.4	-1.1	0.4
25-34	ES109	Sidewall	816184.8	2706583.3	-3.2	-3.5	-0.3	-2.0	-1.7	0.3
25-34	ES110	Sidewall	816316.8	2707073.1	0.9	0.6	-0.3	2.2	2.3	0.1
25-34	ES111	Sidewall	816272.7	2706992.2	1.1	0.9	-0.2	2.0	2.5	0.4
25-34	ES112	Sidewall	816321.8	2706959.1	2.6	2.1	-0.5	3.4	3.7	0.3
25-34	ES113	Sidewall	816407.0	2707019.7	2.5	2.2	-0.3	3.5	3.7	0.2
25-34	ES114	Sidewall	816406.4	2707092.0	1.2	1.1	-0.2	1.9	2.1	0.2

Notes:

[1]Compliance survey elevation measurements at sidewall locations taken at the base of the sidewall (bottom of the excavation).

Δ - difference between post-excavation elevation and design elevation.

Table 2-4
East Zone 1 Planting Summary

DATE	COMPLETED ACTIVITIES
6/9/20 - 6/12/20	Parcel 25-24 Saltmarsh plugs completed. Low Marsh (Spartina alterniflora) 2” plugs, High Marsh (Spartina patens and Distichlis spicata)
6/15/20	Goose fencing installed in Parcel 25-24
6/23/20 - 6/25/20	Install Low Marsh (Spartina alterniflora) 2” plugs in restored portion of Parcel 25-31
6/30/20	Install goose fencing at Parcel 25-31
6/30/20	Erosion mats and Filter Soxx installed at steep slope areas of Parcel 25-24
10/27-10/29/20	SWCA installs upland plantings (1 gallon containers) across all parcels
11/2-11/5/20	SWCA installs upland plantings (1 gallon containers) across all parcels and begins seeding and mulching disturbed upland areas
11/16/20	SWCA installs remaining trees (1 gallon containers) in Parcel 25-34 and seeding and mulching remaining disturbed areas. Approximately 100 High Tide bush (Iva fructusens) out of stock, to be planted Spring 2021 at Parcel 25-34
Spring 2021	Installed high and low marsh planting in all parcels except 25-24. Elevations of high marsh and low marsh were revised based on observed growth success so plant spacing was increased for the planting areas as follows: - High marsh plant spacing changed from 12.0" spacing to 12.2" - Low marsh plant spacing changed from 12.0" spacing to 12.9"
Spring 2021	Installed remaining 100 High Tide bush (Iva fructusens) at Parcel 25-34

Attachment A

East Zone 1 Topsoil Summary

Attachment A
East Zone 1 Topsoil Summary

		Acceptable Nutrient Ranges										Geotech (Method D7928)			MCP S-1 Soil Cleanup Standards								
		pH	CEC	Base Saturation	Avail Plant Moisture	Organic Matter Content	Mg	Ca	K	N	P	Sand	Silt	Clay									
Batch #	Supplier	6 - 7	>20 meq/100g	>35%	50 - 70%	5 - 8%	50 - 120 ppm	1000 - 1500 ppm	100 - 160 ppm	>25 ppm	>15 ppm	45 - 85%	0 - 50%	0 - 20%	Metals	Petroleum Hydro-carbons	Target VOCs	Target SVOCs	EDB	1,4-Dioxane	Cyanide	PCBs	Backfill Location
001	Read Custom	6.8	10.1	100	NA	4.6	211.0	1388	564	140	33.1	75.1	19.2	5.8	√	√	√	√	√	√	√	√	EZ1, 25-24
002	Read Custom	7	7.8	100	NA	4	140.5	1202	285.5	3	5.9	80	14	6	√	√	√	√	√	√	√	√	EZ1, 25-24
003	Read Custom	7.2	10.8	100	NA	5.2	180.0	1680	351	59.7	131	78.2	11.8	10	√	√	√	√	√	√	√	√	EZ1, 25-24
004	Read Custom	7	8.4	99.9	NA	6	156.0	1260	312	40.1	82	80.5	10.1	9.4	√	√	√	√	√	√	√	√	EZ1, 25-24/31
005	Read Custom	6.8	7.9	100	NA	6	144.0	1200	273	34.7	76	80	11.7	8.2	√	√	√	√	√	√	√	√	EZ1, 25-24/31
006	Read Custom	6.8	8	99.9	NA	5.9	144.0	1200	273	39	77	79.7	12.1	8.2	√	√	√	√	√	√	√	√	EZ1, 25-31
007	Read Custom	7.1	7.4	100	NA	5.4	129.0	1102	331	35.9	84	75.2	15	9.8	√	√	√	√	√	√	√	√	EZ1, 25-31
008	Read Custom	6.8	9.1	78.1	NA	5.2	143.0	1030	314	39.7	95	75.5	14.6	9.9	√	√	√	√	√	√	√	√	EZ1, 25-31
009	Read Custom	6.6	8.3	76	NA	4.6	127.0	903	297	36.6	100	81.6	9.7	8.7	√	√	√	√	√	√	√	√	EZ1, 25-31
010	Read Custom	6.7	9.6	79.2	NA	5.2	154.0	1097	335	32.7	105	76.5	14.5	9	√	√	√	√	√	√	√	√	EZ1, 25-31
011	Read Custom	6.8	13.2	84.9	NA	5.5	168.0	1760	390	32.9	113	78.2	14.3	7.5	√	√	√	√	√	√	√	√	EZ1, 25-31
012	Read Custom	6.4	8.1	75.4	NA	4	120.0	882	280	34.2	94	75.1	16	8.9	√	√	√	√	√	√	√	√	EZ1, 25-31
013	Read Custom	7.1	10.4	100	NA	5.2	156.0	1600	429	48.2	137	76.3	16.5	7.2	√	√	√	√	√	√	√	√	EZ1, 25-31
014	Read Custom	6.4	9	77.8	NA	5.1	120.0	1040	312	40.5	99	75.8	15	9.2	√	√	√	√	√	√	√	√	EZ1, 25-31
015	Read Custom	6.8	9.2	78.4	NA	5.4	140.0	1065	283	27.5	101	78.9	11.2	9.9	√	√	√	√	√	√	√	√	EZ1, 25-34
016	Read Custom	6.5	8.7	77	NA	5.3	144.0	960	273	28.3	104	82.6	7.9	9.4	√	√	√	√	√	√	√	√	EZ1, 25-34
017	Read Custom	6.6	8.9	77.6	NA	5.2	143.0	1007	269	28.7	101	79.2	11.9	8.9	√	√	√	√	√	√	√	√	EZ1, 25-34
018	Read Custom	6.6	9.3	78.6	NA	5.4	148.0	1078	279	32.4	92	78.5	12.2	9.4	√	√	√	√	√	√	√	√	EZ1, 25-34/34
019	Read Custom	6.6	9.8	79.4	NA	5.3	156.0	1120	312	32.3	105	76.3	15.9	7.9	√	√	√	√	√	√	√	√	EZ1, 25-34/34
020	Read Custom	6.6	11.3	82.2	NA	5.2	156.0	1420	312	28.2	106	77	15.9	7.1	√	√	√	√	√	√	√	√	EZ1, 25-34/34
021	Read Custom	6.7	9.2	78.3	NA	5.6	144.0	1040	312	28	103	76	17.1	6.9	√	√	√	√	√	√	√	√	EZ1, 25-34/34
022	Read Custom	6.8	9	77.8	NA	5.5	144.0	1020	273	25.7	99	77.9	13.4	8.7	√	√	√	√	√	√	√	√	EZ1, 25-34/34
023	Read Custom	6.8	8.4	76.1	NA	5.9	132.0	920	273	24.2	87	76.9	14.4	8.7	√	√	√	√	√	√	√	√	EZ1, 25-34
024	Read Custom	6.7	9.1	77.9	NA	5.3	173.0	942	355	30.7	100	77.6	15.5	6.8	√	√	√	√	√	√	√	√	EZ1, 25-34
025	Read Custom	6.6	8.7	77	NA	5.8	168.0	880	351	34.8	92	76.2	15	8.8	√	√	√	√	√	√	√	√	EZ1, 25-34
026	Read Custom	6.6	8.9	77.5	NA	5.5	144.0	960	351	34.3	91	75.2	16.2	8.6	√	√	√	√	√	√	√	√	EZ1, 25-34
027	Read Custom	6.7	10.1	80.2	NA	5.1	168.0	1140	390	30	100	75.4	16.1	8.5	√	√	√	√	√	√	√	√	EZ1, 25-34
028	Read Custom	6.6	8.9	77.6	NA	5.4	140.0	982	341	28.1	99	78.4	14.4	7.2	√	√	√	√	√	√	√	√	EZ1, 25-34
029	Read Custom	6.7	10.2	80.3	NA	5.8	157.0	1181	370	27.3	107	75.9	16.3	7.8	√	√	√	√	√	√	√	√	EZ1, 25-34
030	Read Custom	6.8	8	100	NA	5.6	173.0	1124	352	33.5	103	77	15.8	7.1	√	√	√	√	√	√	√	√	EZ1, 25-34
031	Read Custom	6.9	7	100	NA	5.4	154.0	987	323	25.9	102	77.1	15	7.9	√	√	√	√	√	√	√	√	EZ1, 25-34
032	Read Custom	6.7	8.8	77.4	NA	6	151.0	936	347	36.4	96	76.9	15.8	7.3	√	√	√	√	√	√	√	√	EZ1, 25-34
033	Read Custom	6.6	8.9	77.6	NA	5.9	154.0	945	349	42.5	101	76.5	15.5	8	√	√	√	√	√	√	√	√	EZ1
034	Read Custom	6.7	8.2	75.8	NA	5.6	132.0	870	307	32.4	94	76.1	15.4	8.6	√	√	√	√	√	√	√	√	EZ1
035	Read Custom	6.7	8	75.2	NA	5.9	129.0	841	297	38.4	90	76.9	14.4	8.7	√	√	√	√	√	√	√	√	EZ1
	Averages	6.7	9.0	84.4		5.4	149.8	1107.5	327.6	36.2	94.4	77.4	14.3	8.3									
Z2-A	In place	7.0	9.9	99.9	NA	5.2	266.0	1391.0	275.0	10.5	102.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Z2-B	In place	6.7	10.8	81.6	NA	5.4	287.0	1184.0	206.0	11.9	95.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Z2-C	In place	7.0	9.0	100.0	NA	5.3	366.0	1071.0	228.0	17.7	100.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EZ1SP1	In place	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.8*	NA	NA	NA	NA	NA	NA	NA	NA
EZ1SP2	In place	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.4*	NA	NA	NA	NA	NA	NA	NA	NA
EZ1SP3	In place	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.3*	NA	NA	NA	NA	NA	NA	NA	NA

Notes

NA Not analyzed

√ Passes Criteria

* Lead only (ppm)

Attachment B

East Zone 1 Revised Planting Plans

SUGGESTED NUMBER OF SHRUBS_TREES for EZ-1 BY PARCEL

Shrub Species	(1 gallon)	25-24	25-31	25-34A	25-34	TOTALS
Iva frutescens	High tide bush	434	1196	234	592	2456
Clethra alnifolia	Sweet pepperbush	8 22	38 10	34	33	145
Cornus amomum	Silky dogwood	22	35	20	7	84
Rosa virginiana	Virginia rose	38				38
Vaccinum corybosum	Highbush Blueberry		22 15	17	30	84
Viburnum dentatum	Southern arrowwood		18	20	12	50
Amelanchier canadensis	Canadian serviceberry	2	5	4	4	15
Myrica pensylvanica	Northern bayberry	47	25	19	65	
Alnus rugosa	Speckled alder		10	30		40
Tree Species						
Acer rubrum	Red Maple	8	4			12
Juniperus virginiana	Red Cedar	53	40		24	117
Quercus rubra	Red Oak		3		17	20
Fraxinus pennsylvanica	Green Ash		7			7
Quercus alba	white oak	2	2		10	14
Prunus serotina	black cherry	2	2		10	14
Betula populifolia	gray birch	2	12			14
Tilia americana	American linden				5	5
Carya cordiformis	bitternut hickory				5	5
Pinus rigida	pitch pine	4	2		5	11
New England Conservation/Wildlife Seed Mix (lbs)		15	23	8	23	69

KEY:

- High tide bush
- Wetland shrubs
- Wetland trees & shrubs
- Bayberry group
- Upland trees

UPPER HARBOR EAST ZONE 1, PARCEL 25-24

PROPOSED SHRUB and TREE PLANTINGS (Fall 2020) All 1 gallon containers, and number for each plant species is in parentheses. Reference Parcel 25-24 Sheet 1

Upland Tree Zone (12,776 sq ft area) square spacing **15 ft o.c.**

Juniperus virginiana Eastern red cedar
Quercus alba white oak
Prunus serotina) black cherry
Pinus rigida (4) pitch pine
Starting at top of 3:1 slope above bayberry group with *J. virginiana*. The *Q. alba*, *P. serotina* and *P. rigida* should be landward of the *J. virginana*

Wetland Tree and Shrub Zone (4,633 sf area) square spacing **12 ft o.c.**

Clethra alnifolia sweet pepperbush
Acer rubrum red maple
Betula populifolia (2) gray birch
Mixed planting landward of the 8 ft wide path.

Wetland Shrub Zone (2 areas for total of 799 sf) square spacing **5 ft o.c.**

(191 sf area) *Cornus amomum* (8) silky dogwood

(608 sf area) *Cornus amomum* (14) silky dogwood
Amelanchier canadensis (2) serviceberry
Clethra alnifolia (8) sweet pepperbush
C. amomum planted above the High Tide Bush zone then *A. canadensis*, and *C. alnifolia* closest to the 8 foot wide pathway

Bayberry Group Zone (4,523 sf area) triangular spacing **8 ft o.c.**

Myrica pensylvanica (bayberry
Rosa virginiana (38) Virginia rose
Above High Tide Bush mixed planting of *M. pensylvanica* and *R. virginiana* on 3:1 slope

High Tide Bush Zone (2 areas total of 3,545 sf) square spacing **3 ft o.c.**

(1,172 sf area) *Iva frutescens* (130) high tide bush

(2,373 sf area) *Iva frutescens* (304) high tide bush
Start planting just above the wrack line.

New England Conservation/Wildlife Seed Mix seeding rate 1 lb/1750 sf or 25 lbs/acre was 3 lbs now ~**15 lbs** to cover 26,276 sf area for all zones

UPPER HARBOR EAST ZONE 1, PARCEL 25-24

ADDITIONAL SALT MARSH PLANTING (Spring 2021) above elevation 3 up to wrack line.

High Marsh (3,597 sf area) square spacing; 2" plugs with slow release fertilizer

1 ft o.c. Proposed high marsh plantings to include 50/50 mix of *Spartina patens* (1,800) and *Distichlis spicata* (1,800)

If 1.5 ft o.c. Number plugs required (800) S. patens and (800) D. spicata

UPPER HARBOR EAST ZONE 1, PARCEL 25-31

PROPOSED SHRUB and TREE PLANTINGS (Fall 2020) All 1 gallon containers, and number for each plant species is in parentheses. Reference Parcel 25-31 Sheet 2

Upland Tree Zone (12,180 sq ft area) square spacing **15 ft o.c.**

Juniperus virginiana (40) red cedar
Quercus alba (2) white oak

Prunus serotina (2) black cherry
Pinus rigida (2) pitch pine
Quercus rubra (3) red oak

Landward of the wetland trees and shrubs to the tree line. The *Q. rubra*, *P. serotina* and *P. rigida* should be landward of the *J. virginana and Q. alba*

Wetland Trees and Shrub Zone (about 4800 sf area) square spacing **10 ft o.c.**

Acer rubrum (4) red maple
Betula populifolia (12) gray birch
Fraxinus pennsylvanica (7) green ash
Clethra alnifolia (10) sweet pepperbush
Vaccinium corymbosum (15) highbush blueberry

Mixed planting landward of wetland shrub zone.

Wetland Shrub Zone (12,851 sf) square spacing **9 ft o.c.**

Myrica pensylvanica (25) note added here bayberry found ~50% in wetlands~50% uplands
Amelanchier canadensis serviceberry
Cornus amomum (35) silky dogwood

Mixed planting start landward of the high tidebush zone – above the toe of seaward slope and high tide bush

Alnus rugosa (10) speckled alder

Add in wetland shrub zone starting at the southern end of the wetland tree & shrub zone. Concept to use in areas of invasive *Phragmites* concern.

Vaccinium corymbosum (22) highbush blueberry
Viburnum dentatum (18) arrowwood
Clethra alnifolia (38) sweet pepperbush

Plant landward of the other wetland shrub species

High Tide Bush Zone (2 areas total of 10,767 sf) square spacing **3 ft o.c.**

Iva frutescens (1196) square spacing

Start planting just above the wrack line to toe of slope or at lower toe of slope.

New England Conservation/Wildlife Seed Mix seeding rate 1 lb/1750 sf or 25 lbs/acre (was 18 lbs now ~**23 lbs** to cover 40,562 sf area) for all zones

UPPER HARBOR EAST ZONE 1, PARCEL 25-31 (cont.)

ADDITIONAL SALT MARSH PLANTING (Spring 2021) above elevation 3 NAVD88 up to wrack line (varies but average ~3.4 NAVD88).

High Marsh (19,785 sf area) square spacing; 2" plugs with slow release fertilizer Proposed high marsh plantings to include 50/50 mix of Spartina patens and Distichlis spicata

1 ft on center *Spartina patens* (9,892) and *Distichlis spicata* (9,892)

1.5 ft on center *S. patens* (4,396) *D. spicata* (4,396)

UPPER HARBOR EAST ZONE 1, PARCEL 25-34A

PROPOSED SHRUB and TREE PLANTINGS (Fall 2020) All 1 gallon containers, and number for each plant species is in parentheses. Reference Parcel 25-34A Sheet 3

Wetland Shrub Zone (11,869 sf) square spacing **9-10 ft o.c.**

Myrica pensylvanica (19) note added here bayberry found ~50% in wetlands~50% uplands
Amelanchier canadensis (4) serviceberry
Cornus amomum (20) silky dogwood
Mixed planting starting landward of the high tidebush zone – above the toe of seaward slope and high tide bush

Alnus rugosa (30) speckled alder
Space out along the shore landward of bayberry, serviceberry, silky dogwood

Vaccinium corymbosum (17) highbush blueberry
Clethra alnifolia (34) sweet pepperbush
Viburnum dentatum (20) arrowwwood
Plant landward of the other wetland shrub species

High Tide Bush Zone (2,103 sf) square spacing **3 ft o.c.**

Iva frutescens (234)
Start planting just above the wrack line to toe of slope or just above toe of slope.

New England Conservation/Wildlife Seed Mix seeding rate 1 lb/1750 sf or 25 lbs/acre (was 2 lbs now **~8 lbs** to cover 13,972 sf area) for all zones

UPPER HARBOR EAST ZONE 1, PARCEL 25-34A (cont.)

ADDITIONAL SALT MARSH PLANTING (Spring 2021) above elevation 3 NAVD88 up to wrack line (varies but average ~3.4 NAVD88).

High Marsh (1,546 sf area) square spacing; 2" plugs with slow release fertilizer Proposed high marsh plantings to include 50/50 mix of Spartina patens and Distichlis spicata

1 ft on center *Spartina patens* (773) and *Distichlis spicata* (773)

1.5 ft on center *S. patens* (344) *D. spicata* (344)

UPPER HARBOR EAST ZONE 1, PARCEL 25-34

PROPOSED SHRUB and TREE PLANTINGS (Fall 2020) All 1 gallon containers, and number for each plant species is in parentheses. Reference Parcel 25-34 Sheet 4

Upland Tree Zone (5 areas totaling 16,757 sq ft) square spacing **15 ft o.c.**

(1,746 sq ft – 8 trees) **NORTH of quarry discharge**
Juniperus virginiana (2) red cedar
Carya cordiformis (2) bitternut hickory
Tilia americana (2) American linden
Quercus rubra (2) red oak

(4 areas totaling 15,011 sq ft - 67 trees) **SOUTH of quarry discharge**

(3,595 sq ft – 16)
Juniperus virginiana (6) red cedar
Quercus alba (3) white oak
Carya coriformis (3) bitternut hickory
Tilia americana (3) American linden
*Pinus rigid*a (1) pitch pine

(3,407 sq ft -16)
Juniperus virginiana (5) red cedar
Quercus alba (2) white oak
Prunus serotina (4) black cherry
Quercus rubra (4) red oak
Pinus rigida (1) pitch pine

(7,200 sq ft -32)
Juniperus virginiana (11) red cedar
Quercus alba (5) white oak
Prunus serotina (6) black cherry
Quercus rubra (8) red oak
Pinus rigida (2) pitch pine

(809 sq ft - 4)
Quercus rubra (3) red oak
Pinus rigida (1) pitch pine

Plant *J. virginian*a and *Q. alba* closest to the shoreline above the high tide bush zone in uplands. Then the remaining species with *P. rigida* in drier portions of each area

UPPER HARBOR EAST ZONE 1, PARCEL 25-34 (cont.)

Wetland Shrub Zone (2 areas totaling 5,507 sf) square spacing **8 ft o.c.**

(1,956 sq ft -31 shrubs) – **NORTH of quarry discharge** east of right of way
Amelanchier canadensis (4) serviceberry
Cornus amomum (7) silky dogwood
Mixed planting start landward of the high tidebush zone – above the toe of seaward slope and high tide bush
Clethra alnifolia (14) sweet pepperbush
Viburnum dentatum (6) arrowwood
Plant landward of the other wetland shrub species

(3,551 sq ft-55 shrubs) - **SOUTH of quarry discharge** 'path through woodland'
Viburnum dentatum (6) arrowwood
Vaccinium corymbosum (30) highbush blueberry
Clethra alnifolia (19) sweet pepperbush

Bayberry Group Zone (2 areas totaling 4,173 sq ft) square spacing **8 ft o.c**.

(1,839 sq ft - 29); (2,334 sq ft – 36) **SOUTH of quarry discharge**

Myrica pennsylvanica (total of 65) bayberry

Plant landward of the high tide bush zone

High Tide Bush Zone (5 areas called out for a total of 8,889 sf) square spacing **4 ft o.c.**

(2,190 sq ft - 144), (851 sq ft - 56) **NORTH of quarry discharge**
Iva frutescens (total of 200) high tide bush

(3,908 sq ft -260), (934 sq ft- 62), (1,006 sq ft -70) **SOUTH of quarry discharge**
Iva futescens (total of 392) high tide bush

Start planting just above the wrack line to toe of slope or on lower slope near toe. In wider areas of this zone plant additional row(s).

New England Conservation/Wildlife Seed Mix seeding rate 1 lb/1750 sf or 25 lbs/acre (was 7 lbs now ~**23 lbs** to cover 40,833 sf area) for all zones

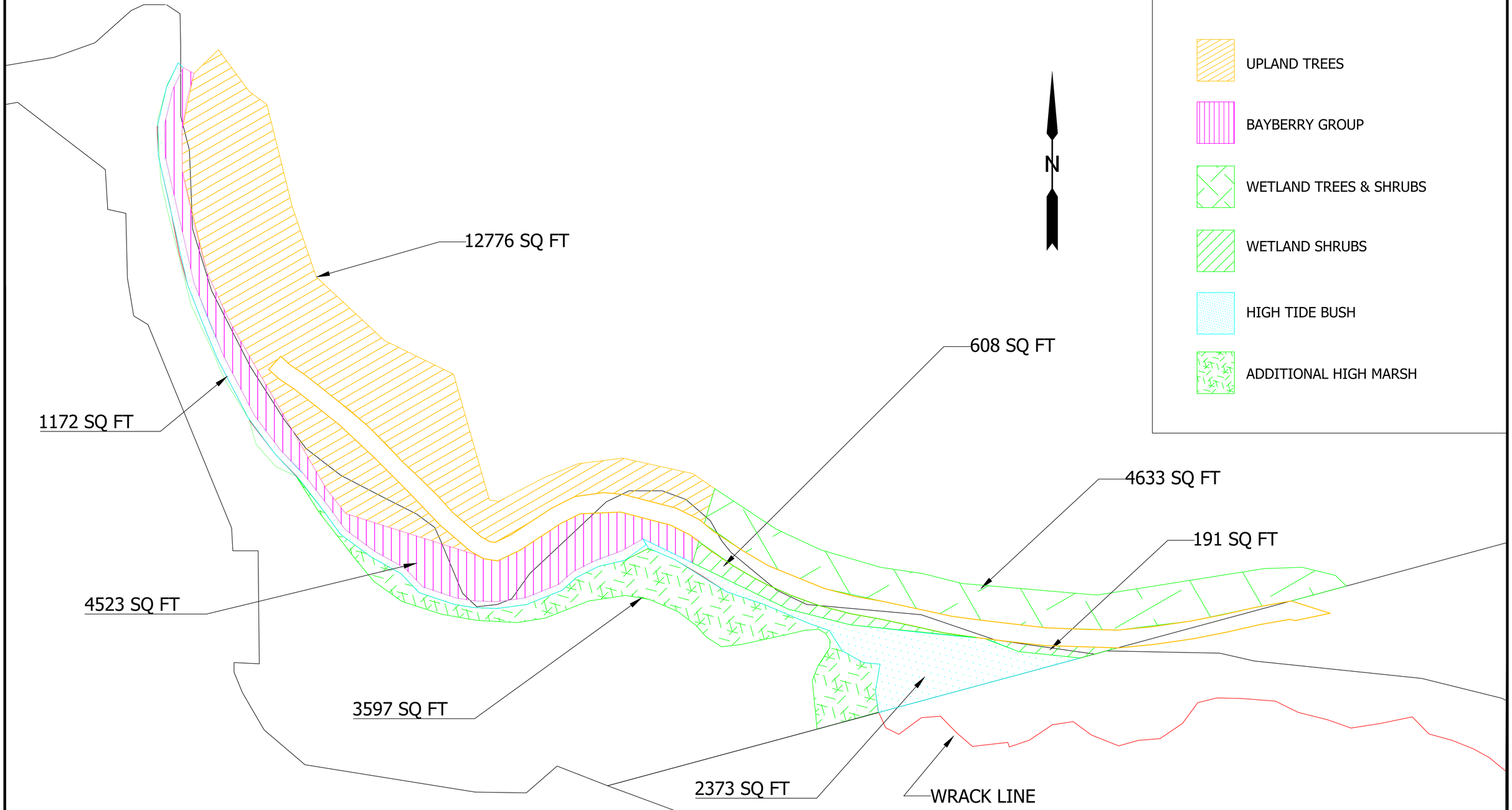
UPPER HARBOR EAST ZONE 1, PARCEL 25-34 (cont.)

ADDITIONAL SALT MARSH PLANTING (Spring 2021) above elevation 3 NAVD88 up to wrack line (varies but average ~3.4 NAVD88).

High Marsh (9,066 sf area total) square spacing; 2" plugs with slow release fertilizer Proposed high marsh plantings to include 50/50 mix of *Spartina patens* and *Distichlis spicata*

1 ft on center *Spartina patens* (4,533) and *Distichlis spicata* (4,533)

1.5 ft on center *S. patens* (2,014) *D. spicata* (2,015)



PARCEL 25-24

DATE	REVISION	BY
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FILE NAME:MITIGATION_PARCEL 25-24_OCT 2020

Scale:1"=20 ft

SHEET 1

10767 SQ FT

12180 SQ FT

19785 SQ FT

12815 SQ FT

N

UPLAND TREES

BAYBERRY GROUP

WETLAND TREES & SHRUBS

WETLAND SHRUBS

HIGH TIDE BUSH

ADDITIONAL HIGH MARSH

PARCEL 25-31

0 20 40 60

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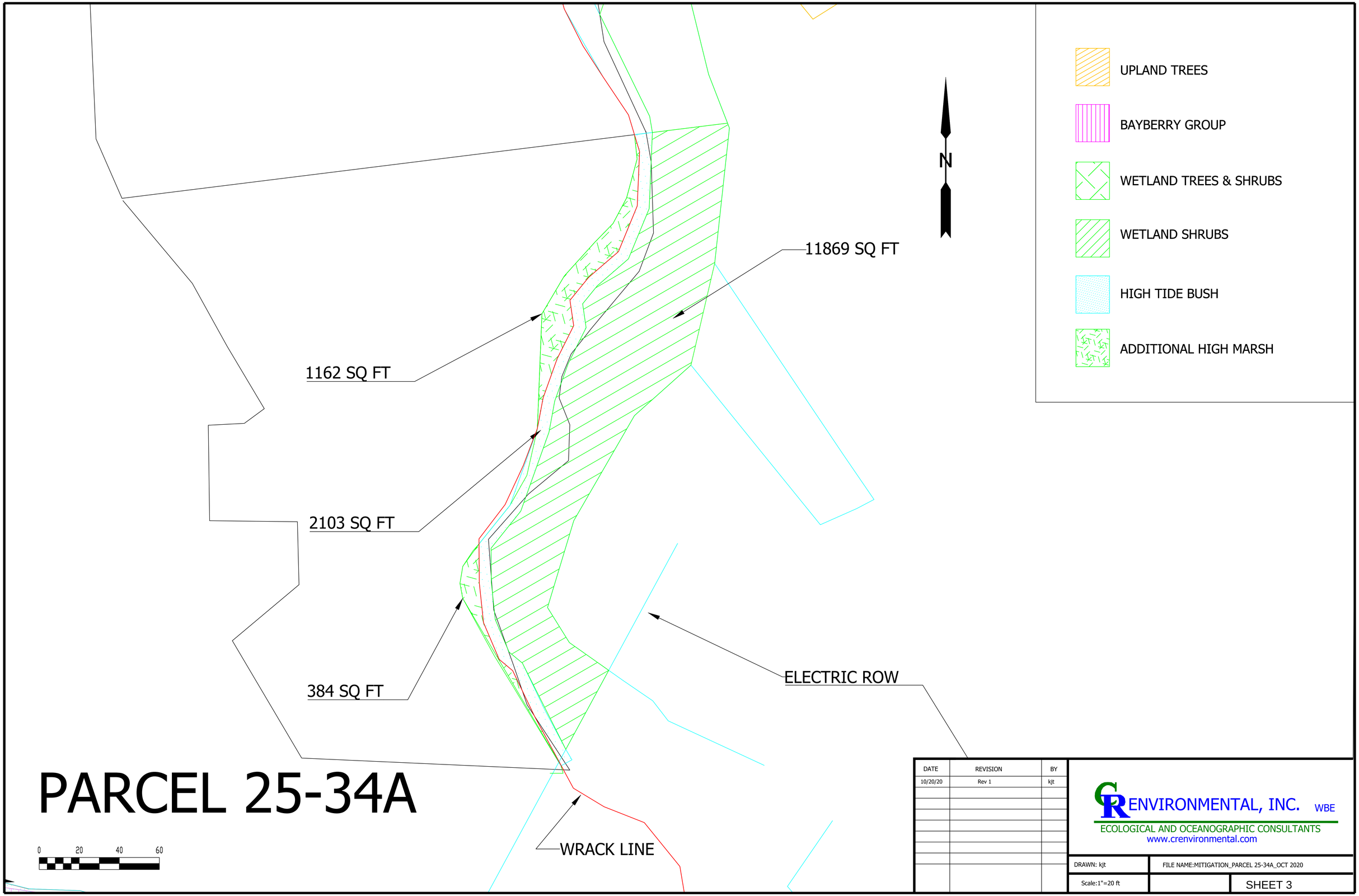
Scale:1"=20 ft

SHEET 2



PARCEL 25-34A

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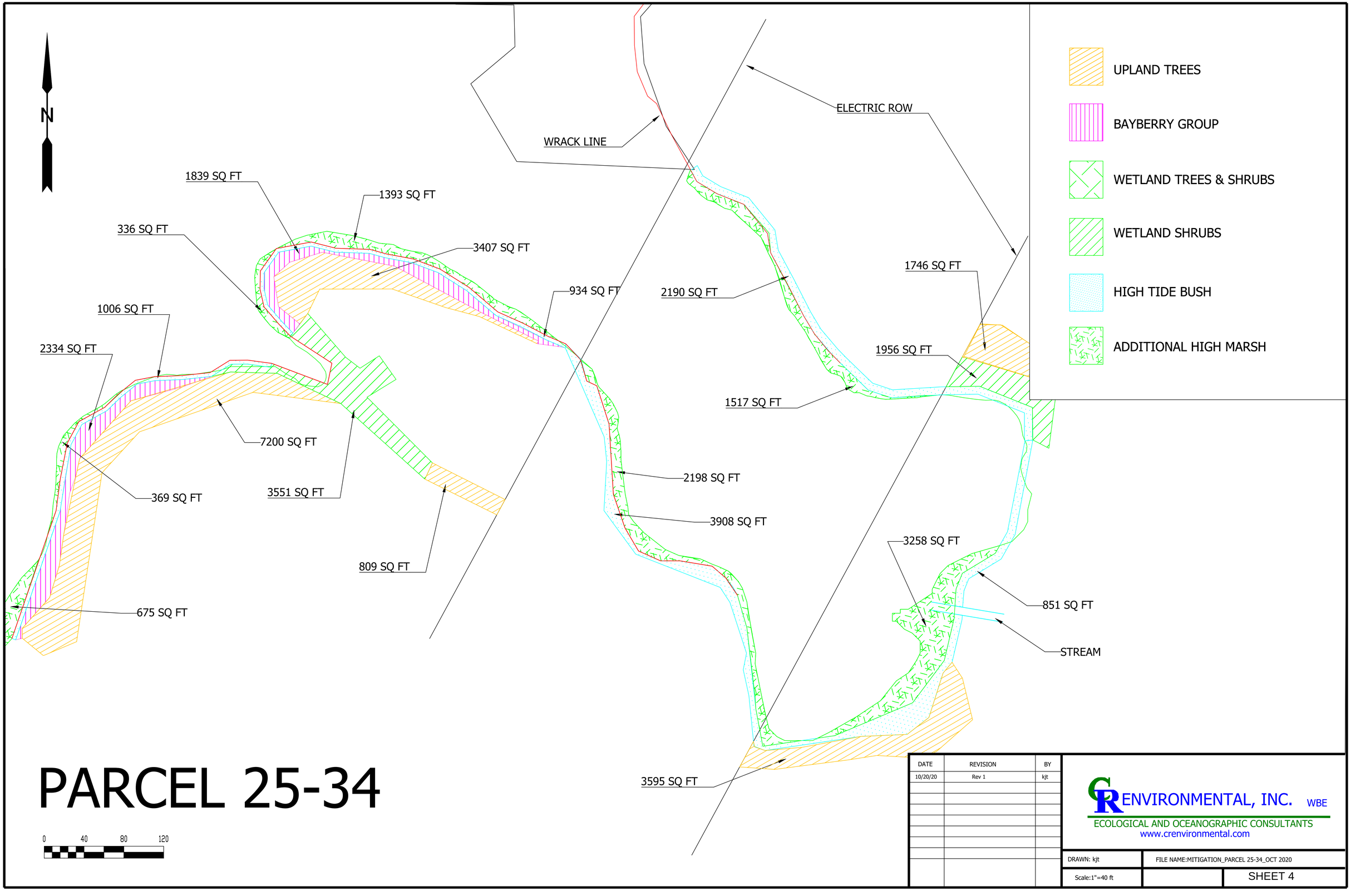
SHEET 3



PARCEL 25-34

0 40 80 120

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Scale:1"=40 ft

SHEET 4