Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Phillip Eng, General Manager & CEO

massDOT
Massachusetts Department of Transportation

July 31, 2025

Rebecca Tepper
Executive Office of Energy and Environmental Affairs, MEPA Office
Attn: Tori Kim , MEPA Director
100 Cambridge Street, Suite 900
Boston, MA 022114

Re: Proposed Environmental Impact Report
Durante Site Remediation and Wetland Restoration Project
Weymouth, Massachusetts

Dear Secretary Tepper:

The Massachusetts Bay Transportation Authority (MBTA) is pleased to submit the enclosed Proposed Environmental Impact Report (PEIR) in accordance with 301 CMR 11.06(7)(b) for the Durante Site Remediation and Wetland Restoration Project located at 0 Wharf Street in Weymouth, Massachusetts (the Project). By submitting this dual PEIR and Expanded Environmental Notification Form (EENF) (submitted under separate cover), the MBTA requests authorization for a Rollover EIR as discussed with the Massachusetts Environmental Policy Act (MEPA) Office during the pre-filing meeting on September 5, 2024, and November 4, 2024.

The Project will include site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland/salt marsh areas on Site. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen.

The Project exceeds three MEPA thresholds: (1) Wetlands, Waterways, and Tidelands (301 CMR 11.03(3)(b)(c-f)), and (2) Areas of Environmental Concern (301 CMR 11.03(11)(b)). Since the Project falls within the Designated Geographic Area (DGA) of a mapped Environmental Justice (EJ) community, the Project requires an EIR pursuant to 301 CMR 11.06(7)(b). While there are impacts associated with this Project, the site remediation and wetland restoration activities proposed will provide a net benefit to the ecological habitats and the surrounding communities.

The MBTA acknowledges that by filing a dual EENF and PEIR requesting a Rollover EIR, they consent to an extension of the ENF review period in accordance with 301 CMR 11.06(1) and of the ENF public comment period in accordance with 301 CMR 11.06(3).

Please find all the required materials attached with this submittal. If you have any questions, please contact Tess Paganelli, Director of Environmental Permitting and Review, at TPaganelli@mbta.com or 617-549-4357.

Sincerely,



Tess Paganelli
Director of Environmental Permitting and Review
Massachusetts Bay Transportation Authority

Proposed Environmental Impact Report

July 2025

Durante Site Remediation and Wetland Restoration Project

Prepared For:

Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, MA 02116-3974

Prepared By:

TRC Environmental Corporation
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Lowell, MA 01854



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- Figure 2. Environmental Constraints Map
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- Figure 4. Potential Sources of Pollution Map
- Figure 5. Areas with Potential Concern from EJ Screen

Attachment B: Project Plans
Attachment C: Photographic Log
Attachment D: MEPA Distribution List
Attachment E: List of Federal, State, and Local Permits
Attachment F: RMAT Report
Attachment G: EJ Populations Information
- Advanced Notification
- EJ Reference List
- Email of Advanced Notification

Attachment H:Public Notice
Attachment I: Wetland Delineation Report
Attachment J: Previously Completed Studies & Reporting
Attachment K: Historical and Archaeological Information

ACRONYM LIST

ACEC	Areas of Critical Environmental Concern
AUL	Activity Use Limitation
BG	Block Group
BMP	Best Management Practice
BMPP	Best Management Practices Plan
BVW	Bordering Vegetated Wetland
BUAR	Board of Underwater Archaeological Resources
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
CZM	Coastal Zone Management
DCR	Department of Conservation and Recreation
DGA	Designated Geographic Area
DRGP	Dewatering and Remediation General Permit
EENF	Expanded Environmental Notification Form
ENF	Environmental Notification Form
EIR	Environmental Impact Report
EJ	Environmental Justice
EJScreen	Environmental Justice Screening Tool
EOEEA	Executive Office of Energy and Environmental Affairs
EPA	Environmental Protection Agency
EPH	Extractable petroleum hydrocarbons
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gas
GHG Policy	Greenhouse Gas Emissions Policy and Protocol
GP	General Permits
HDPE	high density polyethylene
IWQC	Individual Water Quality Certification
LSCSF	Land Subject to Coastal Storm Flowage
LUW	Land Under Waterbodies and Waterways
MA DPH	Massachusetts Department of Health
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transportation Authority
MCP	Massachusetts Contingency Plan
MDAR	Massachusetts Department of Agricultural Resources
MEPA	Massachusetts Environmental Policy Act
mg/kg	milligrams per kilogram
MHC	Massachusetts Historical Commission

NCNE	Northcentral and Northeast
NeT	NPDES eReporting Tool
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OHM	oil and/or hazardous materials
OHWM	Ordinary High-Water Mark
OOC	Order of Conditions
ORW	Outstanding Resource Water
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PCN	Pre-Construction Notification
PEIR	Proposed Environmental Impact Report
PEM	palustrine emergent wetlands
PFO	palustrine forested wetlands
PSS	palustrine scrub shrub wetlands
RA	Riverfront Area
RIP	Remedy Implementation Plan
RMAT Tool	RMAT Climate Resilience Design Standards Tool
SEIR	Single Environmental Impact Report
SFHA	Special Flood Hazard Areas
SHMCAP	State Hazard Mitigation and Climate Adaptation Plan
Site	“0” North Wharf Street in Weymouth, Massachusetts
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TRC	TRC Environmental Corporation
TSCA	Toxic Control Substance Act
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WPA	Wetlands Protection Act
WQC	Water Quality Certification

1.0 Introduction

1.1 Project Overview

The Massachusetts Bay Transportation Authority (MBTA; the Applicant) proposes Site remediation and wetland restoration at "0" North Wharf Street in Weymouth, Massachusetts (the Project, Site). The Site comprises an approximately 6.17-acre parcel (Weymouth Assessor Map 19-193-2-0) **(Attachment A, Figure 1)**. The proposed remediation activities are necessary for compliance with a work plan under 310 Code of Massachusetts Regulations (CMR) 40.0000, commonly referred to as the Massachusetts Contingency Plan (MCP) as well as a work plan under 40 Code of Federal Regulations (CFR) 761, commonly referred to as Toxic Control Substance Act (TSCA). Project Plans can be found in **Attachment B**.

A photographic log can be found in **Attachment C**, the Massachusetts Environmental Policy Act (MEPA) Distribution List can be found in **Attachment D**, and the list of federal, state, and local permits can be found in **Attachment E** and **Section 1.3** below. **Attachments F, G, and H** contain the RMAT Climate Resilience Design Standards Tool (RMAT Tool) Report, Environmental Justice (EJ) Population Information, and Public Notice respectively. **Attachment I, J and K** contain the Wetland Delineation Report, previously completed studies and reporting, as well as historical and archaeological information.

1.1.1 Project History

The MBTA, as the owners of the Site, have conducted the existing data collection. A summary is provided below.

In 2007, soil and sediment samples were collected at the Site. Based on the media sampling, concentrations of the following compounds were identified at some excavation locations above applicable MCP and TSCA standards:

- Polychlorinated biphenyls (PCBs)
- Metals
- Polycyclic aromatic hydrocarbons (PAHs)
- Extractable petroleum hydrocarbons (EPH)

Following the discovery of contamination on-site, the MBTA and the Town of Weymouth agreed that the Durante property would be transferred to the Town once remediation and restoration of the resource areas on-site was complete.

In the Fall of 2022, a Site topographic survey by Land Planning, Inc., and updated wetland delineation by TRC were completed. These surveys showed a natural increase in wetland area of approximately 0.8 acres, three open water pools, and the establishment of a panne. A panne is a wetland consisting of a small depression, with or without standing water, often in a Salt Marsh or other coastal wetland. This natural increase in wetland area and diversity addressed the goals of the prior proposed Salt Marsh creation without intervention. However, a number of invasive species colonized the Site, as described in **Table 3-1**. Please refer to **Attachment I** for the Wetland Delineation Report.

TRC wetland scientists conducted bio-benchmark surveys and tidal monitoring during the 2022 field season. A detailed description of the methods used during the field surveys are described in the Biological Benchmark and Tidal Monitoring Report provided in **Attachment J**.

1.2 Summary of MEPA Process

1.2.1 MEPA Thresholds

This Project is undergoing MEPA review because it requires multiple state permits and exceeds MEPA thresholds identified in **Table 1-1** below.

Table 1-1: MEPA ENF Thresholds

MEPA Environmental Notification Form (ENF) Thresholds
ENF: Areas of Critical Environmental Concern (ACEC): • Any Project of ½ or more acres within a designated ACEC, unless the Project consists solely of one single family dwelling. *(301 CMR 11.03(11)(b))*
ENF: Wetlands, Waterways and Tidelands *(301 CMR 11.03(3)(b)(1)(c-f)*: • Alteration of 1,000 or more square feet of salt marsh or outstanding resource waters. • New fill or structure or expansion of existing fill or structure, except a pile supported structure, in a velocity zone or regulatory floodway. • Alteration of ½ or more acre of any other wetlands

The Project also requires an Environmental Impact Report (EIR) due to the provisions found in 301 CMR 11.06(7)(b), which states that "the Secretary shall require an EIR for any Project that is located within a Designated Geographic Area (DGA) around an Environmental Justice (EJ) Population".

1.2.2 Request for Rollover EIR

The MBTA is filing an Expanded Environmental Impact Report (EENF) in accordance with 301 CMR 11.06(13) to provide more detailed information as part of a request to the MEPA Office to allow a Rollover EIR (301 CMR 11.05(9)).

The requirements for a Rollover EIR, as stated in 301 CMR 11.06(13) are listed below followed by a discussion of MBTA's compliance with each.

301 CMR 11.06(13) <u>Rollover EIR.</u> For any Project that is required to file an EIR in accordance with 301 CMR 11.06(7)(b), and has submitted a dual Expanded ENF and Proposed EIR in accordance with 301 CMR 11.05(9), the Secretary may allow a rollover EIR, provided that the Secretary finds that the dual Expanded ENF and Proposed EIR:

(a) Presents a complete and definitive description and analysis of the Project and its alternatives, and an assessment of its potential environmental and public health impacts

and mitigation measures sufficient to allow a Participating Agency to fulfill its obligations in accordance with M.G.L. c. 30, §§ 61 and 62K and 301 CMR 11.12(5);

A complete and definitive description and analysis of the Project and its alternatives are provided in **Section 2.0 and 3.0** of this EIR. An assessment of the Project's potential environmental and public health impacts, mitigation measures and draft Section 61 Findings are provided in **Section 4.0** through **Section 10.0**.

(b) *Demonstrates that the Project will not materially exacerbate any existing unfair or inequitable Environmental Burden and related public health consequences impacting an Environmental Justice Population, and will not result in a disproportionate adverse effect or increased climate change effects on an Environmental Justice Population;*

A detailed Environmental Burden and impact assessment for the proposed Project is provided in **Section 8.0 and 9.0**. The Project will not materially exacerbate any existing unfair or inequitable impacts to EJ Populations or exuberate environmental burdens relative to existing or ongoing environmental damage or climate change risks.

(c) *Describes measures taken to provide meaningful opportunities for public involvement by Environmental Justice Populations prior to filing the dual ENF and Proposed EIR, including any changes made to the Project to address concerns raised by or on behalf of Environmental Justice Populations;*

Measures the MBTA took to provide meaningful opportunities for public involvement are detailed in **Section 8.0**. The MBTA utilized the MEPA Public Involvement Protocol as a guide for developing public involvement strategies for this Project.

(d) *Shows that comments received on the dual ENF and Proposed EIR do not raise substantial issues not previously considered by the Proponent; and*

Comments received on the dual EENF and Proposed Environmental Impact Report (PEIR) will be addressed. No substantial issues are anticipated.

(e) *Shows that no substantive issues remain to be resolved.*

No substantial issues are anticipated.

1.3 Summary of Anticipated Permits

The MBTA is in the process of obtaining all approvals and permits required by federal, state, and local agencies for the Project. **Table 1-2** below summarizes the permit approvals required or potentially required for the Project.

Table 1-2: Permits Required

Agency	Permit/Review/Approval	Status
Federal		
United States Army Corps of Engineers (USACE)	Section 404 Pre-Construction Notification (PCN) Permit and consultations under Section 106 of National Historic Preservation Act and Section 7 of the Endangered Species Act	Anticipate filing in August 2025
United States Environmental Protection Agency (USEPA)	National Pollutant Discharge Elimination System (NPDES), Dewatering and Remediation General Permit (DRGP), and/Stormwater Pollution Prevention Plan (SWPPP)	Anticipate filing May 2026
State		
Massachusetts Department of Environmental Protection (MassDEP)	Section 401 Individual Water Quality Certification (IWQC)	Anticipate filing August 2025
	Chapter 91 License Application	Anticipate filing August 2025
Massachusetts Office of Coastal Zone Management (CZM)	Federal Consistency Review	Anticipate filing December 2025
Local		
Weymouth Conservation Commission	Order of Conditions per the Massachusetts Wetlands Protection Act (WPA)[1] and local bylaws.	Filed in July 2025

1.4 Greenhouse Gas Emission Policy Waiver Request

While the Project does not exceed mandatory EIR thresholds at 301 CMR 11.03, the Project is required to submit an EIR under 301 CMR 11.06(7)(b). For this reason, the MBTA is requesting a de minimis waiver to evaluate Greenhouse Gas (GHG) emissions in accordance with the Greenhouse Gas Emissions Policy and Protocol (GHG Policy). The proposed Project will not result in new stationary sources of GHG and is not anticipated to increase the potential mobile sources of GHG. The purpose of the proposed Project is to restore the function of the wetlands and Salt Marsh, which have the capability to sequester carbon, and therefore is anticipated to help reduce potential GHG emissions.

1 WPA Orders of Conditions are local permits unless and until a superseding Order of Conditions is issued by MassDEP.

2.0 Project Description

2.1 Purpose and Need

As previously mentioned, concentrations of the following oil and/or hazardous materials (OHM) were identified above applicable MCP and TSCA standards at the Site:

- PCBs
- Metals
- PAHs
- EPH

The purpose of the Project is to conduct remediation at 0 Wharf Street. The proposed Project is needed since the pre-existing land uses on Site have led to impacted wetland functions and concentrations of various contaminants on Site. The remediation efforts will reduce risk exposure at the Site from the identified OHM. By removing and treating the invasives and re-establishing the wetland resources on-site, the Site will be able to provide numerous benefits to the public (see **Section 2.2** below). In addition, the proposed Project will increase resiliency to climate change by constructing a channel to connect the Weymouth Back River to the open water pools on-site. This will account for additional flooding events due to sea level rise that may occur in the future and increase the capacity of the Site to introduce and retain more river water within the Salt Marsh.

2.2 Project Benefits

In 301 CMR 11.02, environmental benefits are defined as the following: "*Access to clean natural resources, including air, water resources, open space, constructed playgrounds and other outdoor recreational facilities and venues, clean renewable energy sources, environmental enforcement, training and funding disbursed or administered by the executive office of energy and environmental affairs*."

There are numerous environmental benefits as a result of the proposed Project. Firstly, the Site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier to residual contamination remaining in-place) will provide public access to clean natural resources and open space. Once the Project is complete, the Site will be closed with an Activity Use Limitation (AUL) that will define the allowed activities and development at the Site. This will ensure that the Site is maintained properly.

Additionally, the wetland restoration efforts have been designed to optimize wetland resource functions and values so that the post-Project conditions will comprise a more functional native wetland community than exists currently on the Site. The Project also involves the removal of invasive plant species to the extent practicable which would promote the integrity of this coastal system with native plantings promoting stabilization and wildlife habitat. Lastly, the restored Site is anticipated to provide a new open space area for passive recreation (wildlife viewing) and new access to water resources. Once the work is done, it is up to the Town of Weymouth to decide what additional work will be done at the Site.

2.3 Site Access, Construction Entrances, & Staging Areas

Site access will be provided through a shared driveway to the east of the property, connecting to North Wharf Street. Access using this shared driveway will require crossing underneath the railroad underpass. The Site access will be equipped with a typical stone construction entrance/decontamination pad to avoid spreading mud and sediment from exiting construction vehicles onto North Wharf Street. The southern portion of the Site is entirely upland, with a majority of the area outside the buffer zones and floodplain. This area will be used for staging equipment and materials, as well as equipment fueling throughout the Project. The construction entrance detail is depicted on **Attachment B, Sheet 8**.

2.4 Land Clearing, Grubbing & Herbicide Treatment

Existing vegetation shall be cleared and grubbed at the Site only where necessary for targeted remediation, wetland restoration, or invasive species removal. Non-invasive, larger trees shall only be removed where deemed necessary, minimizing potential wetland impacts and opportunities for further colonization of invasive species. Areas targeted for land clearing and grubbing are provided in **Attachment B, Sheet 4**. A portion of the invasive species shall be treated with an approved herbicide (typically glyphosate) by targeted foliar spray and/or cut-and-dab techniques by a licensed herbicide applicator and in accordance with Massachusetts Department of Agricultural Resources (MDAR). The necessity of herbicide use will be limited to selected areas of the Site as many areas with invasives will be subject to grubbing and excavation for targeted soil removal. Any invasive plant material and/or soils containing invasive plant material or seed removed from the Site will be properly disposed of to a permitted receiving facility. Areas targeted for herbicide treatment are shown on **Attachment B, Sheet 4**.

2.5 Site Cleanup Activities

A MCP Phase IV Remedy Implementation Plan (RIP) is being developed to address the OHM at the Site. The primary OHM at the Site include PCBs, metals, PAHs, and, all of which are believed to be associated with historic operations, historic filling, and the demolition of buildings and support structures at the Site. The groundwater at the Site is not impacted above MCP Method 1 groundwater cleanup standards and does not require cleanup but may need to be managed as part of soil/sediment excavation/dredging activities. The selected remedial approach employed at this Site will be on-site containment, with off-site disposal for more contaminated soil or sediment.

The proposed PCB remedial action plan will require submittal to and approval by the Environmental Protection Agency (EPA) under the risk-based disposal option in accordance with 40 CFR § 761.61(c).

The concentrations of all constituents detected in sediment and surface soil samples are not expected to result in adverse impacts to wildlife that forage on vegetation or invertebrates within the estuarine Salt Marsh habitat.

Environmental oversight will be required on Site during remedial action activities to direct the excavation, segregation and stockpiling of soil/sediment, and perform soil screening and safety monitoring for the Site perimeter and on-site worker's zone.

2.5.1 Overview of Remedial Activities

Soil will be disposed of off-site or used on-site either beneath the exposure barrier or as part of the Site re-grading. Soil with PCB concentration greater than 150 milligrams per kilogram (mg/kg) will be removed for off-site disposal (**Attachment B, Sheet 5**).

Pending the results of waste characterization sampling and selection of the disposal facility(s), in-situ treatment may be employed prior to excavation to stabilize leachable metals (stabilization). If utilized, this treatment would be conducted on-site prior to transportation to the disposal facility.

2.5.2 Exposure Barrier

Installation of an exposure barrier is planned at the Site for soils with PCB concentration of < 150 mg/kg. The approximately 12,000 square-feet exposure barrier, in the central portion of the Site **(Attachment B, Sheets 4 and 9)**, will overlay contaminated soils/sediments from around the Site. The material which will remain beneath the exposure barrier will have PCB concentrations below 150 mg/kg and not exceed Method 3 Ceiling Limits for other contaminants. The exposure barrier will be composed of three layers installed on top of the consolidated soils/sediments:

1. a compacted 12-inch sublayer forming the base layer;
2. a geotextile fabric layer; and
3. a (minimum) 6-inch vegetated top layer, which will consist of a 6-inch geocell high density polyethylene (HDPE) material with a honeycomb structure.

Each cell of the honeycomb structure will be filled with loam and vegetated with the appropriate type of grass and/or upland species.

The selected remedial action includes excavation/dredging of approximately 1,250 cubic yards of soil and sediment and consolidation of approximately 112 cubic yards of soil beneath the exposure barrier.

2.5.3 Off-Site Reuse

Additional Site soils which are below the Method 3 Ceiling Limits and meet geotechnical requirements are to be utilized in the compacted base layer, the sloped edges of the exposure barrier, and for Site grading activities.

2.5.4 Water Management

Surface and groundwater will be removed during excavation/dredging dewatering from deeper excavations and the small surface pools (as needed), treated, and then discharged under a Dewatering and Remediation General Permit (DRGP) or containerized and disposed off-site. If utilized, the dewatering system will be monitored by a licensed operator and effluent water sampling conducted in accordance with the DRGP. Flow dissipation measures will be implemented, as needed, to mitigate erosion and affecting Site work from discharges of treated dewatering fluids. The proposed location of the dewatering equipment staging area is shown in **Attachment B, Sheet 4** and a typical flow dissipator is detailed in **Attachment B, Sheet 8**.

2.5.5 Activity Use Limitation

This remedial approach will achieve a condition of No Significant Risk for the Site but will not achieve or approach background conditions. Site closure will also require the implementation of an AUL that will restrict certain activities on the property (e.g., growing fruits and vegetables) as well as certain developments (e.g., single family residential/commercial/industrial). Residual impacted soil or sediment will remain at the Site following these active remedial efforts.

Once excavation/dredging activities are completed and confirmatory soil samples are collected, backfilling shall occur. Certified clean sand and gravel from off-site sources or Site soils suitable for backfill shall be used as the backfill materials (to be detailed in contractor specifications). The excavated areas shall be uniformly graded so the finished surfaces comply with the design surface elevations. The finished surfaces shall be graded to be reasonably smooth and free of irregular surface drainage. The final grading shall be performed in such manner as to provide proper drainage from the Site.

Construction within the jurisdictional resource areas should be constrained by benefits conferred versus adverse effects that would be imposed. The current design of the exposure barrier does not extend into the Bordering Vegetated Wetland (BVW) or Salt Marsh wetland complex and uses the following guidelines:

1. The proposed exposure barrier will be protective of human health and the environment by addressing direct exposure to impacted soils.
2. Incorporation of the geocell material in the cover layer will provide an additional barrier to unwanted intrusion to the impacted soils beneath the cap.
3. Installation of a vegetated HDPE geocell layer is expected to help stabilize the exposure barrier area against the erosive effects of predicted flooding and storm surges by structurally confining the topsoil and providing more stabilization over a non-reinforced vegetated soil layer.
4. The exposure barrier would continue allowing infiltration of stormwater similar to existing conditions which eliminates the need to construct drainage management structures.
5. Since the exposure barrier will remain a vegetative covered area, this approach will allow the natural water balance of the wetlands to be maintained.
6. The proposed exposure barrier has a lower profile than standard TSCA/MCP caps, which will result in a greater volume of on-site flood storage. This allows increased resilience in the face of storm surge, flooding, and tidal influence on the Site.
7. Maintaining an exposure barrier with a lower profile provides a closer match to the existing topography on Site.
8. The exposure barrier will result in less importation of soils to create a standard TSCA compliant cap.

The location and typical cross section of the exposure barrier are provided in **Attachment B, Sheets 4 and 7**, respectively.

2.6 Restoration

Wetland mitigation/restoration activities include:

- Removal/treatment of invasive vegetation by applying an herbicide treatment by a professionally licensed applicator to reduce invasive species (see **Table 3-1** below). This approach will be supplemented by hand pulling or mechanical removal where appropriate.
- Excavation to construct a channel to direct river water flow during certain tidal events into the wetland and open water pools.
- Excavation to lower areas around the open water pools to introduce and retain river water in the Salt Marsh.
- Native Salt Marsh plantings within defined zones (see Section 3.4.2 below) accompanied by erosion control blankets with native seeding in adjoining areas.

Attachment B, Sheet 4 of the Project Plans shows the areas for herbicide treatment and **Attachment B, Sheet 6** of the Project Plans shows the channel and areas to be lowered. An estimated 875 cubic yards of fill, likely from historic land development on Site, will be removed as part of wetland restoration.

Replanting within restoration areas is further described in Section 2.7.2.

Additionally, the rip-rap edge of the Weymouth Back River will be re-established as shown in the Landscaping and Wetland Restoration Plan (**Attachment B, Sheet 7**).

2.6.1 Invasives Species Management

During field work at the Site conducted on June 20, 2023, several invasive species were observed, summarized in **Table 2-1** below.

Table 2-1. Invasive Species on Site

Common Name	Scientific Name	Indicator Status – NCNE*
Common reed	*Phragmites australis*	FACW
Norway maple	*Acer platanoides*	UPL
Tree-of-heaven	*Ailanthus altissima*	UPL
Oriental bittersweet	*Celastrus orbiculatus*	FACU
Spotted knapweed	*Centaurea stoebe*	No status
Chicory	*Cichorium intybus*	FACU
Autumn olive	*Elaeagnus umbellata*	No status
Japanese knotweed	*Reynoutria japonica*	FACU
Buckthorn	*Rhamnus cathartica*	FAC
Black locust	*Robinia pseudoacacia*	FACU
Multiflora rose	*Rosa multiflora*	FACU

Table 2-1. Invasive Species on Site

Common Name	Scientific Name	Indicator Status – NCNE*
Black swallow-wort	*Vincetoxicum louiseae*	No status
* 2020 National Wetland Plant List – Northcentral and Northeast (NCNE) Region OBL – Obligate FACW – Facultative wetland FAC – Facultative FACU – Facultative upland UPL – Upland		

Existing vegetation shall be cleared and grubbed at the Site only where necessary for targeted remediation, wetland restoration, or invasive species removal. Larger trees shall only be removed where deemed necessary, minimizing potential wetland impacts and opportunities for further colonization of invasive species. Approximately no more than six trees will be removed as part of this Project. See **Attachment B, Sheet 4** for more information on land clearing and grubbing.

The management of invasive species (primarily herbicide treatments to control common reed *(Phragmites australis*) has been a common habitat restoration practice. Herbicide applications will be performed in conjunction with the wetland mitigation/restoration to allow natural plants to be established. Treatment will require an initial spraying of the foliage with herbicide and then follow-up treatments (likely cut-and-dab but additional spray treatments may be required depending on proliferation and resiliency of invasive species). Invasive treatments are proposed to take place within a single season, though the precise schedule of invasives control and native plantings will be informed by monitoring and the guidance of the Licensed Applicator and qualified wetland scientist consulting on the Project. Certain areas of the Site may be established with native vegetation before others with ongoing invasives treatments. The proposed channel and lowering for some areas of the Salt Marsh will direct salt water from the river into a greater portion of the Salt Marsh areas in and surrounding the ponded areas within the wetland complex. This may aid in curbing further proliferation of common reed and other invasives that are less tolerant of the resulting higher salt concentrations (see Section 2.7.2.1 below).

2.6.2 Wetland Restoration

As part of the Durante Site Remediation and Restoration Project, restoration will be needed for areas currently disturbed and proposed for disturbance as a result of the Project. Each wetland vegetative community within the jurisdictional resource area has specific requirements for successful restoration, as detailed below:

2.6.2.1 Salt Marsh

The majority of the restoration associated with this Project is within Salt Marsh, located northeast of the Site. Approximately 39,000 individual herbaceous planting plugs as well as 570 woody plantings are proposed for replanting in various zones within the Salt Marsh, totaling 39,640 square feet (approximately 0.91 acres) of restoration of the wetland resource. To maximize the potential for success of these plantings, installation will be overseen by a consulting qualified wetland scientist and timed to occur during the optimal spring planting window. Conditions at the

time of the Project and restoration execution may necessitate deviation from this schedule, with the consulting wetland scientist to provide guidance on optimizing restoration and planting success.

The Salt Marsh zones are identified as low Salt Marsh, high Salt Marsh, and higher high marsh. Low Salt Marsh is defined as the area between the open water and the Mean High Water Line. This area is entirely flooded twice daily. The high Salt Marsh is defined as the area between the Mean High Water Line and the High Tide Line and is flooded only twice a month during spring tide events. The higher high marsh is the area directly adjacent to the high Salt Marsh, representing the upper limit of Salt Marsh, with the upper limit generally coincident with the Spring Tide Line which is the Salt Marsh jurisdictional extent. Inundation tolerances for each of these zones, corresponding to specific elevations at the Site, overlap with one another. In this plan, the Project team has selected set elevations where these specific planting zones abut one another. The elevation of each zone is provided below in **Table 2-2** and in **Attachment B, Sheet 7**:

Table 2-2. Elevations of Salt Marsh Zones

Salt Marsh Zone	Elevation Range (feet)
Low Salt Marsh	3.04 – 4.53
High Salt Marsh	4.53 – 5.03
Higher high marsh	5.03 – 5.80

Please note that exact elevations may be subject to change, and the limit of each zone is subject to the discretion of the overseeing wetland scientists during restoration efforts. Conditions at the time of planting may necessitate deviation from these zone layouts and/or planting substitutions.

Before planting, invasive species located within the Salt Marsh shall be identified in the field. These invasive species shall be treated and eradicated to the greatest extent practicable via a combination effort of mechanical removal (e.g., minor excavation, hand-pulling, cutting) and chemical treatment (glyphosate or other similar herbicide) applied by a licensed herbicide applicator in accordance with the manufacturer's recommendation and MDAR regulations. Vegetative waste generated by these efforts will be properly disposed of as on-site reuse beneath the exposure barrier or off-site per local and state regulations. The licensed applicator may have specific recommendations for herbicide treatment in terms of herbicide selection, method of application (foliar spraying, cut and dab), and timing of treatment(s). In the interim period before waste is removed, a stockpile and containment area will be established onsite. This area will be enclosed by a silt fence barrier and covered by a tarp to prevent seed dispersal. See **Attachment B, Sheet 4** for the location of the stockpile and containment area.

The plantings and their locations within the Salt Marsh are detailed below. These plantings have been found to be successful in similar Salt Marsh restoration projects. Specific numbers of each planting will be decided based on field conditions and availability; however, a rough percentage is provided in **Table 2-3** below. Alterations to the species listed below may be required based on availability and site-specific conditions.

Table 2-3. Salt Marsh Plantings

Salt Marsh Zone	Species	Percentage of Plantings by Zone
Low Salt Marsh	Smooth cordgrass *(Spartina alterniflora*)	100%
High Salt Marsh	Salt grass *(Distichlis spicata*)	20%
	Saltmeadow cordgrass (*Spartina patens*)	60%
	Saltmeadow rush *(Juncus gerardii)*	20%
Higher high marsh	Seaside goldenrod (*Solidago sempirvirens)*	25%
	Switchgrass (*Panicum virgatum)*	70%
	High-tide bush (*Iva frutescens)*	5%
Note: All herbaceous plantings to be installed approximately 12-inch on-center. High-tide bush will be installed 7-feet on-center, rather than 12-inch on-center.		

These plantings will be installed approximately 12-inch on-center throughout the degraded areas of low and high Salt Marsh. In the higher high marsh, high-tide bush plantings will be planted approximately 7-inch on-center, interspersed with seaside goldenrod and switchgrass planted at approximately 12-inch on center. Prior to planting, degraded areas of Salt Marsh will be overlaid with biodegradable erosion control blankets held by wooden stakes or other suitable method of installation. In areas subject to significant tidal action or storm flowage, these stakes will be twined together for additional structural stability. These blankets will have holes punched through them for each individual planting. All planting material will be of native stock (non-cultivar). Plugs should have at least 4 inches of top growth and be kept moist to maintain viability for plantings. Higher high marsh woody plantings must be at least 36 inches in height. The Project team will consult with a nursery ahead of planting and may need to procure herbaceous plugs grown in similar salinity, soils, and/or inundation conditions for this restoration. Additional information on these plants may be found in **Attachment B, Sheets 8, 9 and 10**.

The stated goal of this restoration effort is Site remediation and providing an immediate net improvement of wetland resource areas, their functions, and wildlife habitat value. As such, the Applicant is not proposing multi-season restoration monitoring or reporting typically associated with wetland replications and restoration resulting from Project impacts to resource areas. Similarly, this Project should not be held to MassDEP wetland replication standards, such as planting survivorship thresholds and minimum invasive plant cover. Following the period of invasive species control, plantings, and wetland scientist oversight, there is no additional monitoring or reporting proposed. The components of the restoration approach ensure the resource area functionality will be improved over existing conditions.

2.6.2.2 Bordering Vegetated Wetland

Portions of the proposed Project will temporarily impact 388 square feet of BVW and will need to be restored. The BVW area is located landward of the High Tide Line (jurisdictional interpolated spring tide line) within the wetland delineated as W-KCF-1.

Field delineation efforts in August 2022 disclosed an absence of a tree stratum. However, a shrub sapling stratum composed of high-tide bush, multiflora rose, and eastern red cedar *(Juniperus viginiana*) was observed. Additionally, an herbaceous stratum composed of saltmeadow rush, seaside goldenrod, and young high-tide bush was observed.

In the interest of maintaining a cohesive vegetation structure and ease of interpretation of this restoration plan, these BVW areas have been merged and included within the higher high marsh zone described above.

2.6.2.3 Panne

A 0.1 acre "panne" area exists within the delineated wetland (see **Attachment B, Sheet 7**), the majority of which is below the spring tide line. This flat area floods regularly and has a minimal herbaceous cover, with historic gravel deposits. A simpler restoration approach is proposed for this area by the hand removal of the historic gravel deposits and allowing native vegetation to colonize the area over time.

2.6.2.4 100-foot Buffer Zone and Riverfront Area

Portions of this Project will also impact the 100-foot Buffer Zone, 200-foot Riverfront Area (RA), and Land Subject to Coastal Storm Flowage (LSCSF), regulated resources under the Massachusetts Wetlands Protection Act (WPA). Impacts from remediation work, as well as anticipated invasives removal, will necessitate restoration of these combined areas.

During field delineation efforts in August 2022, an evaluation of onsite vegetation was performed and is as follows. An absence of a tree stratum was observed onsite, however a shrub stratum composed of autumn olive *(Elaeagnus umbellata*)*,* eastern red cedar*,* and multiflora rose was observed. Additionally, an herbaceous stratum of panicled-leaf ticktrefoil *(Desmodium paniculatum*)*,* brown knapweed *(Centaurea jacea*)*,* wrinkle-leaf goldenrod *(Solidago rugosa*)*,* and wild carrot (*Daucus carota*) was observed.

In the interest of maintaining a cohesive vegetation structure, disturbed areas within the 100-foot Buffer Zone and RA may be replanted with an appropriate seed mix suitable for uplands adjacent to wetland. We propose the application of New England Wetland Plants' *Conservation and Wildlife Seed Mix* to ensure stabilization of areas adjacent to the Salt Marsh resource and prevent erosion and sedimentation of these wetlands. This mix shall be applied at or above the recommended application rate. Inert straw mulch or other suitable material can be applied to aid in stabilization.

Prior to planting, invasive species located within the 100-foot Buffer Zone and RA shall be identified in the field. These invasive species shall be treated and eradicated to the maximum extent practicable via a combination of mechanical removal (e.g., minor excavation, hand-pulling, cutting), and chemical treatment (glyphosate or other similar substitute) applied by a licensed herbicide applicator in accordance with the manufacturer's recommendation. Vegetative waste generated by these efforts will be properly disposed of off-site in accordance with state and local guidelines and best practices.

Similar to the Salt Marsh restoration outlined above, the Buffer Zone/RA/LSCSF restoration is not proposed to be held to the same success standards as typical projects within these

jurisdictional areas. Since the voluntary restoration actions proposed herein would provide a net improvement in the functions and resource values of these areas, additional seasons of monitoring are not proposed. Similarly, following the application of seed mix, the main priority will be Site stabilization. Additional monitoring of invasive species is not proposed once Site stabilization is achieved.

Based on Site conditions and similar successes in other salt marsh restoration projects throughout Massachusetts, implementation of the proposed restoration provides the most practical approach while ensuring a net resource area benefit, ensuring success at the Durante Site.

2.7 Dredging

The Regulations at 314 CMR 9.02 define dredging as "the removal of repositioning of sediment or other material from below the Mean High Tide (MHT) line for Coastal Waters...Dredging shall not include activities in Bordering or Isolated Vegetated Wetlands or Salt Marsh." This Project does not include dredging below the MHT in resource areas other than Salt Marsh and therefore does not trigger a 401 WQC for dredging.

The Regulations at 310 CMR 9.02 define dredging as "the removal of materials including, but not limited to, rocks, bottom sediments, debris, sand, refuse, plant or animal matter, in any excavating, cleaning, deepening, widening or lengthening, either permanently or temporarily, of any flowed tidelands, rivers, streams, ponds, or other waters of the Commonwealth." The Site is considered "flowed tidelands", and therefore the Project will include dredging per Chapter 91 regulations below the High Water Mark. More information on the dredging per Chapter 91 is provided below.

Dredging activities will be required as part of the proposed Project to complete the hazardous materials excavation, channel excavation, and restoration. Contractors will utilize mechanical equipment to complete all dredging activities. Handling of the dredged material will follow the steps listed in the MCP Phase IV RIP. No previous dredging activities licensed under Chapter 91 appear to have been completed at the Site. Dredging impacts can be found in **Table 1** and additional details can be found within **Attachment B.**

Dredging required for the hazardous materials excavation will occur in the first 3 feet of sediment encountered. Additionally, the dredging is required for channel construction, low marsh restoration, and high marsh restoration to a depth of approximately 3 feet. The total volume of dredging required for the Project is 203 CY, and the total area of dredging required is 5,256 SF.

A breakdown of the dredging impacts is described in **Table 2-4**, and in **Attachment B**.

Table 2-4. Dredging Summary

DREDGING ACTIVITY	Approx. Dredge Area (SF)	Approx. Dredge Volume (CY)
Channel Dredging	356	12
North Side Dredging	3,944	145
West Side Dredging	956	46

2.8 Project Construction Timeline, Sequence, and Cost

This construction timeline is intended as a general timeline but will serve as a sequence of events.

1. Clearing and grubbing; installation of erosion control measures and other Best Management Practices (BMPs);
2. Excavation, handling, hauling, and off-site transportation and disposal of contaminated material. Such activities will involve the handling, treatment and discharge of groundwater/surface water.
3. Handling, transportation and management of residually contaminated soils for on-site reuse, in conjunction with imported clean material for the backfill of remedial excavations.
4. Creation of the proposed channel and establishment of final restoration grades contemporaneous with backfill activity above. Installation of additional erosion and stabilization measures will occur concurrently with these final grading and restoration measures.
5. Construction of a 12,000 square foot soil cover in conjunction with remediation activities.
6. Wetland restoration, including invasive species management through cutting and herbicide application; broadcasting of native seed mix(es) upgradient of Salt Marsh restoration; installation of native plantings within Salt Marsh planting zones; installation of erosion control blankets.
7. Soil and vegetation stabilization.
8. Conservation Commission consultation on progress and eventual Certificate of Compliance following work completion and stabilization.
9. MBTA to hand the Site over to the Town of Weymouth.

The Project cost is estimated at approximately $1.3 million for the remediation and restoration efforts. Currently, construction is anticipated to start the summer/fall of 2026. Throughout the duration of the Project, an environmental monitor will be present as needed to assess contaminated soils and invasive species management, as well as maintaining erosion control barriers and ensuring Site stability and safety. The Project is anticipated to take approximately 1 year to complete.

2.9 Best Management Practices

Erosion control barriers, including a double silt fence along the edge of the Weymouth Back River, will be placed strategically to prevent erosion from the Project into jurisdictional resource areas (**Attachment B, Sheet 4**). As appropriate, additional erosion control barriers will be placed to prevent sediment-laden runoff from entering and contaminating resource areas. The type and location of these additional barriers shall be determined on-site. Erosion control measures shall be monitored weekly and after storm events, and damages shall be fixed/replaced.

Additional BMPs include:

- If necessary, a dewatering treatment system will be designed and operated by the contractor in accordance with Project specifications and the DRGP. The dewatering treatment staging area location is shown on **Attachment B, Sheet 4** and the detail is provided in **Attachment B, Sheet 8**.
- No vehicles shall be washed, refueled or otherwise maintained or stored within resource areas or their associated buffer zones. In the unlikely event that vehicles and machinery need to be stored within a buffer zone overnight, secondary containment shall be implemented to avoid leakage or spillage of contaminants into resource areas. The fueling/equipment staging area is called out on **Attachment B, Sheet 4**.
- A decontamination pad or "tracking pad" will be constructed at the entrance of the Site to ensure that machinery is cleaned and not tracking debris or sediment off-site during construction. The decontamination pad is called out on **Attachment B, Sheet 4**.
- Prior to wetland restoration work, all vehicles and tools will be washed and inspected to remove all vegetation debris that may contain invasive species fragments. This washing will occur in upland areas outside of buffer zones.
- Any soil or sediment piles not actively being worked shall be outfitted with erosion controls to prevent erosion into resource areas (**Attachment B, Sheets 4 & 8**).
- Soil or vegetative material being removed from the Site that may contain invasive plant material will be properly disposed of.

2.10 Site Stabilization and Restoration

Following the completion of construction, areas within the wetland complex, adjacent RA and upland that have been disturbed will be stabilized in accordance with the Landscaping and Restoration Plan (Section 2.7 and **Attachment B, Sheet 7**). In addition, these areas will be planted and/or seeded with additional mechanical stabilization in the form of jute netting and/or tackifier. The area will be continually monitored for resurgence of invasive species, which will be managed according to Section 2.7. Additional interim stabilization measures may be considered as needed.

Within the Salt Marsh itself, a biodegradable erosion control blanket will be installed (**Attachment B, Sheet 10**). Holes will be punched through the blanket, spaced approximately 12 to 18-inches apart, through which plugs of various native Salt Marsh vegetation will be planted (*Spartina alternifolia, Spartina patens, Juncus gerardii, Distichlis spicata*, etc.). See **Attachment B, Sheet 7** for more detail.

All erosion controls and related BMPs will remain in place until a Certificate of Compliance has been issued by the Weymouth Conservation Commission.

3.0 Alternatives analysis

The purpose of the Project is to conduct remediation at 0 Wharf Street. The proposed Project is needed since the pre-existing land uses on Site have led to impacted wetland functions and concentrations of various contaminants on Site. The remediation efforts will reduce risk exposure at the Site from the identified OHM. An alternatives analysis was conducted to identify the remedial technologies which are reasonably likely to be feasible, based on the OHM present, media impact, and Site characteristics. Remedial technologies were considered reasonably likely to be feasible if:

- The technologies to be employed by the alternative are reasonably likely to achieve a Permanent or Temporary Solution; and
- Individuals with the expertise needed to effectively implement available solutions would be available, regardless of arrangements for securing their services.

Technologies were identified that had the potential to eliminate direct contact with the impacted soil at the Site and/or to treat or remove impacted soil to levels that achieve or approach background conditions, to the extent feasible. Practicable classes of potentially applicable technologies were evaluated for their ability to achieve these objectives (outlined below).

3.1 Alternative 1 – No Action

The no action alternative assumes no additional efforts are made to eliminate exposures to OHM in surface and subsurface soil at the Site. This alternative will not achieve a Permanent Solution or a Temporary Solution at the Site; however, it has been retained for further detailed evaluation to establish a baseline for remedial actions. Under this scenario, no wetland restoration or invasives control occurs and wetland functions and values are not improved.

3.2 Alternative 2 – Use Restrictions

Institutional controls can establish restrictions on-site uses that would otherwise result in exposures to the impacted soils that remain. This would require the filing of a deed restriction in the form of an AUL, as outlined in 310 CMR 40.1070. An AUL may also be used in conjunction with other alternatives to achieve a condition of No Significant Risk of harm to human health by limiting the future use of the Site. Institutional controls are commonly used to maintain a condition of No Significant Risk at sites by limiting the current and future activities and uses, but the appropriate implementation of an AUL is highly dependent on the anticipated future use of the Site. An institutional control in the form of an AUL would not be appropriate if the remediation objective were to achieve unrestricted future use of the Site. The anticipated future use of this Site involves passive recreation (wildlife viewing).

Please note that the anticipated future activities planned for the Site are not developed and are not part of the proposed Project because they are being carried out by different entities. The MBTA has agreed to hand over the property to the Town of Weymouth for future use. Based on correspondence with the Town of Weymouth, they plan on incorporating the property into the Back River Trail and using it for passive recreation. In addition, the Town of Weymouth does not

have the funding, nor the design developed for any future build-out and therefore it is not considered part of this Project.

To maintain a condition of No Significant Risk, certain uses that may be associated with significant risk would be restricted by the AUL. Institutional controls have been retained for consideration in the development of a comprehensive remedial scenario at the Site, to be used in conjunction with other, more active methods of remediation.

This scenario could be completed with or without wetland restoration activities. Without the wetland restoration (inclusive of improved tidal influence, invasives control, and native plantings), the wetland functions and values are not improved. Without addressing soil contamination in this scenario, these proposed restoration activities could be hampered by exposure concerns (e.g. channel excavation).

3.3 Alternative 3 – In-situ Treatment

In-situ treatment is an option that involves “in-place” treatment of the soils by physical, biological, or chemical processes. The purpose of in-situ treatment in this context would be to transfer OHM to another media or transform/destroy OHM to less toxic compounds, without the need to excavate the soil first. The particular technological process which is selected is usually dictated by the targeted OHM (e.g., metals or petroleum).

In-situ vitrification was eliminated due to the few commercial applications, as well as the resultant on-site solidified matrix, which would likely be incompatible with any future development of the Site. In addition, solidification is not a disposal method currently approved under TSCA and would not meet future occupancy requirements.

In-situ soil washing was also rejected due to technical limitations. TSCA regulations (40 CFR 761.61(a)(5)(i)(A)(5)) require secondary containment for soil washing, which would be infeasible to install beneath existing soil containing PCBs, given the depth of impacted soils and the proximity of the Site to open water.

Due to the lack of any single, available, and practical technology that could potentially treat all co-located, targeted OHM on-site while meeting all applicable regulations, in-situ treatment of soil was not retained for further evaluation.

This scenario could be completed with or without wetland restoration activities. Without the wetland restoration (inclusive of improved tidal influence, invasives control, and native plantings), the wetland functions and values are not improved. Without addressing soil contamination in this scenario, these proposed restoration activities could be hampered by exposure concerns (e.g. channel excavation).

3.4 Alternative 4 – Containment

Capping or an exposure barrier is a containment option that involves covering impacted soil in place to prevent direct contact, and erosion at the soil surface. This remedy is useful for the contaminants at the Site (metals, PCBs, and PAHs) and going to be used to isolate some of the contaminated soils as described above. This technology has been retained for evaluation and

included below in the preferred comprehensive remedial alternative, with proposed activities inclusive of the preferred wetland restoration approach.

3.5 Alternative 5 – Removal and Off-Site Transportation/Disposal

Physical removal addresses risk-driving compounds in soil by physically removing OHM from the Site. After the impacted soil is removed from the Site, it could be transported to a facility for treatment, disposal, incineration, recycling, and/or reuse. Typical heavy equipment used for excavation includes scrapers, dozers, backhoes, dragline units, loaders, graders, vactors, and compactors, all of which are reasonably available. Scrapers are typically used to excavate surface soils. Backhoes or draglines are typically used for trenching and deeper excavations.

Excavation and off-site disposal of impacted soil is a proven and commonly used method that addresses all OHM present. Soil production rates vary from 50 to 220 cubic yards per hour depending on bucket size and soil type. This technology could also be performed concurrently with the Salt Marsh creation, as excavation would be necessary for construction.

To meet requirements of some disposal facilities, pretreatment of the soil may be required. For PCB Remediation Waste soil, the accepting disposal facility must be permitted to receive soil of specified PCB concentrations (e.g., a state permitted facility for concentrations less than 50 mg/kg, or a TSCA / Resource Conservation and Recovery Act [RCRA] facility for concentrations equal to or greater than 50 mg/kg).

Impacted soil could be excavated by readily available excavation equipment. Excavation and off-site disposal of impacted soil would achieve the Remedial Action Objectives, and is likely the most advantageous scenario considering potential Site redevelopment plans. This technology has been retained for evaluation and is included below in the preferred comprehensive remedial alternative, with proposed activities inclusive of the preferred wetland restoration approach.

3.6 Preferred Alternative

The preferred alternative includes the removal and off-site transport/disposal of contaminated soil, the implementation of a use restriction, and salt marsh restoration. By nature of the construction, large volumes of soil will be excavated regardless of the remedy chosen. Therefore, the primary remedial technology that will be employed is removal and off-site transportation/ disposal. The method of disposal (i.e., landfilling, incineration, etc.) will be determined based on future soil characterization sampling, facility acceptance requirements, and facility costs, which can fluctuate over time.

Pending the results of soil characterization sampling and selection of the soil disposal facility or facilities, in-situ treatment may be employed to stabilize leachable metals (stabilization). If utilized, these treatments would likely be conducted on-site prior to transportation to the disposal facility.

Residual impacted soils could remain at the Site following these active remedial efforts. Therefore, use restrictions may be necessary to limit the intensity and duration of exposures. Implementation of an AUL is consistent with the anticipated future use of the Site by the Town of Weymouth as an open space area for passive recreation (wildlife viewing). The AUL would limit or restrict

activities in the future such as excavation, or use of the Site as a ball field, vegetable garden, residence, or commercial/industrial property.

Additionally, the restoration will include construction of a proposed Salt Marsh with tidal flow channels and pools, native Salt Marsh plantings within defined zones, as well as invasive species management. By removing and treating the invasives and re-establishing the wetland resources on-site, the Site will be able to provide numerous benefits to the public. In addition, the proposed Project will increase resiliency to climate change by constructing a channel to connect the Weymouth Back River to the open water pools on-site. This will account for additional flooding events due to sea level rise that may occur in the future and increase the capacity of the Site to introduce and retain more river water within the Salt Marsh.

The above approach, which fully addresses a range of soil contamination strategies, provides the first critical phase of the preferred Site restoration approach. Following soil remediation, a comprehensive wetland restoration will take place. This preferred approach provides the greatest benefit to resources protected by the WPA as well as addresses the soil contamination response mandated under the MCP and TSCA.

4.0 Land Use

4.1 Existing Conditions

4.1.1 Areas of Critical Environmental Concern

The northern and western portions of the Site fall within the Weymouth Back River ACEC which is located primarily to the north of the Site. The Weymouth Back River ACEC encompasses approximately 950 acres in Weymouth and Hingham and includes habitat for, among other important resources, productive clam flats and annual passage for thousands of alewife (*Alosa pseudoharengus*). The extent of ACEC on Site is depicted in **Attachment A, Figure 2.**

4.2 Impacts to Land

4.2.1 Areas of Critical Environmental Concern

There will be approximately 79,156 square feet of temporary and permanent impacts within the Weymouth Back River ACEC as a result of this Project (see **Table 4-1** below). The proposed Project results in permanent impacts in areas where proposed grades differ from existing conditions in furtherance for restoration objectives and for the exposure barrier. Temporary impacts to ACEC are resulting from erosion controls, soil stockpile areas, staging areas, updates to existing gravel roads (i.e., filling in potholes, adding some additional gravel, leveling out), remediation excavation wherein original grades will be reestablished and restored, and herbicide treatments.

Table 4-1: Total ACEC Impacts

ACEC Land	Permanent Impact (square feet)	Temporary Impact (square feet)
Weymouth Back River	34,011	45,144

4.2.2 Vegetation Removal

As mentioned, existing vegetation shall be cleared and grubbed at the Site only where necessary for targeted remediation, wetland restoration, or invasive species removal. Non-invasive, larger trees shall only be removed where deemed necessary, minimizing potential wetland impacts and opportunities for further colonization of invasive species. Larger trees shall only be removed where deemed necessary, minimizing potential wetland impacts and opportunities for further colonization of invasive species. Approximately no more than six trees will be removed as part of this Project. Areas targeted for land clearing and grubbing are provided in **Attachment B, Sheet 4**.

4.3 Mitigation for Land Alteration

Impacts to ACEC will be restored one to one. As described above, disturbed areas within ACEC may be replanted with an appropriate seed mix suitable for uplands adjacent to wetlands in the

interest of maintaining a cohesive vegetation structure. This EIR proposes the application of New England Wetland Plants' *Conservation and Wildlife Seed Mix* to ensure stabilization of areas adjacent to the Salt Marsh resource and prevent erosion and sedimentation of these wetlands. This mix shall be applied at or above the recommended application rate. Inert straw mulch or other suitable material can be applied to aid in stabilization. In addition, these areas will be planted and/or seeded with additional mechanical stabilization in the form of jute netting and/or tackifier.

5.0 Wetlands and Waterways

5.1 Existing Conditions

The Site includes a tidal estuarine wetland system associated with the Weymouth Back River **(Attachment A, Figure 3**). The Back River is tidal and flows northeast along the northern and western edges of the Site. On the Site, water generally drains west and north toward the Weymouth Back River, before flowing north to the Weymouth Back River, Hingham Bay, and Atlantic Ocean.

Federal Emergency Management Agency (FEMA) uses a variety of designations, each with their own specific labels for Special Flood Hazard Areas (SFHAs) and moderate flood hazard areas, of which three were identified within the Site and include Regulatory Floodway, Zone AE, and Zone X. According to the FEMA Flood Insurance Rate Map (FIRM) 25021C0231F (effective date July 8, 2025), a Regulatory Floodway and Zone AE, with a base flood elevation of 11.2 feet, occurs throughout the western and northern portion of the Site.

Several "ponded areas" were observed within the Salt Marsh and were delineated on-site. These ponded areas are not considered BVW or Land Under Waterbodies and Waterways (LUW) per the definitions provided in 310 CMR 10.00 *et. seq.*, and are shown on the Project Plans in **Attachment B.** This determination was corroborated by MassDEP staff who were present on a November 1, 2024, Site visit.

A Photographic Log is provided in **Attachment C.**

5.1.1 Wetland and Stream Delineation Methodology

TRC wetland scientists originally conducted wetland, waterbody, and vernal pool surveys during the 2022 field season. A detailed description of the wetland delineation methods used during the field surveys are described in the Wetland Delineation Report provided in **Attachment I**.

The wetland delineation was conducted by qualified wetland scientists in accordance with the methodology described in the USACE *Wetlands Delineation Manual* (United States Army Corps of Engineers [USACE], 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*. The federal methods utilized during the delineation are consistent with relevant state guidance, which includes the *MassDEP Wetlands Program Policy 95-1: Bordering Vegetated Wetland Delineation Criteria and Methodology* (Massachusetts Department of Environmental Protection [MassDEP], 1995), and MassDEP's *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act* manual, and MassDEP's coastal delineation guidance, including the *Coastal Delineation Checklist* and *Applying the Massachusetts Coastal Regulations: A Practical Manual for Conservation Commissions* […] (2017).

Wetlands are defined by the USACE (USACE, 1987) as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and bottomlands. Wetland cover types

(palustrine emergent wetlands [PEM], palustrine forested wetlands [PFO] and palustrine scrub shrub wetlands [PSS]) were assigned to each delineated wetland according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

Waterbodies were identified in the field by physical indicators of flow that include the presence and characteristics of an Ordinary High-Water Mark (OHWM) with a channel defined by a bed and banks. Waterbodies identified in the Project area were classified as perennial, intermittent, or ephemeral streams.

Additionally, the Salt Marsh boundaries were delineated in accordance with the definition provided in 310 CMR 10.32, as USACE does not provide a federal method of delineation for these wetlands.

TRC wetland scientists conducted bio-benchmark surveys and tidal monitoring during the 2022 field season. To determine the existing elevation range for the tidal wetland plant community adjacent to the Weymouth Back River, a series of 11 Transects were established perpendicular to the shoreline east of the Site at Reference Site 1 (see **Attachment J**). Along most transects which extended from the top-of-bank to the wetland/upland interface, a range of elevations within distinct plant communities (low marsh, high marsh, high-tide bush (*Iva frutescens*), and common reed (*Phragmites australis*) including the break between low and high marsh was surveyed. This effort resulted in 135 distinct survey elevations within the plant communities in Reference Site 1. A total of four plant communities were identified which include: saltmarsh cordgrass (*Spartina alterniflora*), salt-meadow cordgrass (*Spartina patens*), high-tide bush, and common reed.

Three Solinst M5-series pressure transducer type water depth instruments were deployed for the Project. Logger #1 was installed roughly 16 miles down the westernmost dock of the Hingham Shipyard Marinas in the Weymouth Black River. Logger #2 was installed roughly 500 feet downstream of the Lincoln Street Bridge (Route 3A) on the eastern bank of the Weymouth Back River. Logger #3 was deployed roughly 10,000 feet downstream of Logger 2 in the Weymouth Back River. A fourth barometric pressure logging instrument required for data correction for changes in atmospheric pressure was installed in the upland area of the Durante Site adjacent to the wetland flag WF 1-33 (see **Attachment J**).

5.1.2 Wetland Delineation Results

Multiple resource areas, as defined in the WPA and described in the following sections, exist at the Site. TRC delineated the resources at the Site in August 2022 and refreshed in August 2024 in accordance with criteria set forth in the 1987 Manual (Environmental Laboratory, 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual; Northcentral and Northeast Region* ("the Supplement") (United States Army Corps of Engineers [USACE], 2012), and the *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act – A Handbook* (MassDEP, 1995) (the MassDEP Handbook).

Several areas subject to protection under the WPA are located both within and beyond the Site Boundary including the Weymouth Back River with associated LUW, BVW, Salt Marsh and Coastal Bank, its associated 200-foot RA and 100-foot Buffer Zone, and LSCSF (**Attachment A, Figure 3**). BVW is also located on-site, characterized as an emergent estuarine Salt Marsh

located to the north of the Site, extending eastwards off-site. See **Attachment A, Figure 3** for a Resources Map. Refer to Section 5.2 herein for further details about impacts to each resource area associated with the proposed Project.

5.1.2.1 Upland Areas

The upland areas within the Site consist mostly of highly disturbed, relatively flat open space. The dominant vegetation in the uplands consists of autumn olive (*Elaeagnus umbellate*), eastern red cedar (*Juniperus virginiana*), panicled-leaf tick-trefoil (*Desmodium paniculatum*), brown-ray knapweed (*Centaurea jacea*), wrinkle-leaf goldenrod (*Solidago rugosa*), and Queen Anne's-lace (*Daucus carota*). The terrain within upland areas of the Site is generally sloping to the towards the west, north, and east of the Site towards Weymouth Back River. There are also several steep piles of dirt and debris that have been overgrown in the center of the Site. The soils observed throughout upland portions of the Site were generally classified as loamy sand and sand.

5.1.2.2 Delineated Salt Marsh / Wetland

An emergent estuarine Salt Marsh wetland associated with the Weymouth Back River, an estuarine subtidal river. The wetland is located within the northern portion of the Site and extends off-site to the east. Dominant vegetation within this wetland included saltmarsh rush (*Juncus gerardii*), high-tide bush (*Iva frutescens*), and poison ivy (*Toxicodendron radicans*). Indicators of wetland hydrology included water marks, inundation visible on aerial imagery, and saturation visible on aerial imagery. Soils were composed of loamy sand; however, due to historical land use the soils on the Site have been significantly disturbed. BVW was differentiated from Salt Marsh within the delineated wetland based on the elevation of the High Tide Line (jurisdictional interpolated spring tide line) per 310 CMR 10.32(2).

5.1.2.3 Delineated Streams

The Weymouth Back River is tidal and flows northeast along the northern and western edges of the Site. The river has an average width ranging from approximately 60 feet to 100 feet, a water depth ranging from approximately six inches to 15 feet due to the tidal flow in the area, and bank heights of approximately 15 feet. The bank of the Weymouth Back River forms the eastern, northern, and a portion of the western boundary of the Site. On the Site, water generally drains west and north toward the Weymouth Back River, before flowing north to the Weymouth Back River, Hingham Bay, and Atlantic Ocean. The riverbed consists of cobble/gravel, sand, and organic substrate.

5.2 Wetlands and Waterways Impacts

The plans provided in **Attachment B** show the extent of the areas to be impacted by the Project.

5.2.1 Permanent Impacts

The Project will result in permanent impacts to Coastal Bank, Salt Marsh, LSCSF, 200-foot RA, and the 100-foot Buffer Zone. There will be no permanent impacts to LUW or BVW. Permanent

impacts include areas where proposed grades differ from existing conditions in furtherance for restoration objectives and for the exposure barrier.

Table 5-1 below shows the permanent wetland and waterbody impacts.

Table 5-1: Permanent Wetland and Waterbody Impacts

Resource Area	Permanent Impact
Coastal Bank (linear feet)	26
Land Under Water (LUW) (square feet)	0
Salt Marsh (square feet)	19,169
Bordering Vegetated Wetland (BVW) (square feet)	0
Land Subject to Coastal Storm Flowage (LSCSF) (square feet)	35,570
200-ft Riverfront Area (square feet)	35,565
100-foot Buffer (square feet)	33,587

5.2.2 Temporary Impacts

The Project will result in temporary impacts to Coastal Bank, Salt Marsh, BVW, LSCSF, 200-foot Riverfront Area, and the 100-foot Buffer Zone. There will be no temporary impacts to LUW. These temporary impacts are the result of the following activities:

- Remediation excavation wherein original grades will be reestablished and restored.
- Updates to existing gravel roads (i.e., filling in potholes, adding some additional gravel, leveling out), and
- Herbicide treatments

Table 5-2 below shows the temporary wetland and waterbody impacts.

Table 5-2: Temporary Wetland and Waterbody Impacts

Resource Area	Temporary Impact
Coastal Bank (linear feet)	172
LUW (square feet)	0
Salt Marsh (square feet)	20,664
BVW (square feet)	388
LSCSF (square feet)	53,275
200-ft Riverfront Area (square feet)	38,624

100-foot Buffer (square feet)	39,611

5.2.3 Outstanding Resource Waters

The Site is partially within an Outstanding Resource Water (ORW) for the Weymouth Back River ACEC. The ORW includes the Weymouth Back River and its banks along the north and west borders of the Site as well as a portion of the peninsula in the northwestern corner and the inlet bordering the east of the Site.

Table 5-3 below shows the temporary and permanent impacts to ORW.

Table 5-3: Total ORW Impacts

ACEC Land	Permanent Impact (square feet)	Temporary Impact (square feet)
Weymouth Back River	1,430	6,033

5.2.4 Chapter 91

There are two historic Chapter 91 licenses at the Site that were identified as D.E.Q.E. License Plan Numbers 1849 and 890. License Plan Number 1849 (Book: 3791, Page: 498) was issued on January 11, 1960, and recorded on January 18, 1960, for the maintenance of existing fill, building, and concrete retaining wall. License Plan Number 2654 (Book: 2487, Page: 351) was issued on April 25, 1944, and recorded on May 19, 1944, for the construction and maintenance of a bridge over and across the Weymouth Back River.

MBTA has been in coordination with MassDEP Waterways Staff regarding the Project and plans to file a Chapter 91 License Application for the Project.

5.2.5 Wildlife Habitat Evaluations

Pursuant to 310 CMR 10.58(4)(a)(5), TRC completed a wildlife habitat evaluation, as the proposed work associated with this Project impacts greater than 50 linear feet of Bank. Further details and photographs are provided in **Attachment J.**

Coastal Bank

Wildlife habitat exists along the Bank of the Weymouth Back River. No vertical sand banks suitable for bank swallows, rough-winged swallows or kingfishers have been observed along the Bank of the Weymouth Back River. Impacts to Coastal Bank are limited to channel excavation and re-grading for restoration efforts, as well as minor excavation for soil remediation. As the purpose of the Bank impacts is to restore the BVW and Salt Marsh, connecting it to the Weymouth Back River, the Project's proposed temporary impacts to Bank will have no adverse effect to wildlife and wildlife habitat.

Riverfront Area

Wildlife habitat exists within RA of the Weymouth Back River. Sandy loamy soils suitable for nesting turtles occur in the RA. Impacts to the RA at the Site include clearing and grubbing for grade changes and excavation for the channel. No bird nesting trees have been observed on-site. Rather, nests have been observed on manmade structures. Tree cover is limited at the Site, and few, if any, trees are proposed for removal. The entire RA is proposed for restoration with vegetation and will be suitably graded for maximum practical compliance with the WPA performance standards. Therefore, the Project's proposed impacts to RA will have minimal adverse effects to wildlife and wildlife habitat.

Bordering Vegetated Wetland

Wildlife habitat exists within BVW at the Site. Temporary impacts to BVW are associated with herbicide application to manage invasive species, as well as the soil remediation activities. These measures and the designed restoration will allow for native species to revegetate the Site. Therefore, the Project's proposed temporary impacts to BVW's will have no adverse effect to wildlife and wildlife habitat.

Land Under Water Bodies and Waterways

Wildlife habitat exists in LUW associated with the Weymouth Back River. Gravel stream beds for fish nesting and open water habitats in winter for waterfowl were observed at the Site. However, no impacts are proposed to LUW for this Project.

5.3 Mitigation Measures for Wetlands and Waterways

While temporary and permanent impacts are proposed to jurisdictional wetlands and waterways, the end-result of the proposed Project will enhance the wetland/ Salt Marsh complex through the restoration and remediation efforts. The following erosion and sedimentation controls are proposed to minimize impacts during construction and are shown in **Attachment B, Sheets 4 and 8**. The sedimentation and erosion controls shall be installed prior to commencement of remedial activities, and shall be maintained and repaired, as needed, for the duration of the Project. Erosion controls will be inspected daily to maintain compliance and to avoid siltation of surface water and groundwater. Erosion and sediment controls utilized for this Project are listed below.

- A double silt fence will be installed along the edge of the Weymouth Back River to prevent construction debris and soil from the excavation work from migrating into the resource area (**Attachment B, Sheet 4**).
- Staked haybales and silt fencing will be placed along portions of the limit of disturbance. Haybales and silt fencing are to be staked which will help support both during tidal events **(Attachment B, Sheet 8)**. The Contractor will replace erosion controls during more intense storm/tidal/flooding events, if needed.
- The temporary on-site soil/sediment stockpiles shall include perimeter silt fence and covers and liners (**Attachment B, Sheet 8**). Stockpiles shall either be placed in water-

tight containers or placed on an impervious surface. Soil stockpile locations are identified on **Attachment B, Sheet 4.**

- A stabilized construction entrance or “decontamination pad” will be established and maintained to prevent tracking or flowing of sediment onto public roadways (**Attachment B, Sheet 8**).
- If necessary, a dewatering treatment and management system will be designed and operated by the Contractor to manage surface and groundwater during remedial activities. Management of dewatering fluids will be conducted in accordance with the DRGP.
- Material, equipment and fueling areas will be placed/conducted outside the limits of the resource areas and away from any drainage. Locations of material staging and fueling areas are located on **Attachment B, Sheet 4**.

After the invasive species management and prior to restoration activities, the Contractor will add additional erosion controls to protect the new plantings before establishment, as needed, including erosion control blankets specified in the Project Plans (**Attachment B, Sheet 10**). At the completion of remedial activities and upon approval of the Conservation Commission, all sedimentation and erosion control measures shall be removed.

Additional details on restoration and BMPs associated with the Project are provided in Section 2.9 and 2.10 above.

6.0 Construction Period and Hazardous Waste

6.1 Oil and Hazardous Material Management

Soil and sediment shall be properly managed from the point of excavation/dredging through disposal or reuse. To optimize disposal/reuse considerations, excavated materials shall be segregated based on currently available in situ data for the material. Segregated material shall be stored on-site (i.e., within the area of contamination) in either lined and covered stockpiles or in covered roll-off containers. Where necessary, soil and sediment shall be transported for off-site disposal under a hazardous waste manifest or an MCP Bill of Lading.

Soil and sediment shall be stockpiled pending waste disposal characterization required by the disposal facility or may be directly loaded onto trucks for transportation to the disposal facility if adequate waste characterization has been performed. When temporary storage of the excavated material is required, the material shall be stockpiled on two layers of minimum 10 mil polyethylene plastic sheeting and sampled for characterization parameters. A row of hay bales shall be placed around the stockpile and the bottom layers of minimum 10 mil plastic sheeting shall be draped over the hay bales to create a berm to contain the soil. The stockpile shall be covered with minimum 10 mil polyethylene sheeting that shall be held in place using hay bales, sandbags, or similar weighted objects.

In the event of extreme weather conditions, additional actions shall be taken to ensure appropriate containment of stockpiled excavated material. Surface water runoff shall be directed away from stockpiles to prevent erosion and deterioration of materials. The stockpiles shall not exceed 35 feet in height with maximum side slopes of 2:1 (horizontal to vertical).

Segregated stockpiles/roll-offs shall then be sampled for disposal characterization analysis, which shall determine the need for stabilization to address metals, PAHs or VOCs exceeding Toxicity Characteristic Leaching Procedure (TCLP) criteria prior to disposal.

6.1.1 Spill Prevention and Control

Prior to the commencement of activities that disturb soil, stormwater erosion and sediment controls will be installed to prevent the discharge to surrounding areas. To the extent practical, stormwater will also be diverted around excavations to avoid contact with exposed soil. Soil and sediment stored in stockpiles or roll-off containers will be securely covered to prevent precipitation contact with the impacted soil.

Hazardous materials brought on-site by contractors during remedy implementation may include oils, hydraulic fluids, lubricants, and fuel for construction vehicles. All fueling and vehicle maintenance will be conducted in upland areas with secondary containment and will be closely monitored. Any staged materials will be kept under cover in designated areas within the fenced Site perimeter to minimize the potential for discharge. Additional protective measures include implementing good housekeeping practices, preventative maintenance, and spill prevention and response procedures.

7.0 Environmental Justice

The Project was identified to have potential impacts on the EJ Populations under Section 58 of Chapter 8 of the Acts of 2021*: An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (the Act). The following sections are consistent with the MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations (MEPA EJ Protocol) that addresses requirements for MEPA project filings, an update to the EOEEA EJ Policy, and a more in-depth public involvement component.

7.1 Environmental Justice Populations

Section 58 of the Act requires that an EIR be submitted "for any project that is likely to cause damage to the environment and is located within a distance of 1 mile of an EJ Population; or if a project impacts air quality, for any project that is likely to cause damage to the environment and is located within a distance of 5 miles of an EJ Population".

MBTA has identified 5 EJ Populations within 1-mile of the Project Area (i.e., the DGA), triggering the MEPA threshold for a Mandatory EIR (**Attachment A, Figure 3**). The identified EJ Populations within the DGA are all located within Weymouth.

Based on the Massachusetts Department of Health (MA DPH) EJ Tool analysis, MBTA identified populations that met the EJ criteria of minority within the designated geographical area. There were no English Isolation EJ Populations identified within the DGA. **Table 7-1** summarizes the 5 EJ Populations present, their EJ Criteria, population, and median income within the DGA and Census Tract.

Table 7-1: Massachusetts Department of Public Health (MA DPH) EJ Communities (1-Mile)

Municipality	Census Block Group (BG)	Category	Minority Population	Median Income
Weymouth	BG 1, Tract 4225.02	Minority	394	$64,112
	BG 2, Tract 4225.01	Minority	687	$57,368
	BG 3, Tract 4225.02	Minority	529	$77,247
	BG 4, Tract 4225.02	Minority	417	$60,917
	BG 2, Tract 4225.02	Minority	367	$79,236
Source: 2015 to 2019 American Community Survey retrieved from MA DPH EJ Tool				

7.1.1 MEPA Language Criteria

Within 1-mile of the Site, fewer than 5 percent of households had limited English proficiency. Limited English Proficiency households are ones in which no household member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." In other words, all members 14 years old and over have at least some difficulties with English.

7.2 Public Involvement

Per 301 CMR 11.05(4)(b), Advance Notification of the Project was sent via electronic mail on June 16, 2025, by MBTA to all contacts on the EJ Reference List, confirmed by the MEPA Office on December 13, 2024.

The Advanced Notification the EJ Screening Form, provided by the MEPA Public Involvement Protocol for Environmental Justice Populations (MEPA EJ Public Involvement Protocol). A copy of the EJ Screening Form is provided in **Attachment G**.

MBTA has undertaken measures to promote public involvement into the MEPA process through meaningful community outreach and engagement. MBTA consulted the MEPA EJ Public Involvement Protocol to determine the appropriate community engagement strategies for this Project. These involvement methods were discussed and supported by the MEPA Office during Pre-Filing Consultations held on September 5, 2024, and November 4, 2025.

A public website, available for translation in 14 languages, provides details of the Project and contact information for review. The website contains a toll-free number and email address which are directed to the outreach team at MBTA for follow up. The website address, https://www.mbta.com/projects/durante-remediation-and-wetland-enhancement, was also provided on the EJ Screening Form.

Additionally, MBTA hosted a virtual informational meeting on February 17, 2025. Information pertaining to this meeting was provided to the EJ Reference List via electronic mail on January 28, 2025, and posted in the Patriot Ledger on February 5, 2025. Repositories for hard copies of Project materials will be established at Weymouth Town Hall, which will be updated regularly as additional Project documents become available. To date, no comments or questions have been received from the public on the Project.

In the case that additional contacts are identified during the virtual meetings and public engagement process, MBTA will update the distribution list of contacts from the EJ Reference List. Contacts will receive notification of the MEPA site visit, summaries of supplemental information submitted to the MEPA Office and any other relevant notices or materials issued during the course of the MEPA review.

7.3 Assessment of Existing Unfair or Inequitable Environmental Burden / Public Health

The following section outlines the assessment of existing unfair or inequitable environmental burden onto EJ Populations which includes assessments on vulnerable health EJ criteria, a MA DPH Tool EJ survey, RMAT Tool, the USEPA "EJ Screen" tool survey, and feedback from the MEPA office.

7.3.1 Vulnerable Health Criteria

The DPH's Bureau of Environmental Health worked with the Executive Office of Energy and Environmental Affairs (EOEEA) to identify four environmentally related health indicators to identify populations and communities with higher-than-average rates of environmentally related health outcomes. The four vulnerable health criteria include: Low Birth Weight Rate, Pediatric Asthma Ed Visits Rate per 10,000, Heart Attack Rate, and Lead Poisoning Rate for each Census tract and municipality.[2] Vulnerable health criteria are defined as environmentally related health indicators that are measured to be greater than 110 percent of the state-wide averages.

Using the information provided in **Table 7-2** that identifies the two municipalities that have EJ Populations within the DGA, MBTA reviewed the MA DPH EJ Tool vulnerable health criteria data layers and solicited database information available on their website. Using the DPH EJ Tool, MBTA identified EJ Populations within the DGA that exhibit one or more of the four specific vulnerable health criteria. Utilizing the MEPA EJ Protocol and the DPH EJ Tool, it was determined that four municipalities present within the DGA meet at least one vulnerable health EJ criteria (**Table 7-2**). Although these surveys identify vulnerable health EJ criteria within the DGA, due to the nature of the work, the Project has no potential to exacerbate an unfair or unequitable environmental burden and related public health consequences.

Table 7-2: Vulnerable Health EJ Criteria (1-mile)

Municipality	EJ and Vulnerable Health EJ Criteria Status	Vulnerable Health Topic EJ Criteria Met	Statewide Rate
Weymouth	Meets at least one Vulnerable Health EJ Criteria	Pediatric Asthma ED Visits Rate per 10,000	65.9
		Heart Attack Rate per 10,000	26.1
Hingham	Meets at least one Vulnerable Health EJ Criteria	Pediatric Asthma ED Visits Rate per 10,000	65.9

2 Four vulnerable health EJ criteria are tracked in the DPH EJ Viewer, of which two (heart attack hospitalization and childhood asthma) are tracked on a municipal level, and two (childhood blood lead, and low birth weight) are tracked on a census tract level.

Table 7-2: Vulnerable Health EJ Criteria (1-mile)

Municipality	EJ and Vulnerable Health EJ Criteria Status	Vulnerable Health Topic EJ Criteria Met	Statewide Rate
		Lead Poisoning Rate per 1,000	13.6
		Low Birth Weight Rate per 1,000	216.8
Source: Massachusetts Center for Health Information and Analysis retrieved from MA DPH EJ Tool			

7.3.2 Other Potential Sources of Pollution (Additional DPH EJ Tool Layers)

Using additional DPH EJ Tool layers, MBTA identified sources of pollution in the two municipalities within the DGA that may be contributing to the existing unfair or inequitable environmental burden and related public health consequences. Out of the five EJ Populations located within the DGA, four EJ Populations were identified to have potential existing sources of pollution (Table 7-3). Pollution sources that were reviewed included MassDEP major air and waste facilities, M.G.L.c.21E sites, "Tier II" toxics use reporting facilities, MassDEP sites with AULs, MassDEP groundwater discharge permits, wastewater treatment plants, MassDEP public water suppliers, underground storage tanks, EPA facilities, road infrastructure, MBTA bus and rapid transit, other transportation infrastructure, regional transit agencies, and fire stations.

Table 7-3: Other Sources of Pollution

Census Block Group (BG)	Other Sources of Pollution
BG 1, Tract 4225.02	• Six MBTA bus routes • 22 MBTA bus stops • One fire station
BG 2, Tract 4225.02	• Two AULs • One public water supplier • One underground storage tank • One MBTA bus stop
BG 2, Tract 4225.01	• Four MBTA bus stops
BG 3, Tract 4225.02	• Five MBTA bus stops
Source: MA DPH EJ Tool	

Figure 4 in **Attachment A** shows the potential sources of pollution within one mile of the Site.

MassDEP enforcement data indicates that no Notice of Non-Compliance or an Administrative Consent Order with Penalty is in place for numerous businesses within the DGA. Please refer to **Table 7-4** for more information.

Table 7-4: MassDEP Enforcement Data

Municipality	Businesses with MassDEP Enforcement History
Weymouth	• Automobile Shops • Landfill • Dental Company • High School
Source: EEA Enforcement Data Portal	

7.3.3 EJ Screen of Environmental Indicators

EJScreen's EJ Index is a series of environmental and demographic datasets used to populate 13 EJScreen indicators (indices)[3]. An EJ Index combines demographic information with a single environmental indicator – such as proximity to traffic – to help identify communities that may have a high combination of environmental burdens and vulnerable populations. The EJ Index is higher in Census block groups with large numbers of mainly low-income and/or minority residents with a higher environmental indicator value.

Analyzing a one-mile buffer around the Site, called a One-Mile Study Area, is a standard "best practice" in EJ analysis. The One-Mile Study Area around the Durante Site includes the following 14 Census block groups (**Table 7-5**).

Table 7-5: Census Block Groups in the One-Mile Study Area

Norfolk County, Massachusetts	Plymouth County, Massachusetts
• BG 2, Tract 4225.01 • BG 3, Tract 4225.01 • BG 4, Tract 4225.01 • BG 1, Tract 4225.02 • BG 2, Tract 4225.02 • BG 3, Tract 4225.02 • BG 4, Tract 4225.02 • BG 1, Tract 4226 (host) • BG 2, Tract 4226 (host)	• BG 4, Tract 5011.02 • BG 2, Tract 5012.01 • BG 2, Tract 5012.04

[3] U.S. Environmental Protection Agency. (2024) "Environmental Justice Screening and Mapping Tool (EJScreen 2.3)." Downloaded from url: https://ejscreen.epa.gov/mapper/ in June 2024

Table 7-5: Census Block Groups in the One-Mile Study Area

Norfolk County, Massachusetts	Plymouth County, Massachusetts
• BG 3, Tract 4226 • BG 4, Tract 4226	

The EJScreen results for the One-Mile Study Area indicate that three Census block groups in Norfolk County (BG 2, Tract 4225.01; BG 1, Tract 4225.02; BG 3, Tract 4225.02) **would be considered *areas with potential EJ concerns* under previous standards by the U.S. EPA.** The EJ Index measures that exceed the 80th percentile when compared to the State and/or U.S. as a whole are presented in **Table 7-6**. The other 11 Census block groups in the One-Mile Study Area do not have any EJ Index measures that exceed the 80th percentile and, as such, would **not** be considered *areas with potential EJ concerns*.

Table 7-6: EJ Index Measures in the One-Mile Study Area, EJScreen

Geographic Area Name	State Level	National Level
BG 2, Tract 4225.01	• Ozone[1] • Superfund Proximity[2] • Drinking Water Non-Compliance[3]	• Drinking Water Non-Compliance[3]
BG 1, Tract 4225.02	• Ozone[1] • Toxic Releases to Air • Lead Paint • Superfund Proximity[2] • RMP Facility Proximity • Underground Storage Tanks • Wastewater Discharge • Drinking Water Non-Compliance[3]	• Toxic Releases to Air • Traffic Proximity • Lead Paint • Superfund Proximity[2] • Hazardous Waste Proximity • Underground Storage Tanks • Drinking Water Non-Compliance[3]
BG 3, Tract 4225.02	• Ozone[1] • Superfund Proximity[2] • Drinking Water Non-Compliance[3]	• Drinking Water Non-Compliance[3]

Notes:
[1]Boston and surrounding areas, including the One-Mile Study Area, were considered non-attainment areas for 8-hour ozone pollution under the 1997 Standard.
[2]South Weymouth Naval Air Station Superfund Site is located 4.1 miles southwest of the site.
[3]The drinking water non-compliance indicator is based on age and severity of Safe Drinking Water Act violations not returned to compliance over five years from 2018 to 2023. This indicator is now out-of-date.

Source: U.S. Environmental Protection Agency (2024)

Figure 5 in Attachment A shows block groups on a map that are considered to be Areas with Potential EJ Concerns within the One Mile Study Area.

7.3.4 Conclusion on Existing Unfair or Inequitable Burdens

In accordance with EJ Protocols, EJ populations with the DGA are "highly likely to be impacted by an unfair or inequitable environmental burden" because there is an "EJ population that is located in a municipality or census tract demonstrating 'vulnerable health EJ criteria.'" Based on the assessment of existing environmental burdens through the RMAT, US EPA EJ Screen, and the DPH Tool, it appears the EJ Populations within the DGA exhibit an unhair or inequitable environmental burden based on the increased quantities of:

- Elevated levels of low birth weight, blood lead prevalence, heart attack, and asthma
- Major air and waste facilities
- MassDOT infrastructure
- Underground storage tanks

The burden on EJ Populations within the DGA is exacerbated by the increased contamination and reduced air quality in these areas. Major infrastructure, air, and waste facilities tend to increase emissions and lower air quality which can lead to elevated levels of low birth weight, blood lead prevalence, heart attack and asthma as seen in the DPH Tool. Based on the review of the baseline conditions within the DGA and the nature of the proposed Project, it is not anticipated that the Project would exacerbate any existing unfair or inequitable environmental burdens to EJ Populations. The Project is expected to provide a net benefit to the surrounding EJ and non-EJ communities, as it will enhance an open space area through the remediation and restoration efforts.

7.4 Analysis of Project Impacts to Determine Disproportionate Adverse Effects

According to the MEPA EJ Protocol, analysis of Project impacts to determine disproportionate adverse effects is required when the Project demonstrates the presence of an existing unfair or inequitable environmental burden on EJ Populations. The analysis of adverse impacts should include a description of the nature and severity of the Project's environmental and public health impacts, and the comparative impact on EJ Populations versus non-EJ Populations within the Project Area. Additionally, this analysis should include a description of any Project benefits, including environmental benefits, that improve environmental conditions or the public health of the EJ Population, or otherwise reduce the potential for unfair or inequitable effects on the EJ Population.

7.4.1 Nature and Severity of Project Impact

Following the MEPA EJ Protocol, analysis of whether the nature and severity of project impacts will exacerbate any existing unfair or inequitable environmental or public health burden impacting EJ Populations is required. The magnitude and duration were considered when analyzing the severity of any project impact.

Due to the contamination on-site, MBTA has proposed to implement numerous BMPs to minimize potential adverse environmental impacts to the surrounding areas. Given the nature of the Project and MBTA's efforts to reduce impacts on the natural and human environment, Project activities

will be overseen by an Environmental Monitor and Wetland Scientist to oversee regulatory compliance, as well as ensure that erosion controls are installed properly and the restoration efforts are successful. Once the remediation efforts are completed, soil and sediment shall be transported for off-site disposal under a hazardous waste manifest or an MCP Bill of Lading when necessary. Trucks carrying hazardous waste will avoid EJ Population block groups to the greatest extent possible.

There will be some permanent impacts as a result of the Project, as described in the previous sections. However, there are no permanent impacts proposed that will impair surface water, groundwater, wetland resources or air quality. These impacts, while permanent, will enhance the Site by connecting the open water areas to the Weymouth Back River and adding Salt Marsh plantings to restore the degraded resource areas on Site. Impacts from the remediation and for the restoration efforts are short-term during the construction phase of the Project. Any potential sedimentation impacts, and other short-term construction impacts to wetlands and surface waters, will be mitigated using soil erosion and sediment control BMPs.

Because the nature and severity of Project impacts are minimal on all populations, including EJ Populations, the Project will not materially exacerbate any existing unfair or inequitable environmental or public health burden impacting the EJ populations.

7.4.2 Potential Environmental and Public Health Impacts and Proposed Mitigation

Potential environmental and public health impacts of the Project and anticipated mitigation include the following:

Water Quality

The Site is located in an urban area. There are wetland and surface water areas on or near the Site and there is ecological habitat on or in the Site vicinity. The Site itself is largely a vacant lot with access to the Weymouth Back River. The Site soil is contaminated with PCBs, metals, PAHs and EPH, all of which are believed to be associated with historic operations, historical filling at the Disposal Site, and the demolition of buildings and support structures at the Disposal Site. Remedy implementation measures which will be utilized to minimize potential impacts include erosion and sediment controls, dust suppression during soil excavation and movement activities, decontamination of equipment and vehicles leaving the Site, and the installation of an exposure barrier to prevent direct contact with impacted soil left on-site.

Groundwater and surface water samples have been collected at the Site, and nothing was above reportable concentrations.

The Project will incorporate protective and preventative measures to minimize and avoid impacts to water quality. Excavation, dewatering, and dredging associated with the Project will be for site wetland optimization and remediation. Impacts to water quality as a result of this Project will be negligible and temporary and are not anticipated to cause impacts to public health. The Project, after the work is complete, will provide a place where the surrounding communities can have clean access to the natural resources on Site.

Land Protection and Open Space

The Site is not considered protected land or open space under Article 97 and is a vacant lot. The remediation and wetland restoration effort will improve the Site by making it more readily available to the public and is anticipated to provide future passive recreational opportunities for the surrounding communities.

Noise

Noise impacts for the surrounding EJ Populations associated with construction-period activities are temporary in nature and will cease after the work is complete. Noise-generating activities will be conducted in accordance with any local and state requirements and are not anticipated to cause impacts to public health.

Traffic

Impacts to traffic during the construction of the Project will be minor and intermittent. Access to the Site will be through Commercial Street onto North Warf Street. Once on Site, vehicle traffic will be limited to within the Site boundaries. Any contaminants leaving the Site will follow required transportation regulations to avoid impacts to EJ Populations during cleanup activities. There will be no permanent impacts to traffic patterns or use of existing roadways within EJ Populations. Therefore, no impacts to public health to EJ Populations are anticipated from traffic.

7.4.3 Comparable Impact on EJ and Non-EJ Populations

The MEPA EJ Protocol states that "the Proponent should also analyze whether the impacts on the EJ population are greater or less than those on non-EJ populations. The purpose of this analysis is to assess whether the Project is adding impacts to an already burdened area in a "targeted" way that is disproportionate when compared to non-EJ populations." Based on the Project footprint, there is no disproportionate impact on EJ Populations within the DGA.

In general, the Project will clean up and restore the resource areas on-site, enhancing the area for future use by EJ and non-EJ communities. Therefore, the Project will not result in any significant long-term or permanent environmental or public health impacts for any population, including EJ populations. Impacts from construction are only temporary, and proper minimization and mitigation techniques will be implemented where appropriate. Additionally, the Project will not result in any public health impacts to any population. Other impacts, such as permanent impacts to resource areas for the restoration and remediation efforts, will be mitigated using BMPs and will not directly affect any population or affect any population disproportionately.

7.4.4 Project Benefits

As previously mentioned, there are numerous environmental benefits as a result of the proposed Project. The Site cleanup activities (e.g. soil reuse and off-site disposal, and installation of an exposure barrier to residual contamination remaining in-place) will provide public access to clean natural resources and open space, and an AUL will be placed on the Site to ensure that it is maintained properly.

Additionally, the wetland restoration efforts have been designed to optimize the wetland so that the wetland functions better than before the Project. The Project also involves the removal of invasive plant species to the extent practicable which would decrease the novel introduction of these species throughout the Site. Lastly, the Project will provide the opportunity to create an open space area for wildlife viewing. After the Project is completed, it is anticipated that the property will be transferred to the Town of Weymouth.

8.0 Climate Change Adaptation and Resilience

In accordance with the MEPA EJ Protocol, analysis of Project impacts to determine climate change effects is required when the Project demonstrates the presence of an unfair or inequitable environmental burden on EJ Populations. This section analyzes whether the proposed Project will increase or reduce the effects of climate change on the EJ Populations by considering whether the Project is likely to exacerbate the climate risks shown on the RMAT Tool in a manner that affects the identified EJ Populations. Given the goals of the Project to treat contaminated soil and restore the wetland complex, the Proponent has not considered alternative locations for the Project in light of climate change risks. However, climate risks were considered through the Project design as discussed below.

8.1 RMAT Climate Resilience Design Standards Tool

The RMAT Tool provides information on preliminary climate change exposure and risk rating, provides climate resilience design standards for projects with physical assets, and provides guidance for best practices. The RMAT Tool generates an overarching climate risks analysis based on Project asset impacts.

Using the RMAT Tool, MBTA reviewed the Project's potential temporary and permanent climate change impacts on EJ Populations (**Attachment F**). This climate risk analysis identifies whether a project has a "High" risk rating for sea level rise and storm surge, extreme precipitation including urban flooding and riverine flooding, and extreme heat. According to the protocol, a "High" risk rating for these parameters could be an indicator of elevated climate risks for EJ Populations. A summary of the preliminary climate risk rating by asset from the RMAT evaluation are provided below in Table 8-1. The Exposure Score output is a preliminary assessment of whether the overall Site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool calculate High exposure for the remediation strategy.

Table 8-1. RMAT Results

Asset	Preliminary Climate Risk Rating			
	Sea Level Rise/Storm Surge	Extreme Precipitation – Stormwater Flooding	Extreme Precipitation – Riverine Flooding	Extreme Heat
Salt Marsh	N/A	N/A	N/A	N/A
LSCSF	N/A	N/A	N/A	N/A
Coastal Bank	N/A	N/A	N/A	N/A
Riverfront Area	N/A	N/A	N/A	N/A

Table 8-1. RMAT Results

Asset	Preliminary Climate Risk Rating			
	Sea Level Rise/Storm Surge	Extreme Precipitation – Stormwater Flooding	Extreme Precipitation – Riverine Flooding	Extreme Heat
BVW	N/A	N/A	N/A	N/A
Remediation Strategy	High Risk	High Risk	High Risk	High Risk
Note: Natural resource Project assets do not receive a preliminary climate risk rating.				

The rationale behind the exposure ratings is included in the RMAT Report (**Attachment F**)**.** The criticality factors influencing risk ratings for remediation strategy include:

- Asset must be operable at all times, even during natural hazard events.
- Less than 100,000 people would be directly affected by the loss/inoperability of the asset
- Inoperability of the asset would be expected to result in minor impacts to people's health, including minor injuries or minor impacts to chronic illnesses.
- Cost to replace is less than $10 million.
- Spills and/or releases of hazardous materials would be moderately difficult to clean up.

8.2 Climate Adaptation and Resilience Strategies

Climate adaptation and resiliency strategies include actions that seek to reduce vulnerability to anticipated climate risks and improve resiliency for future climate conditions. Climate adaptation and resiliency strategies employed through this Project include wetland restoration.

The Project Site includes a tidal estuarine wetland system associated with the Weymouth Back River (**Attachment A, Figure 3**)**.** The Back River is tidal and flows northeast along the northern and western edges of the Site. On the Site, water generally drains west and north toward the Weymouth Back River, before flowing north to the Weymouth Back River, Hingham Bay, and Atlantic Ocean.

This wetland restoration associated with this Project is largely within Salt Marsh, located northeast of the Site. The stated goal of this restoration effort is Site remediation and providing an immediate net improvement of wetland resource areas, their functions, and wildlife habitat value.

Multiple Salt Marsh zones that flood frequently are present within the Site - low Salt Marsh, high Salt Marsh, and higher high marsh. Low Salt Marsh is entirely flooded twice daily and is defined as the area between the open water and the MHW line. The high Salt Marsh is defined as the area between the MHW line and the HTL and is flooded only twice a month during spring tide events. The higher high marsh is the area directly adjacent to the high Salt Marsh, representing the upper limit of Salt Marsh, with the upper limit generally coincident with the interpolated spring

tide line which is the Salt Marsh jurisdictional extent. The elevation of each zone is provided in **Table 2-2** and in **Attachment B, Sheet 7.**

Furthermore, three FEMA SFHAs and moderate flood hazard areas were identified within the Site and including Regulatory Floodway, Zone AE, and Zone X. Per FIRM 25021C0231F (effective date July 8, 2025), a Regulatory Floodway and Zone AE, with a base flood elevation of 11.2 feet, occurs throughout the Site's western and northern areas.

Inundation tolerances for each of these Salt Marsh zones, corresponding to specific elevations at the Site, overlap with one another. As sea levels rise, tidal inundation and storm surge flooding may likely increase in conjunction with these changes. Restored wetlands, with restored or enhanced ecosystem services associated with living shorelines, serve as a natural barrier or channel for these flood waters, increasing the Project's long-term resilience to climate change. These restoration efforts have been designed so that the wetland's ecosystem services function better than before the Project.

Components of this restoration work that directly enhance the Project's resilience to climate include:

- Excavation to construct a channel to connect to the Weymouth Back River and direct river water flow during certain tidal events into the wetland and open water pools.
- Excavations to lower areas around the open water pools to introduce and retain river water in the Salt Marsh.
- The rip-rap edge of the Weymouth Back River will be re-established as shown in the Landscaping and Wetland Restoration Plan (**Attachment B, Sheet 7**). Stabilizing riverbanks can prevent erosion, reducing the risk of expansive flooding as sea levels rise.
- Degraded Salt Marsh areas will be overlaid with biodegradable erosion control blankets held by wooden stakes. In areas subject to significant tidal action or storm flowage, these stakes will be twined together for additional structures. Initiating intentional erosion control can prevent erosion, reducing the risk of expansive flooding as sea levels rise.

The construction and excavation work account for potential future tidal flood events linked to sea level rise and increases the Site's capacity to introduce and retain more river water within the Salt Marsh, strengthening Project resilience long term. **Attachment B, Sheet 6** of the Project Plans show the channel and areas to be lowered. An estimated 875 cubic yards of fill, likely from historic land development on Site, will be removed as part of wetland restoration.

Additional components of the restoration effort that indirectly benefit climate adaptation and resilience include:

- Prioritizing native plantings that been found to be successful in similar salt marsh restoration projects, including stabilization blankets to areas undergoing planting establishment. Plantings are described in **Table 2-3**, and additional information may be found in **Attachment B, Sheets 8, 9 and 10.** In the interest of maintaining a cohesive vegetation structure, disturbed areas within the 100-foot Buffer Zone and RA may be replanted with an appropriate seed mix (New England Wetland Plants' *Conservation and*

Wildlife Seed Mix) suitable for uplands adjacent to wetland resources. Non-tidal areas can be additionally stabilized with an inert straw mulch following seeding. These strategies will ensure stabilization, preventing erosion and sedimentation into resource areas.

- An erosion control blanket will be installed within the Salt Marsh and downgradient towards the Coastal Bank. Fortifying wetlands against erosion prolongs and strengthens the wetland's climate resilience related ecosystem services, including tidal flood control.
- Removal of invasive plant species to the extent practicable, decreasing the novel introduction of these species throughout the Site and strengthening cohesive vegetation structure within the restored ecosystem.

Implementation of the proposed restoration provides a practical and flexible adaptive approach while ensuring a net resource area benefit, ensuring success at the Durante Site. The Project also encourages design strategies that adapt over time to respond to changing climate conditions.

8.2.1 The RMAT Resilience Design Standards and Guidelines

Further analysis was conducted to evaluate the recommendations from the RMAT Resilience Design Standards and Guidelines, including:

SS-3. Protect, conserve, and restore critical natural resources on-site and off-site

The Project is foundationally beneficial to the Site's natural resources, as it is a remediation initiative. The Project reduces OHM exposure risk, and by removing and treating invasive species and re-establishing wetland resources, the Project conserves and restores available natural resources on-site.

RC-4. Prioritize services and assets that serve climate vulnerable populations

The Site will provide numerous public benefits. The Site cleanup activities will provide access to clean natural resources and open space. The restored Site is anticipated to provide a new open space area for passive recreation (wildlife viewing) and new access to water resources. Once the work is completed, the Town of Weymouth will decide what additional work will be done at the Site.

Additionally, the Project is identified to potentially impact five identified EJ Populations within 1-mile of the Site.

The Project is further contributing to regional adaptation strategies, including the planning priorities identified by the Town of Weymouth through the Municipal Vulnerability Preparedness (MVP) program and other planning efforts.

The current regional policy plan for Weymouth is the Metro Future from the MAPC. Metro Future identifies a goal that all neighborhoods will have access to safe and well-maintained parks, community gardens, and appropriate play spaces for children and youth. After the Site remediation and restoration is completed, the Durante Site will be transferred to the Town to be used likely for public use and wildlife viewing. Other MAPC goals include:

- the region's rivers, streams, lakes and ponds having sufficient clean water to support healthy populations of native fish and other species, as well as recreational uses;
- Improving the ecological condition of wetlands, and preventing wetlands from becoming lost to development;
- Retaining the regional biodiversity, and healthy populations of native plants and animals, and fewer invasive species, and;
- Creating a robust network of protected open spaces, farms parks, and greenways to provide wildlife habitat, ecological benefits, recreational opportunities, and scenic beauty.

As a restoration and remediation Project along the Back River ACEC, known for its biodiversity, this Project aligns with these goals. Invasive species will be treated and replaced with native Salt Marsh and wetland vegetation, promoting biodiversity and enhancing wildlife habitat. The remediation of soil will help ensure that water in these resource areas remains clean and healthy.

AP-4. Prioritize nature-based solutions

The Project involves removing and treating the invasives and re-establishing native wetland vegetation within the wetland resources on-site. These wetland restoration efforts have been designed to optimize the functions and values of this coastal wetland system so that it functions better than before the Project, providing nature-based climate mitigation for tidally and/or storm related flood conditions and improving native wildlife habitat.

AP-5. Prepare for current and future operational and maintenance needs

The Project identifies preservation and maintenance activities to reduce or eliminate the impacts over time; and/or providing replacement or substitute resources or environments as key mitigation findings.

9.0 Regulatory Compliance

9.1 Wetland Protection Act

The Massachusetts WPA (Section 40 of Chapter 131 of the General Laws of Massachusetts and regulated under 310 CMR 10.00 defines multiple inland (310 CMR 10.54-10.59) and coastal (310 CMR 10.25-10.35) resource areas and gives the MassDEP jurisdiction over these resource areas. In most cases, the WPA also gives MassDEP jurisdiction over the Buffer Zone extending 100 feet from the edge of the resource area. In addition to MassDEP, local municipalities' Conservation Commissions are responsible for administering the WPA and any local wetlands ordinance or bylaw and implementing regulations.

While the Project has been designed to limit impacts to wetland resource areas, the proposed work is located within Coastal Bank, RA, Salt Marsh, BVW, LSCSF, and the associated 100-foot Buffer Zone under the WPA. Due to the OHM found at the Site, it is necessary for the proposed work to be located within Coastal Bank, RA, BVW, LSCSF, Salt Marsh and the associated 100-foot Buffer Zone to remediate and restore the wetland resources on Site.

9.1.1 Limited Project Status

The proposed Project qualifies as a limited project under 310 CMR 10.53(3)(q), which allows for the:

> *Assessment, monitoring, containment, mitigation, and remediation of, or other response to, a release or threat of release of oil and/or hazardous material in accordance with the provisions of 310 CMR 40.0000: Massachusetts Contingency Plan and the following general conditions.*

Due to the OHM found at the Site, it is necessary for the proposed work to be located within Coastal Bank, RA, BVW, LSCSF, Salt Marsh and the associated 100-foot Buffer Zone to remediate and restore the wetland resources on Site.

9.2 Massachusetts Stormwater Standards

The Project has been designed to comply with the Massachusetts Stormwater Management Standards to the maximum extent possible as a limited project. The Project is considered a redevelopment under the Massachusetts Stormwater Management Standards since it does not create any new impervious area and will improve upon the existing conditions. Therefore, its design will comply with the Massachusetts Stormwater Management Standards to the maximum extent practicable.

9.3 Chapter 91 Public Waterfront Act

The Project requires a Chapter 91 License application to MassDEP Waterways Department for work subject to 310 CMR 9.05(1) and (2). MBTA has completed a pre-filing consultation with the MassDEP Waterways Department regarding the Project on January 7, 2025. MBTA is currently completing the Chapter 91 License application for submittal to the MassDEP once MEPA is complete.

9.4 Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act of 1972 (16 USC Section 1452) requires that any applicant for a federally licensed or permitted activity within the coastal zone shall provide a certification that the proposed activity complies with the enforceable policies of the state's approved coastal zone management program and that such activity would be conducted in a manner that is consistent with the program. The coastal zone of Massachusetts includes the lands and waters within an area defined by the seaward limit of the state's territorial sea, which is generally three miles from the shore, extending from the Massachusetts/New Hampshire border south to the Massachusetts/Rhode Island border and landward to 100 feet inland of specified major roads, rail lines or other visible rights-of-way. The entirety of the proposed Project is located within the Massachusetts Coastal Zone.

The CZM Program Plan establishes program policies, which embody coastal policy for the Commonwealth of Massachusetts. CZM enforces its program policies through existing Massachusetts statutes and their implementing regulations. The CZM has the authority to concur with or object to an applicant's certification of consistency with the enforceable Program's policies.

The Project is designed to minimize impacts to the state's environmental resources and to be consistent with the goals of the Massachusetts CZM. Specifically, in accordance with 301 CMR 20 and the enforceable Policies stated in the CZM Policy Guide (2011), MBTA certifies that the Project "complies with the enforceable program policies of the Massachusetts approved coastal management program and will be conducted in a manner consistent with such policies". In its certification, MBTA addresses all the CZM policies including:

1. **Coastal Hazards** (Policy #s 1 through 4);
2. **Energy** (Policy #s 1 and 2);
3. **Growth Management** (Policy #s 1 through 3);
4. **Habitat** (Policy #s 1 and 2);
5. **Ocean Resources** (Policy #s 1 through 3);
6. **Ports and Harbors** (Policy #s 1 through 5);
7. **Protected Areas** (Policy #s 1 through 3);
8. **Public Access** (Policy #s 1 through 3); and
9. **Water Quality** (Policy #s 1 through 3).

MBTA will submit a Federal Consistency Review application to the Massachusetts CZM Office in accordance with the CZM filing requirements once all applicable consultations and permits are complete.

9.5 Clean Water Act

9.5.1 Pre-Construction Notification

The Project requires a Pre-Construction Notification (PCN) filing that will be submitted to the United States Army Corps of Engineers under Massachusetts General Permits (GP) No. 7 for *Dredging,* No. 10 *for Aquatic Habitat Restoration, Enhancement, and Establishment Activities,* No. 12 *for Response Operations, Oil and hazardous Substances,* No. 13 *for Cleanup of Hazardous and Toxic Waste,* and No. 24 for *Temporary Construction Access and Dewatering*.

9.5.2 Individual 401 Water Quality Certification

The Project proposes temporary and permanent impacts to various wetlands and waterbodies. Portions of the Site fall within the Weymouth Back River ACEC, which is also designated as an ORW. The Project exceeds the following 401 WQC Criteria for Evaluation of Applications for the Discharge of Dredged or Fill Material in 314 CMR 9.04 (2), and (8):

> *(2)* ***Outstanding Resource Waters.*** *Dredging in, or any activity resulting in any discharge of dredged or fill material to any Outstanding Resource Water.*
>
> *(8)* ***Salt Marsh.*** *Any activity resulting in the discharge of dredged or fill material in any salt marsh, except for an Ecological Restoration Project not requiring a Water Quality Certification application pursuant to 314 CMR 9.03(8).*

9.6 National Pollutant Discharge Elimination System

9.6.1 Construction General Permit

The Project requires a filing under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. Prior to construction, a Notice of Intent will be submitted to the USEPA under the NPDES Stormwater Construction General Permit for Stormwater Discharge from Construction Activities. As required under the program, a construction Stormwater Pollution Prevention Plan (SWPPP) will be developed to ensure that BMPs are implemented during construction to address potential impacts. The SWPPP will describe the proposed work, stormwater controls to prevent sedimentation and erosion impacts, and as appropriate, spill prevention and response measures, and inspection practices.

9.6.2 Dewatering General Permit

Prior to dewatering of surface water or groundwater for the Project, the Project shall apply for a DRGP through the USEPA NPDES program. To apply for the DRGP, an operator must electronically prepare and submit a Notice of Intent (NOI) through USEPA's NPDES eReporting Tool (NeT) for coverage under the DRGP. New discharges may apply at any time, but it is strongly suggested to apply at least 30 days prior to the date discharges are likely to begin. Operators must develop, implement, and maintain a Best Management Practices Plan (BMPP) for the discharges covered under this general permit.

9.7 Section 106

MBTA is coordinating with both the USACE and the Massachusetts Historical Commission (MHC) to avoid adverse effects to historic and archaeological resources eligible for listing in the National Register of Historic Places, to the extent required by law. As part of its Section 404 permit review, pursuant to Section 106 of the National Historic Preservation Act, the USACE will also consult with Native American Tribes that express an interest in historic resources that may be affected by portions of the Project within USACE jurisdiction. A desktop inspection of the limits of work associated with the Project and background research was conducted to prepare a Project Notification Form (PNF) for the Project. No response was received from MHC within 30 days of delivery, therefore MBTA assumes concurrence that the Project will have no effect on historic and archaeological resources. See **Attachment K** for Historical and Archaeological Information.

10.0 Section 61 Findings

This section provides a draft template for Section 61 Findings in accordance with G.L. c. 30, § 61, which states: "Any determination made by any agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact."

Mitigation is a means of offsetting potential adverse effects of human activity on the environment. The development of mitigation measures has become an integral part of the regulatory process and of conservation planning efforts. Most state legislation requiring mitigation measures does not prescribe the specific mitigation activity that must take place, and mitigation can take many forms, including the following:

- Avoiding an impact by not taking an action or redirecting/relocating an action;
- Minimizing an impact by limiting the degree of action taken;
- Restoring, rehabilitating, or repairing the affected environment;
- Preservation and maintenance activities to reduce or eliminate the impacts over time; and/or
- Providing replacement or substitute resources or environments.

MBTA is incorporating elements of these approaches in its overall mitigation plan to comprehensively address potential impacts associated with the Project. MEPA requires state agencies to make findings on environmental damage and mitigation measures - so-called Section 61 Findings - before issuing a state permit for a Project requiring an EIR (*301 CMR 11.07*). The MEPA regulations at *301 CMR 11.07(6)(k)* require that the EIR contain the proposed Section 61 Findings. In accordance with this requirement, MBTA's proposed Section 61 Findings for the Project are also presented herein.

The proposed Section 61 Findings for those issues involving the following state agencies, actions and/or statutory requirements include:

- MassDEP – Section 401 IWQC & Chapter 91
- EEA - MEPA Interim Protocol on EJ

A summary of all the currently proposed mitigation, parties responsible for implementation and schedule are provided in **Table 10-1** below. The Draft Findings following **Table 10-1** outline the potential impacts from the Project and associated mitigation proposed

Table 10-1: Summary of Currently Proposed Mitigation, Responsible Party and Schedule

Mitigation Measure and/or BMP	Lead Agency	Schedule
Land Alteration		
Erosion and sediment controls will be installed and maintained. A SWPPP will be developed outlining BMPs that will be utilized during construction to address potential impacts. Stormwater will be managed during construction through the use of erosion controls and good housekeeping practices.	MEPA	Construction phase
Post-construction stormwater will be managed by stabilizing all disturbed surfaces.	MEPA	Post-construction phase
Tree removals will be minimized to the extent practicable.	MEPA	Construction phase
Wetlands & Waterways		
Install, inspect, and maintain temporary soil erosion and sediment controls, and other applicable construction BMPs, around work sites in or near wetlands to minimize the potential for erosion and sedimentation, mark the limits of wetlands, and restrict crew access, as appropriate.	MassDEP/Weymouth Conservation Commission	Construction phase
MBTA will not construct any permanent roads for access in wetlands. All access routes through buffer zones will be updated to accommodate construction vehicles, which will be restored post construction. A decontamination or "tracking pad" will be constructed at the entrance of the Site to ensure that machinery is cleaned and not tracking debris or sediment off-site during construction.	MassDEP/Weymouth Conservation Commission	Construction phase
Construction equipment will be refueled (apart from equipment that cannot practically be moved) 100 feet or more from a wetland and outside of the RA. If refueling must occur within a wetland, secondary containment will be provided.	MassDEP/Weymouth Conservation Commission	Construction phase
Any soil or sediment piles not actively being worked shall be outfitted with erosion controls to prevent erosion into resource areas.	MassDEP/Weymouth Conservation Commission	Construction phase
Prior to wetland restoration work, all vehicles and tools will be washed and inspected to remove all vegetation debris that may contain invasive species fragments. This washing will occur in upland areas outside of buffer zones.	MassDEP/Weymouth Conservation Commission	Construction phase

Table 10-1: Summary of Currently Proposed Mitigation, Responsible Party and Schedule

Mitigation Measure and/or BMP	Lead Agency	Schedule
A dewatering treatment and management system will be designed and operated by the Contractor to manage surface and groundwater during remedial activities. Management of dewatering fluids will be conducted in accordance with the DRGP.	MassDEP/Weymouth Conservation Commission	Construction phase
Cultural Resources		
MBTA will consult with MHC, the Board of Underwater Archaeological Resources (BUAR) and the THPOs throughout the Project should any changes or unexpected findings occur.	MHC	Design & Construction phase
Construction Period & Hazardous Waste		
Work will be completed in accordance with the MCP which describe MBTA's procedures for managing hazardous waste and contaminated soils, and MBTA's spill response procedures.	MassDEP	Construction phase
If oil and/or hazardous material are identified during the implementation of this Project, notification will be made to MassDEP, if necessary.	MassDEP	Construction phase
MBTA will manage soil and groundwater in accordance with MCP	MassDEP	Construction phase
Vehicles and equipment will be brought to an access area greater than 100 feet away from sensitive environmental features for refueling.	MassDEP	Construction phase
Public Health & Environmental Justice		
MBTA will notify the EJ Reference List of this EIR filing and let them know how they can provide comments.	MEPA	Pre-construction phase
MBTA will continue to update the Project website as the Project advances.	MEPA	Pre-construction phase
Dust controls will be evaluated and implemented as needed throughout the duration of the Project on all disturbed soils that are subject to surface dust movement and dust blowing.	MEPA	Construction phase
Diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of Project construction will have USEPA-verified (or equivalent) emission control devices, such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) installed on the exhaust system side	MEPA	Construction phase

Table 10-1: Summary of Currently Proposed Mitigation, Responsible Party and Schedule

Mitigation Measure and/or BMP	Lead Agency	Schedule
of the diesel combustion engine. Vehicle idling will be minimized in accordance with Massachusetts' Anti-idling law, M.G.L. c. 90, § 16A, c. 111, §§ 142A – 142M, and 310 CMR 7.11. MBTA requires the use of ultra-low sulfur diesel fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle, such as power lifts.		
Climate Change		
MBTA utilized the Biological Benchmark and Tidal Monitoring Report for the Site as well as the RMAT Tool to design the Salt Marsh restoration to increase the Site's resilience to climate related events.	MEPA	Design Phase
As part of MCP and MBTA resiliency requirements, TRC will evaluate the Site's climate vulnerability and impact to ensure integrity of the environmental remedy for the Site.	MEPA	Design Phase

10.1 MassDEP

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

PROPOSED FINDING PURSUANT TO M.G.L., c. 30, § 61

PROJECT NAME: Durante Site Remediation and Wetland Restoration Project

PROJECT LOCATION: Weymouth

PROJECT PROPONENT: Massachusetts Bay Transportation Authority

EEA NUMBER: To be determined

INTENT OF THESE SECTION 61 FINDINGS: MEPA regulations 301 CMR 11.12(5) stipulate that in "accordance with G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR shall determine whether the Project is likely, directly or indirectly, to cause any damage to the environment and make a finding describing the damage to the environment and confirming that all feasible measures have been taken to avoid or minimize the damage to the environment." Section 61 Findings are incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by the Project Proponent and are intended to assist the state permit-issuing agency in fulfilling its obligations in accordance with G.L. c. 30, §61. These Findings are limited to the subject matter jurisdiction of the Section 401 Water Quality Certification sought from the Massachusetts Department of Environmental Protection.

PROJECT DESCRIPTION: The Project will include site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland/ Salt Marsh areas on Site. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen.

MEPA HISTORY: Pursuant to G.L. c. 30, §61- §62A-H, of the MEPA and its implementing regulations at 301 CMR 11.00, the Proponent (MBTA) has prepared and submitted this Rollover Environmental Impact Report (EIR). The Project is subject to MEPA review as it requires one or more state permits and exceeds the following thresholds requiring the filing of an:

- ENF and Other Review for ACEC because the Project is within ½ or more acres within a designated ACEC (301 CMR 11.03(11)(b))
- ENF : Wetlands, Waterways & Tidelands: (301 CMR 11.03(3)(b)(1)(c-f))
    - Alteration of 1,000 or more square feet of salt marsh or outstanding resource waters.

- New fill or structure or expansion of existing fill or structure, except a pile supported structure, in a velocity zone or regulatory floodway.
- Alteration of ½ or more acre of any other wetlands.

- EIR for Environmental Justice Populations as the Project is located within 1-mile of a Designated Geographic Area around an Environmental Justice Population (301 CMR 11.06(7)(b)).

PROJECT IMPACTS AND MITIGATION: Refer to **Table 10-2** for a list of impacts and corresponding mitigation relative to water quality. MBTA will be responsible for providing the mitigation measures below. The schedule and cost of these measures is still to be determined. In addition, MBTA is continuing to work with MassDEP to develop further mitigation measures and options to this mitigation to the extent it can help ensure minimal impacts to the water quality operation.

Table 10-2: Water Quality Related Mitigation

Category	Impact	Mitigation Measures
BVW	Temporary alterations during construction.	Employ temporary erosion controls (e.g., silt fence, hay/straw bales, filter socks, mulching, temporary and/or permanent reseeding) and sedimentation controls, as appropriate. Temporary impacts only as a result of herbicide treatments. Implement SWPPP and additional conditions from the Order of Conditions (OOC) and the 401 Individual Water Quality Certification.
LSCSF	Temporary and permanent alteration of floodplain for access, remediation, and restoration efforts.	Disturbed areas within the LSCSF may be replanted with an appropriate seed mix suitable for uplands adjacent to wetland. MBTA proposes the application of New England Wetland Plants' *Conservation and Wildlife Seed Mix* to ensure stabilization of areas adjacent to the Salt Marsh resource and prevent erosion and sedimentation of these wetlands. This mix shall be applied at or above the recommended application rate. Inert straw mulch or other suitable material can be applied to aid in stabilization. Employ temporary erosion controls (e.g., silt fence, hay/straw bales, filter socks, mulching, temporary and/or permanent reseeding) and sedimentation controls, as appropriate. Flood storage capacity will increase from the new channel.
RA	Temporary and permanent impact for	Disturbed areas within the RA may be replanted with an appropriate seed mix suitable for uplands adjacent to wetland. MBTA proposes the application of New England

Table 10-2: Water Quality Related Mitigation

Category	Impact	Mitigation Measures
	access, remediation, and restoration efforts.	Wetland Plants' *Conservation and Wildlife Seed Mix* to ensure stabilization of areas adjacent to the Salt Marsh resource and prevent erosion and sedimentation of these wetlands. This mix shall be applied at or above the recommended application rate. Inert straw mulch or other suitable material can be applied to aid in stabilization. Employ temporary erosion controls (e.g., silt fence, hay/straw bales, filter socks, mulching, temporary and/or permanent reseeding) and sedimentation controls, as appropriate.
Coastal Bank	Temporary and permanent impact for the re-grading of the vegetated channel to the Weymouth Back River and minor excavation for soil remediation.	Employ temporary erosion controls (e.g., silt fence, hay/straw bales, filter socks, mulching, temporary and/or permanent reseeding) and sedimentation controls, as appropriate.
Environmental Inspections	No impacts.	MBTA will employ a qualified environmental inspector to ensure that construction activities follow the requirements of federal, state, and local permits and approvals. Inspections will occur at least once per week and after rain threshold is reached in accordance with the SWPPP.
Construction Activity	Areas surrounding the Project may be subject to construction noise and obstructions during work hours.	Typical daily construction hours are expected to be from 7:00 a.m. to 4:00 p.m., Monday through Friday. Contractors will be encouraged to reuse or recycle construction and demolition debris to the maximum extent possible.

FINDINGS: Based on its review of the MEPA documents, the permit application, public comments, and applicable regulations, MassDEP finds the terms and conditions to be incorporated into the permits required for the Project and the mitigation commitments set forth herein will constitute all feasible measures to avoid damage to water quality and will minimize and mitigate such damage to the maximum extent practicable for those impacts subject to MassDEP authority. Appropriate conditions consistent with this Section 61 Finding are included in the Section 401 Individual WQC issued by the Department to describe more fully and ensure implementation of said measures.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____ _____

BY **DATE**

10.2 EEA

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

ENVIRONMENTAL JUSTICE

PROPOSED FINDING PURSUANT TO M.G.L., c. 30, § 61

PROJECT NAME: Durante Site Remediation and Wetland Restoration Project

PROJECT LOCATION: Weymouth

PROJECT PROPONENT: Massachusetts Bay Transportation Authority

EEA NUMBER: To be determined

PERMIT: Environmental Justice

INTENT OF THESE SECTION 61 FINDINGS: MEPA regulations 301 CMR 11.12(5) stipulate that in "accordance with G.L. c. 30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR shall determine whether the Project is likely, directly or indirectly, to cause any damage to the environment and make a finding describing the damage to the environment and confirming that all feasible measures have been taken to avoid or minimize the damage to the environment." The Section 61 Findings are incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by the Project Proponent and are intended to assist the state permit-issuing agency in fulfilling its obligations in accordance with G.L. c. 30, §61. These Findings are limited to the subject matter jurisdiction of the MEPA Interim Protocol for Analysis of Environmental Justice (EJ) Impacts, which implements requirements related to the content of Environmental Impact Reports (EIRs) as set forth in Section 58 of the Act.

PROJECT DESCRIPTION: The Project will include site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland/Salt Marsh areas on Site. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen.

MEPA HISTORY: Pursuant to G.L. c. 30, §61- §62A-H, of the MEPA and its implementing regulations at 301 CMR 11.00, the Proponent (MBTA) has prepared and submitted this Single Environmental Impact Report (SEIR). The Project is subject to MEPA review as it requires one or more state permits and exceeds the following thresholds requiring the filing of an:

- ENF and Other Review for ACEC because there the Project is within ½ or more acres within a designated ACEC (301 CMR 11.03(11)(b))
- ENF : Wetlands, Waterways & Tidelands: (301 CMR 11.03(3)(b)(1)(c-f))

- Alteration of 1,000 or more square feet of salt marsh or outstanding resource waters.
- New fill or structure or expansion of existing fill or structure, except a pile supported structure, in a velocity zone or regulatory floodway.
- Alteration of ½ or more acre of any other wetlands.

- EIR for Environmental Justice Populations as the Project is located within 1-mile of a Designated Geographic Area around an Environmental Justice Population (301 CMR 11.06(7)(b)).

PROJECT IMPACTS AND MITIGATION: Refer to **Table 10-4** for a list of impacts and corresponding mitigation relative to Environmental Justice. MBTA will be responsible for providing the mitigation measures below. The schedule and cost of these measures is still to be determined. In addition, MBTA is continuing to work with EOEEA to develop further mitigation measures and options to this mitigation to the extent it can help ensure minimal impacts to Environmental Justice populations.

Table 10-4: Section 61 Findings for EJ Impacts

Category	Impact	Mitigation Measures
Traffic	Traffic impacts during construction	Impacts to traffic during the construction of the Project will be minor and intermittent. There will be no permanent impacts to traffic patterns or use of existing roadways and no impacts to public health are anticipated from traffic. A decontamination or "tracking pad" will be installed or other appropriate measures (e.g., sweeping) will be used, when necessary, to reduce mud deposition from equipment crossing roadways.
Sensitive Receptors	Temporary construction-related impacts include traffic disruption, and noise.	MBTA will manage construction access to the Site to maintain full access for emergency, ambulance and/or fire service to surrounding neighborhoods.
Water Quality	Possible short term impact during construction.	If necessary, a dewatering treatment and management system will be designed and operated by the Contractor to manage surface and groundwater during remedial activities. Management of dewatering fluids will be conducted in accordance with the DRGP. MBTA will also use BMPs such as the use of straw wattles, silt fencing, stormwater management features, and other control measures will be used to prevent soil and other material from being transported into wetlands and streams.
Land Protection and Open Space	No impact	Project activities will enhance the open space area and restore the degraded resource areas on-site.

Table 10-4: Section 61 Findings for EJ Impacts

Category	Impact	Mitigation Measures
Noise	Short-term impacts will result from noise-producing construction activities.	Construction is anticipated to be limited to typical work hours (7:00 a.m. to 4:00 p.m.). Noise-generating activities will be conducted in accordance with any local and state requirements and are not anticipated to cause impacts to public health.
Safety	Construction activities may impact public safety.	MBTA is committed to safety, protecting the environment, preventing accidents/incidents, and maintaining the highest standards for the proposed work. MBTA accomplishes these goals by posting emergency contact information for the Project near the access gates.

FINDINGS: Based on its review of the MEPA documents, the permit application, public comments, and applicable regulations, EOEEA finds the terms and conditions to be incorporated into the permits required for the Project and the mitigation commitments set forth herein will constitute all feasible measures to avoid damage to EJ populations and will minimize and mitigate such damage to the maximum extent practicable for those impacts subject to EOEEA authority. Appropriate conditions consistent with this Section 61 Finding are included in the Certificate issued by the EOEEA Secretary to describe more fully and ensure implementation of said measures.

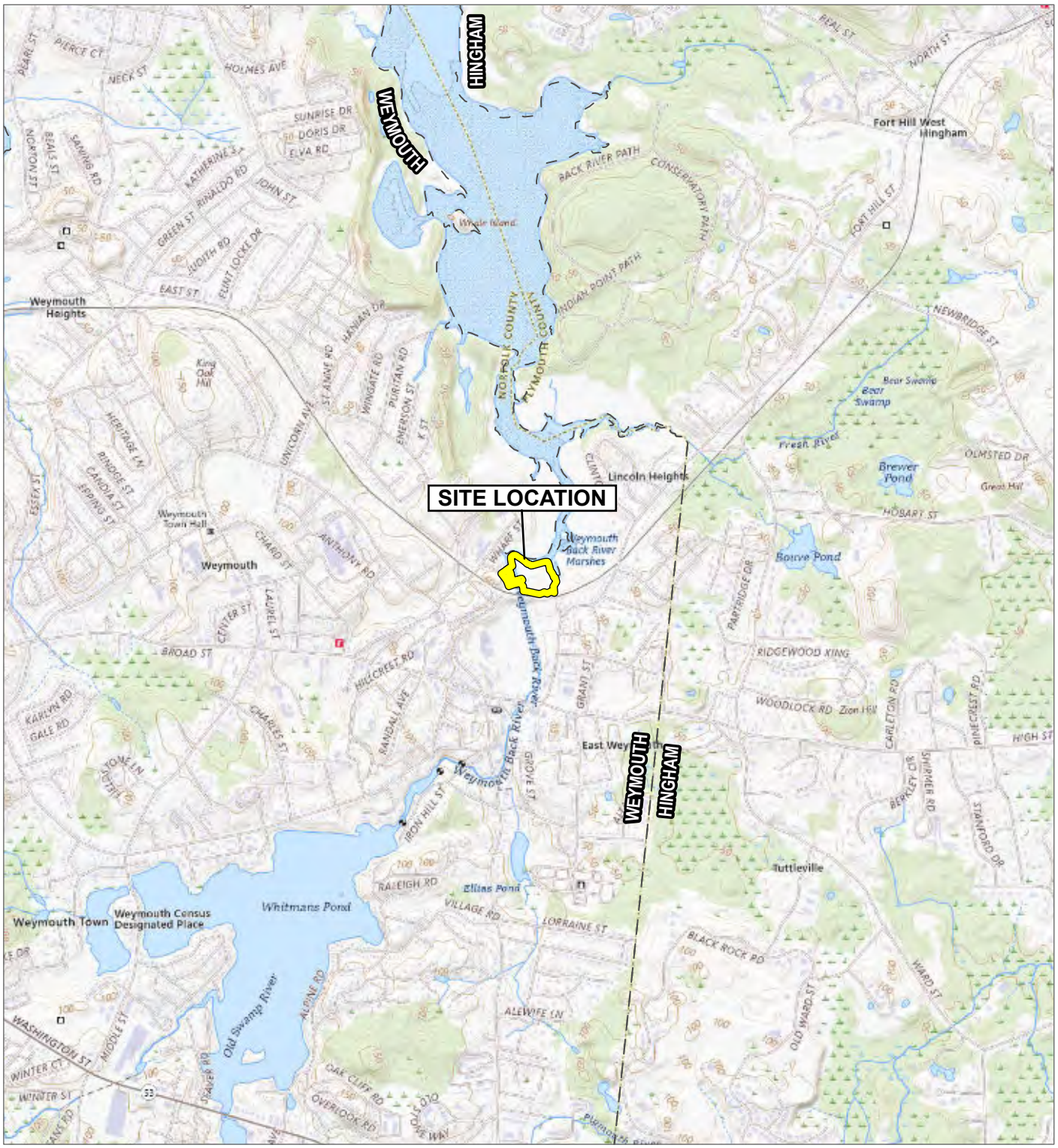
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

_____ _____

BY **DATE**

Attachment A: Figures

Figure 1. USGS Locus Map
Figure 2. Environmental Constraints Map
Figure 3. Environmental Justice Map
Figure 4. Other Pollutant Sources Map
Figure 5. Areas with Potential EJ Concerns from EJScreen



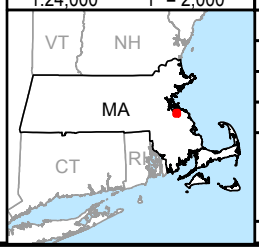
DURANTE SITE

MUNICIPAL BOUNDARY

0 1,000 2,000

FEET

1:24,000 1" = 2,000'



BASE MAP: USGS TOPO (THE NATIONAL MAP)
DATA SOURCES: USGS, ESRI, TRC

PROJECT: **DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT**

WEYMOUTH, MASSACHUSETTS

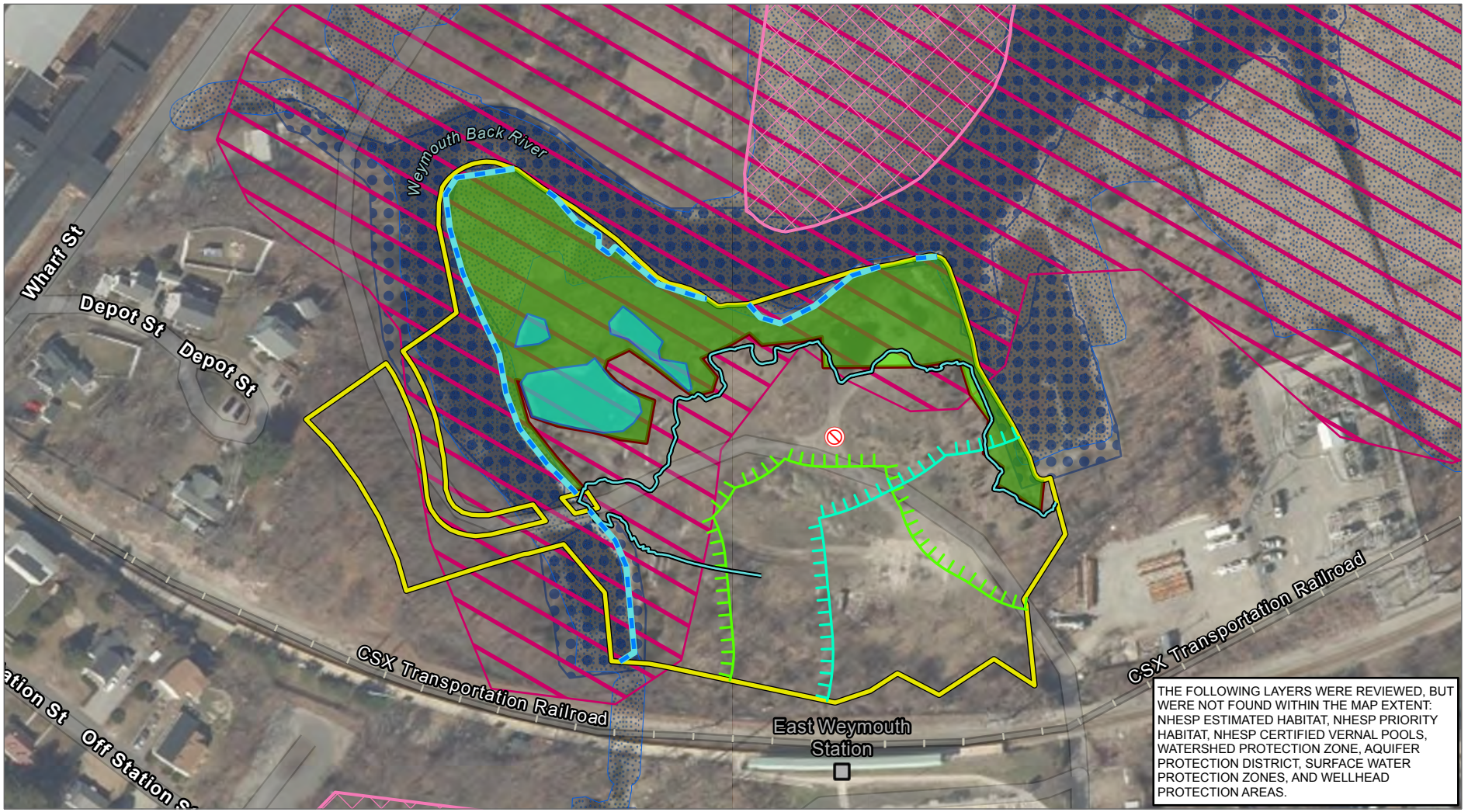
TITLE: **USGS SITE LOCATION MAP**

DRAWN BY:	E. YPSILANTIS	PROJ. NO.:	459216
CHECKED BY:	J. FREDENBURG		
APPROVED BY:	M. GIAMBATTISTA		**FIGURE 1**
DATE:	MARCH 2025		

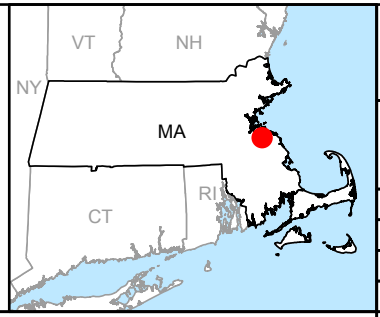
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_RB

COORDINATE SYSTEM: NAD 1983 STATEPLANE MASSACHUSETTS MAINLAND FIPS 2001; MAP ROTATION: 0
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- DURANTE SITE
- COASTAL BANK
- DELINEATED WETLAND BOUNDARY
- HIGH TIDE LINE
- 100-FT BUFFER ZONE
- 200-FT RIVERFRONT AREA
- BORDERING VEGETATED WETLAND
- SALT MARSH
- PONDED AREA
- MADEP 21E SITE LOCATION
- ARTICLE 97 LAND
- AREA OF CRITICAL ENVIRONMENTAL CONCERN
- OUTSTANDING RESOURCE WATERS
- MADEP SURFACE WATER



BASE MAP: GOOGLE IMAGERY SERVICE
DATA SOURCES: MASSGIS, TRC, ESRI, MADEP, FEMA

N

0 75 150 FEET

1:1,800 1" = 150'

PROJECT: **DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT**
WEYMOUTH, MASSACHUSETTS

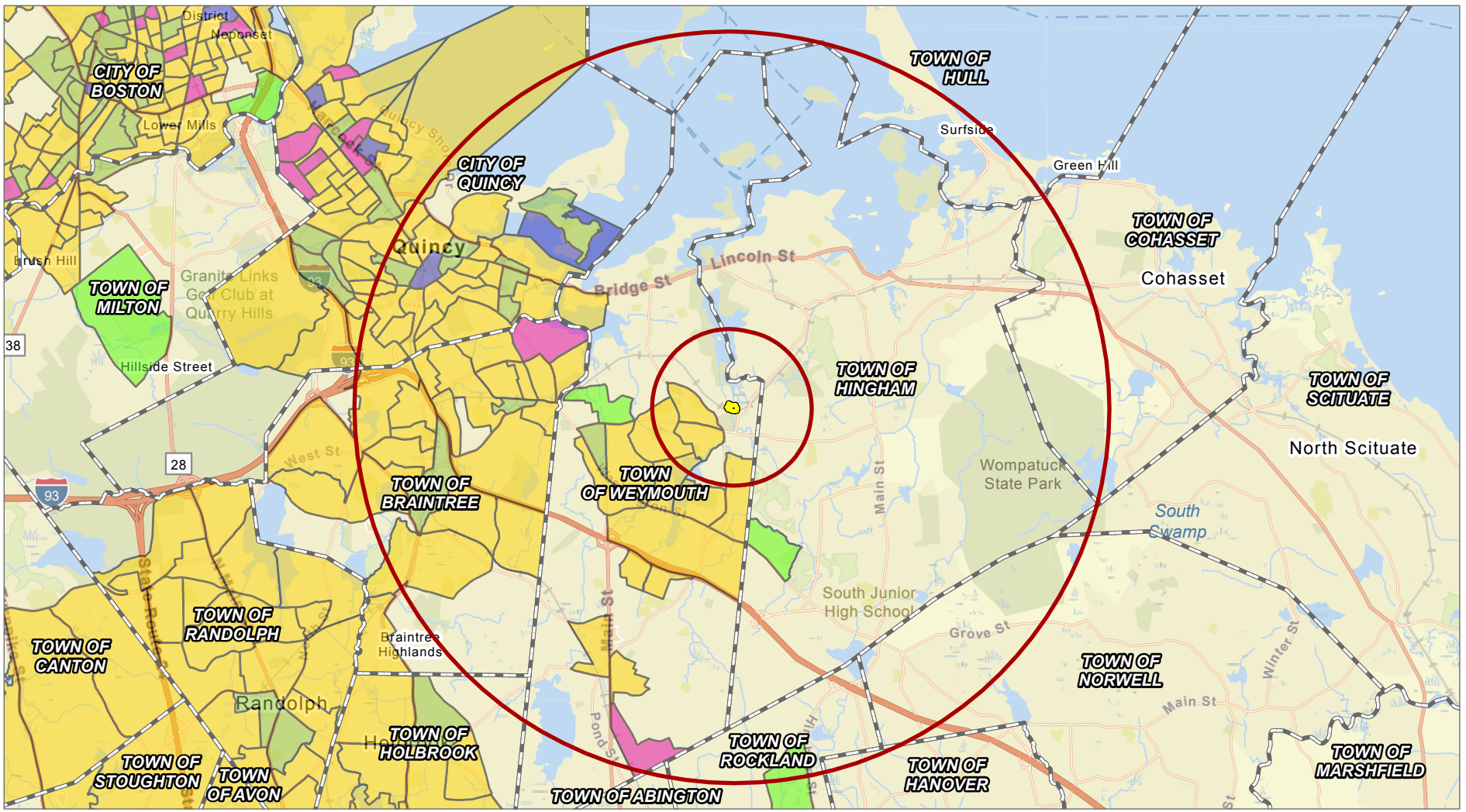
TITLE: **ENVIRONMENTAL CONSTRAINTS MAP**

DRAWN BY:	R. BARBER	PROJ. NO.:	459216.0000.0000
CHECKED BY:	J. FREDENBURG		
APPROVED BY:	I. MOHAMMADI-HALL		**FIGURE 2**
DATE:	JULY 2025		

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_RB

COORDINATE SYSTEM: NAD 1983 STATEPLANE MASSACHUSETTS MAINLAND FIPS 2001 FEET; MAP ROTATION: 0
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DURANTE SITE

ONE- AND FIVE-MILE RADII AROUND PROJECT AREA

MUNICIPAL BOUNDARY

ENVIRONMENTAL JUSTICE BLOCK GROUPS

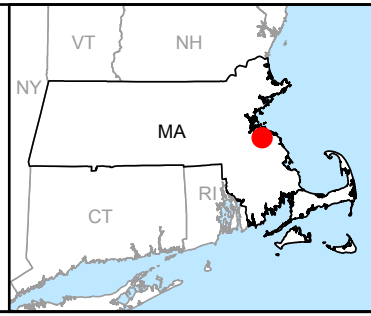
MINORITY

INCOME

MINORITY AND INCOME

MINORITY AND ENGLISH ISOLATION

MINORITY, INCOME AND ENGLISH ISOLATION



BASE MAP: ESRI STREET MAP
DATA SOURCES: MASSGIS, TRC, ESRI

0 1 2 MILES

1:126,720 1" = 2 miles

PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

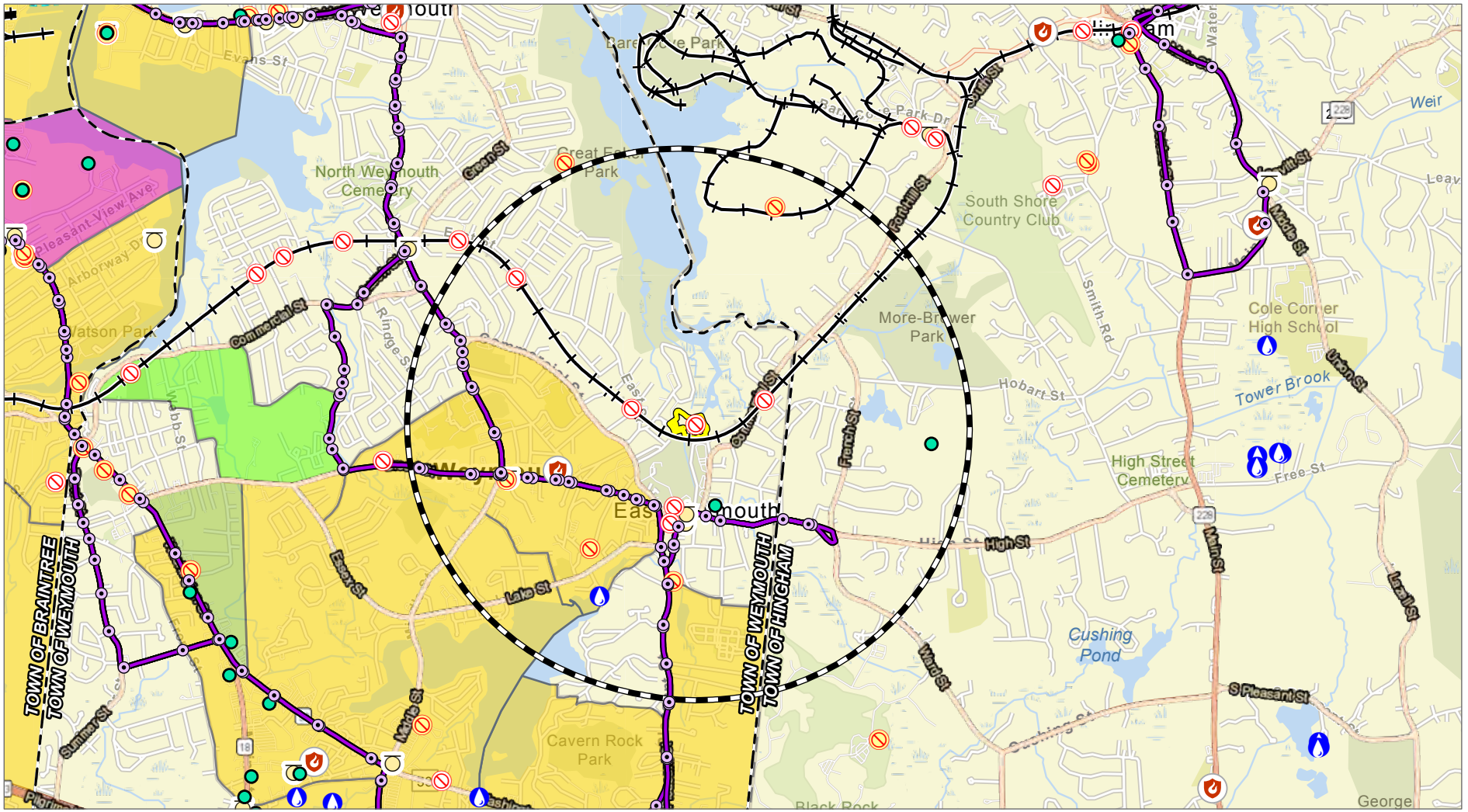
TITLE: ENVIRONMENTAL JUSTICE AREAS

DRAWN BY:	G. STUDWELL	PROJ. NO.:	459216
CHECKED BY:	I. MOHAMMADI-HALL		
APPROVED BY:	J. SHUSTER		FIGURE 3
DATE:	MAY 2025		

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_RB

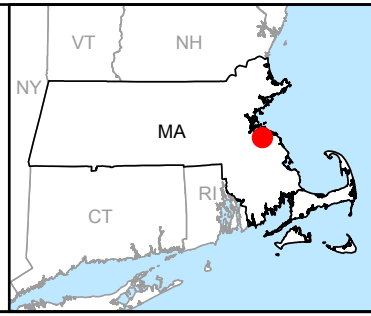
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- DURANTE SITE
- MUNICIPAL BOUNDARY
- 1-MILE SITE BUFFER
- BWP MAJOR SITE
- FIRE STATION
- MADEP AUL SITE LOCATION
- MADEP 21E SITE LOCATION
- MBTA BUS STOP
- PUBLIC WATER SUPPLY
- UNDERGROUND STORAGE TANK
- MBTA BUS ROUTE
- RAIL ROAD

ENVIRONMENTAL JUSTICE BLOCK GROUPS

- MINORITY
- INCOME
- MINORITY AND INCOME
- MINORITY AND ENGLISH ISOLATION



BASE MAP: ESRI "STREETS" MAP
DATA SOURCES: MASSGIS, USGS, ESRI, MASS OEJE, MADEP, MBTA

N

0 1,500 3,000 FEET

1:36,000 1" = 3,000'

PROJECT: **DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT**
WEYMOUTH, MASSACHUSETTS

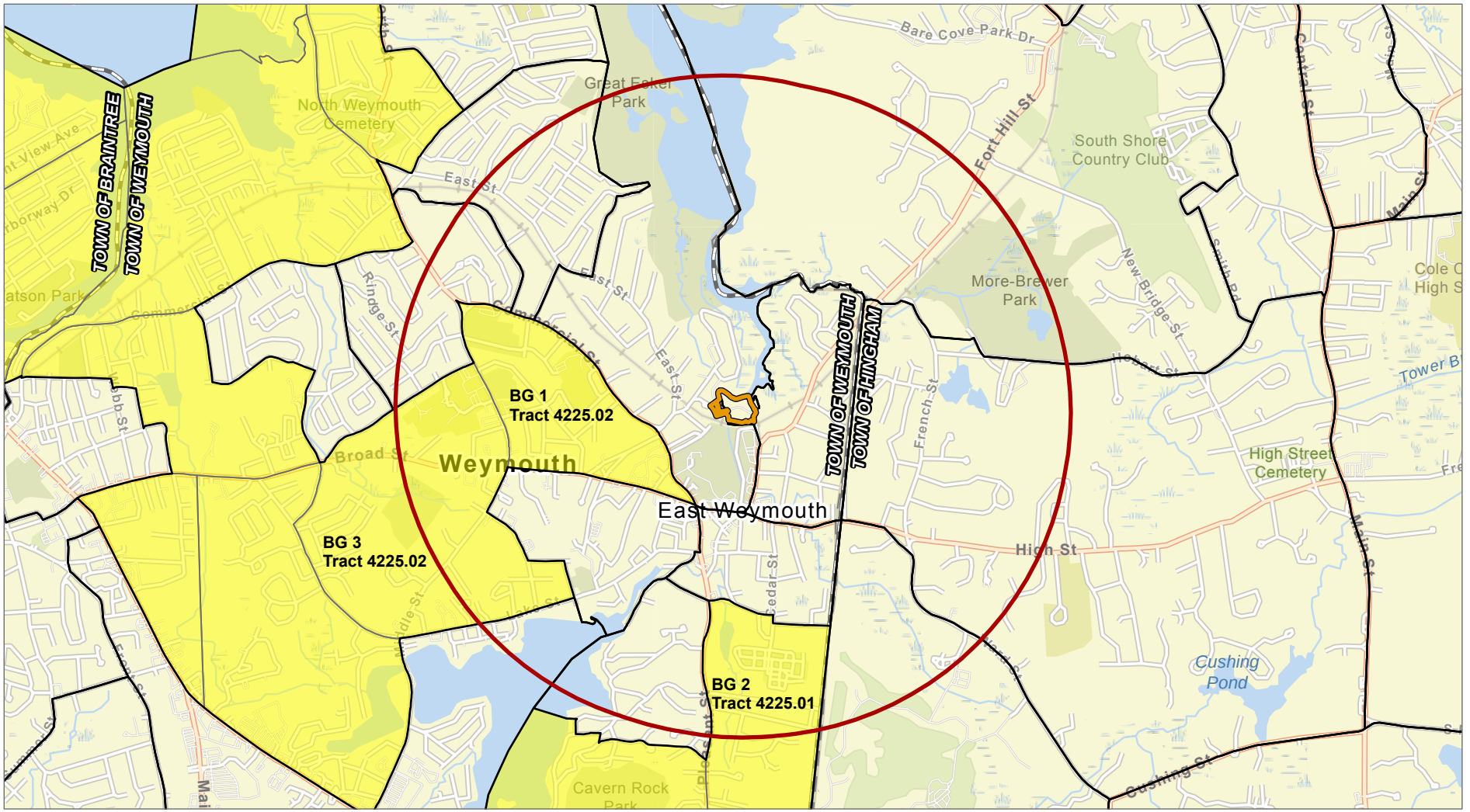
TITLE: **POTENTIAL SOURCES OF POLLUTION**

DRAWN BY:	R. BARBER	PROJ. NO.:	459216.0000.0000
CHECKED BY:	J. FREDENBURG		
APPROVED BY:	I. MOHAMMADI-HALL		**FIGURE 4**
DATE:	MAY 2025		

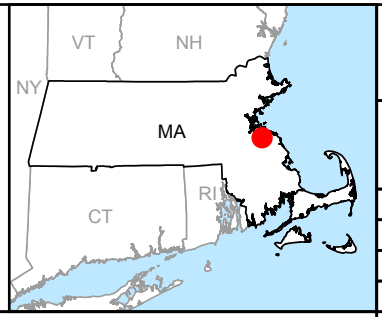
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_RB

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
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- DURANTE SITE
- ONE-MILE RADIUS AROUND PROJECT SITE
- MUNICIPAL BOUNDARY
- EJ AREA OF CONCERN
- NOT AN EJ AREA OF CONCERN



PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: AREAS WITH POTENTIAL EJ CONCERNS FROM EJSCREEN

DRAWN BY:	J. CORSO	PROJ. NO.:	459216
CHECKED BY:	G. STUDWELL		
APPROVED BY:	I. MOHAMMADI-HALL		FIGURE 5
DATE:	JUNE 2025		

BASE MAP: ESRI STREET MAP
DATA SOURCES: EPA EJSCREEN 2.3, TRC, ESRI

0 1,250 2,500 FEET
1:30,000 1" = 2,500'

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_RB

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0 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0

Attachment B: Project Plans

FORMER DURANTE SITE REMEDIATION AND RESTORATION

PLAN OF

0 NORTH WHARF STREET

(FORMER DURANTE SITE)

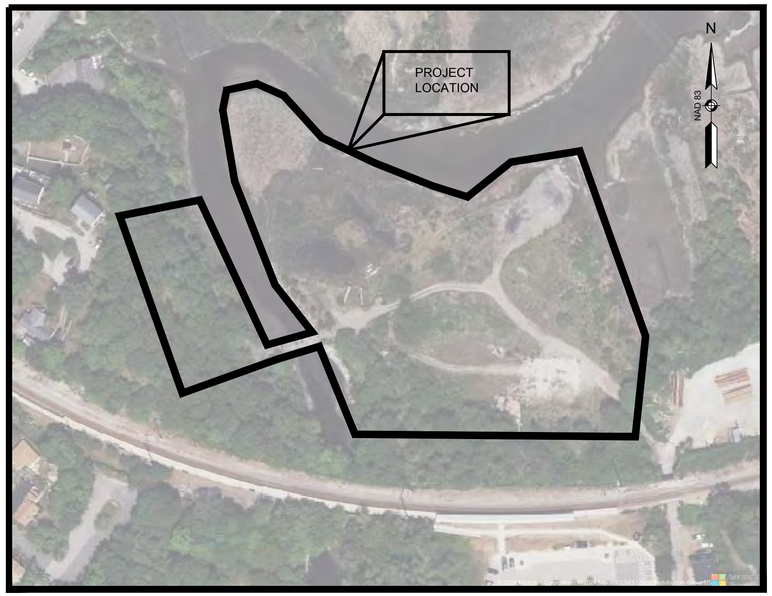
IN THE TOWN OF

WEYMOUTH, MASSACHUSETTS

NORFOLK COUNTY

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
3	EXISTING CONDITIONS PLAN
4	DEMOLITION AND EROSION & SEDIMENT CONTROL PLAN
5	HAZARDOUS MATERIALS SITE PLAN
6	FINAL GRADING PLAN
7	LANDSCAPING & WETLAND RESTORATION PLAN
8	DETAILS I
9	DETAILS II
10	DETAILS III



0 100 200 300 400

SCALE: 1" = 100'

PREPARED FOR

MASSACHUSETTS BAY TRANSIT AUTHORITY
10 PARK PLAZA, SUITE 6720
BOSTON, MA 02116

PREPARED BY

TRC ENVIRONMENTAL CORPORATION
650 SUFFOLK STREET
LOWELL, MA 01854

MEPA EENF AND ROLLOVER EIR

JULY 29, 2025

01 COVER.DWG Plotted on 29-Jul-2025 9:57 AM

REFERENCE:

1. PROJECT LOCATION: MBTA, 0 WHARF ST NORTH, WEYMOUTH, MA. ASSESSORS MAP 19, BLOCK 193, LOT 2.

2. EXISTING CONDITIONS MAPPING TAKEN FROM A SURVEY PREPARED BY LAND PLANNING, INC. OF HANSON, MASSACHUSETTS (P-2815-EX.DWG), DATED 07/31/2024. EXISTING CONDITIONS MAPPING DOES NOT REPRESENT A PROPERTY LINE SURVEY.

3. HORIZONTAL DATUM IS BASED UPON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83).

4. ELEVATIONS ARE PROVIDED BY LAND PLANNING, INC AND BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

5. ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP (FIRM) FOR NORFOLK COUNTY, MASSACHUSETTS, PANEL 231 OF 430, MAP NO. 25021C0231F, EFFECTIVE DATE JULY 8, 2025, A PORTION OF THE SUBJECT LIMIT OF DISTURBANCE IS LOCATED IN AN AREA WITH A DETERMINED ELEVATION OF 11 FEET BASED UPON THE NORTH AMERICAN VERTICAL DATUM (NAVD88). A REGULATED FLOODWAY IS LOCATED ONSITE AS PART OF THE HERRING BROOK.

GENERAL NOTES:

1. ALL PRODUCTS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO INSTALLATION.

2. UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM TO THE LATEST "COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES", AND THE LATEST "MASSACHUSETTS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARD DETAILS".

3. LIMITS OF DISTURBANCE (LOD) HAVE BEEN SET ON THE DRAWINGS. HOWEVER, THESE MAY BE EXTENDED OR REDUCED IN ORDER TO MEET FIELD CONDITIONS. THE ENGINEER SHALL REVIEW AND APPROVE ANY CHANGE IN THE LOD PRIOR TO ANY ALTERATION.

4. THE CONTRACTOR SHALL, AS SPECIFIED BY THE ENGINEER, ESTABLISH "CONSTRUCTION LIMITS" ON THE SITE BY ACCEPTABLE VISIBLE MARKERS. ALL WORK AND EQUIPMENT SHALL BE CONFINED TO WITHIN THESE LIMITS, UNLESS OTHERWISE SPECIFICALLY AUTHORIZED.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT ENGINEER'S REVIEW AND APPROVAL.

6. NO CHANGES ARE TO BE MADE UNLESS AUTHORIZED BY THE ENGINEERS AND/OR APPLICANT/OWNER.

7. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL SAFETY CODES, REGULATIONS, LEGAL REQUIREMENTS, PERMIT CONDITIONS, ETC.

8. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.

9. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, STREETS, PAVEMENTS, HIGHWAY GUARDS, CURBING, EDGING, TREES AND PLANTINGS, ETC. ON OR OFF THE PREMISES, AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AT HIS/HER OWN EXPENSE AS REQUIRED BY THE ENGINEER ANY ITEMS DAMAGED AS A RESULT OF THE CONTRACTOR'S WORK.

10. THE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH, AND DEBRIS IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL LEAVE THE PROJECT SITE IN A SAFE AND CLEAN CONDITION AT ALL TIMES DURING CONSTRUCTION. CONTAMINATED SOILS AND DEBRIS SHALL BE MANAGED IN ACCORDANCE WITH THE REGULATORY REQUIREMENTS, PROJECT SPECIFICATIONS AND PLANS.

11. THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.

12. CONSTRUCTION SEQUENCE SHALL BE COORDINATED TO MINIMIZE DISTURBANCE OF EXISTING CONDITIONS AND OPERATIONS.

13. ALL EXISTING PIPING AND STRUCTURES EXPOSED DURING EXCAVATION SHALL BE ADEQUATELY SUPPORTED, BRACED, OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.

14. ALL NECESSARY FEES AND CONSTRUCTION PERMITS SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.

15. MAINTENANCE OR REFUELING OF VEHICLES OR CONSTRUCTION EQUIPMENT SHALL BE PROHIBITED FROM ANY AREA WITHIN 25 FEET OF A WETLAND OR NEAR STORMWATER BASINS.

16. CONTRACTOR IS RESPONSIBLE FOR REVIEWING, UNDERSTANDING, AND COMPLYING WITH ALL PERMIT CONDITIONS. INCLUDING, BUT NOT LIMITED TO, WEYMOUTH CONSERVATION COMMISSION ORDER OF CONDITIONS, MEPA RESTORATION ORDER OF CONDITIONS, AND USACOE PERMIT CONDITIONS.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.

18. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AN OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, OR FIRE HYDRANTS WITHOUT APPROPRIATE PERMITS.

19. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND NO ADDITIONAL COST TO THE OWNER.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY AND LANDSCAPING DRAWINGS.

2. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITH APPROVAL FROM THE OWNER AND OTHER AUTHORITIES HAVING JURISDICTION.

LAYOUT NOTES:

1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.

2. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT ENGINEER IF ANY DISCREPANCIES ARE FOUND.

GRADING & UTILITIES NOTES:

1. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.

2. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.

3. ALL UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ALL DAMAGE TO EXISTING UTILITIES OR STRUCTURES, AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS, AS SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

11. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES AND UTILITY COMPANIES, IN WRITING, A MINIMUM OF 48 HOURS PRIOR TO ANY CONSTRUCTION WITHIN 15 FEET OF A UTILITY LINE.

12. NO EXCAVATION SHALL BE DONE UNTIL COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.

13. BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS AND FOR PERFORMING ANY NECESSARY WORK INVOLVED IN CONNECTION WITH THE DISCONTINUANCE OR JURISDICTION OF THE UTILITY COMPANIES, SUCH AS ELECTRICITY, TELEPHONE, WATER, GAS AND ANY SYSTEM OR SYSTEMS WHICH WILL BE AFFECTED BY THE WORK TO BE PERFORMED UNDER THIS CONTRACT.

14. UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES.

15. IF REQUIRED, OVERHEAD LINES SHALL BE RELOCATED BY THE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

16. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN EXCAVATING NEAR AND BACKFILLING IN THE VICINITY OF EXISTING UTILITIES, INCLUDING THE USE OF HAND EXCAVATION WHERE APPROPRIATE.

17. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.

SEDIMENTATION & EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL PREPARE AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (eNOI) WITH THE EPA IN ACCORDANCE WITH THE DEWATERING AND REMEDIATION GENERAL PERMIT (DRGP) REQUIREMENTS PRIOR TO CONSTRUCTION.

3. EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN HEREIN OR AS DIRECTED BY THE ENGINEER. THE EROSION AND SEDIMENT CONTROLS SHOWN HEREIN ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET THE ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER, OWNER, OR AUTHORITIES HAVING JURISDICTION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING EROSION CONTROL MEASURES TO PREVENT OFF-SITE TRACKING OF EARTH, SEDIMENT AND DEBRIS.

5. PERIMETER SOIL AND EROSION CONTROLS SHALL BE PLACED PRIOR TO ANY CONSTRUCTION ACTIVITIES. CONTRACTOR TO NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES. ALL SOIL AND EROSION CONTROLS SHALL BE CHECKED AND REPAIRED AS NECESSARY.

6. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF EACH STORM EVENT GREATER THAN 0.25 INCHES OF RAINFALL. ALL DAMAGED EROSION CONTROL MEASURES SHALL BE REPLACED. ACCUMULATED SEDIMENT SHALL BE STOCKPILED FOR LATER REUSE.

7. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF SILT FENCE, HAYBALES AND FILTER SOCK ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.

8. SOIL STOCKPILES SHALL BE LOCATED ON AN IMPERVIOUS SURFACE, AS NECESSARY, AND SURROUNDED BY APPROPRIATE EROSION CONTROL BARRIERS REGARDLESS OF THEIR DURATION OF EXPOSURE.

9. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, SEDIMENT, GROUNDWATER, OR OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

10. THE CONTRACTOR SHALL SCHEDULE THEIR WORK TO ALLOW THE FINISHED SUB GRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING.

11. CRUSHED STONE CONSTRUCTION ENTRANCES SHALL BE ESTABLISHED AT ALL POINTS OF INGRESS AND EGRESS.

12. AREAS TO REMAIN UNSTABILIZED FOR A PERIOD OF MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED ACCORDING TO THE MOST RECENT APPROVED MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS.

13. TEMPORARY STRAW MULCH OR TEMPORARY EROSION CONTROL BLANKETS SHALL BE USED WHERE NON-VEGETATIVE COVER IS REQUIRED FOR A PERIOD GREATER THAN 14 DAYS BUT LESS THAN SIX MONTHS. MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MACHINE RESULTING IN 100% COVERAGE OF THE DISTURBED SOIL. IF ANCHORING IS NECESSARY, TACKIFIERS AND/OR NETTING EITHER WITH THE MULCH OR IMMEDIATELY FOLLOWING MULCH APPLICATION SHALL BE USED.

14. TEMPORARY SEEDING SHALL BE USED WHERE VEGETATIVE COVER IS REQUIRED FOR SIX (6) MONTHS OR LONGER ON DISTURBED SOIL AREAS. SUCH AREAS SHALL BE SEEDED IF THE SOILS WILL BE EXPOSED FOR MORE THAN 30 DAYS. RAPIDLY GROWING ANNUAL GRASSES WILL BE UNIFORMLY APPLIED AT THE RATE ASSOCIATED WITH HYDRAULIC APPLICATION (HYDROSEEDING). A HYDRAULICALLY APPLIED MATERIAL, SUCH AS GEOPERM™, SHALL BE APPLIED TO SOME DISTURBED AREAS IN LIEU OF HYDRO-SEED. THE SITE SHALL BE CHECKED PERIODICALLY TO ASSESS THE GROWTH OF THE PLANTS. IF SEEDING FAILS TO GROW, THE AREA SHALL BE RE-ESTABLISHED TO PROVIDE ADEQUATE EROSION CONTROL. THE SEED MIXTURE TO BE USED FOR TEMPORARY STABILIZATION SHALL BE MASSDOT M6.03.1-1 OR APPROVED EQUAL.

15. PERMANENT SEEDING SHALL BE USED ON AREAS WHERE PERMANENT VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL AND REDUCE EROSION AND SEDIMENTATION. PERMANENT SEEDING WILL BE IN LINE WITH THE SEEDING PROPOSED IN THE RESTORATION PLAN (PLAN SHEETS 7 AND 10). SEEDING IS NOT RECOMMENDED IN TIDALLY INFLUENCED AREAS OF THE SALT MARSH COMPLEX. THOSE AREAS TO BE STABILIZED BY NETTING AND PLANTINGS DETAILED IN RESTORATION PLAN.

16. PERMANENT SEEDING SHALL OCCUR BETWEEN APRIL 1 AND MAY 31, OR AUGUST 1 AND SEPTEMBER 10.

17. DUST FROM THE SITE SHALL BE CONTROLLED BY USING COVERED TRUCKS, WETTING EXPOSED SOIL AREAS, SEEDING, INSTALLING WIND SCREENS AND/OR BARRIERS, APPLYING SOIL STABILIZATION AGENTS, MINIMIZING UNNECESSARY TRANSFERS AND DISTURBANCES OF EARTH MATERIALS AND ON-GOING CONSTRUCTION CLEAN-UP. SEVERAL APPLICATIONS PER DAY MAY BE NECESSARY DEPENDING UPON WEATHER CONDITIONS AND WORK ACTIVITY. CALCIUM CHLORIDE MAY ALSO BE USED TO CONTROL DUST INSTEAD OF WET SUPPRESSION WHEN FREEZING CONDITIONS EXIST.

18. TREATMENT CHEMICALS SHALL NOT BE APPLIED.

19. ANY EQUIPMENT THAT IS NOT READILY MOBILE (TRACK MACHINERY) SHALL BE PARKED WITHIN THE PROJECT LOD, LARGE AND/OR BULKY MATERIALS SHALL BE STORED SUCH THAT THEY DO NOT INTERFERE WITH THE ONGOING CONSTRUCTION ACTIVITIES OR EROSION CONTROL MEASURES.

20. THE CONTRACTOR SHALL NOT REMOVE ANY EROSION CONTROLS UNTIL THE CONTRIBUTING AREA IS PERMANENTLY STABILIZED AND UNTIL A CERTIFICATE OF COMPLIANCE IS RECEIVED FROM THE CONSERVATION COMMISSION.

DOCUMENT USE:

1. THESE PLANS AND THE CORRESPONDING CAD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE PREPARED BY TRC ENGINEERS, INC., AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED WRITTEN CONSENT OF TRC ENGINEERS, INC. ANY UNAUTHORIZED USE, REUSE, MODIFICATION, OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT, SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO TRC ENGINEERS, INC.

2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, OR DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS OR OWNER, BUT SHALL VERIFY LOCATIONS OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS, AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURER'S LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

ABBREVIATIONS:

ABAN	ABANDON IN PLACE	MAX	MAXIMUM
AC	ACRES/ASPHALT CONCRETE	MH	MANHOLE
AD	AREA DRAIN	MIN	MINIMUM
ADJ	ADJUST	MJ	MECHANICAL JOINT
AL	ALUMINUM	MM	MILLIMETER
APPROX	APPROXIMATE	MWL	MAXIMUM WATER LEVEL
AREA	AMERICAN RAILWAY ENGINEERING ASSOCIATION	N	NORTH
ASSY	ASSEMBLY	NA	NOT APPLICABLE
AVG	AVERAGE	N/F	NOW OR FORMERLY
BDY	BOUNDARY	NIC	NOT IN CONTRACT
BIT	BITUMINOUS CONCRETE	NO OR #	NUMBER
BM	BENCH MARK	NTS	NOT TO SCALE
BWW	BORDERING VEGETATED WETLAND	OC	ON CENTER
CAP	CORRUGATED ALUMINUM PIPE	OCEW	ON CENTER EACH WAY
CATV	CABLE ACCESS TELEVISION	OD	OUTSIDE DIAMETER
CB	CATCH BASIN	OG	ORIGINAL GROUND
CBND	CONCRETE BOUND	OHW	OVERHEAD WIRE
CCB	CAPE COD BERM	PCB	PROPOSED CATCH BASIN
CEMCONC	CEMENT CONCRETE	PC	POINT OF CURVE
CF	CUBIC FOOT	PCC	POINT OF COMPOUND CURVE OR PRECAST CONCRETE CURB
CI	CAST IRON	PDMH	PROPOSED DRAINAGE MANHOLE
CIP	CAST IRON PIPE	PE	POLYETHYLENE/PLAIN END
CL	CENTERLINE	PERF	PERFORATED
CLR	CLEAR	PERM	PERMEABILITY
CLDI	CEMENT LINED DUCTILE IRON	PFI	POINT OF FROG INTERSECTION
CLF	CHAINLINK FENCE	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PIV	POSITION INDICATOR VALVE
CO	CLEANOUT/COUNTY	PK	PARKER KALON NAIL
CONC	CONCRETE	PL	PROPERTY LINE/PLATE
COND	CONDUIT	PLCS	PLACES
CONN	CONNECTION	POC	POINT ON CURVE
CONT	CONTINUOUS	POT	POINT ON TANGENT
COORD	COORDINATE	PP	POLYPROPYLENE/POWER POLE
CRB	CURB	PRC	POINT OF REVERSE CURVE
CULV	CULVERT	PROP	PROPOSED
CY	CUBIC YARD	PS	POINT OF SWITCH
D	DEGREE OF CURVE/DRAIN	PSMH	PROPOSED SEWER MANHOLE
DET OR DET'L	DETAIL	PT	POINT OF TANGENCY
DETN	DETENTION	PVC	POLYVINYL CHLORIDE PIPE
DH	DRILL HOLE	PVI	POINT OF VERTICAL INTERSECTION
DIA OR Æ	DIAMETER	PVMT	PAVEMENT
DIP	DUCTILE IRON PIPE	PWW	PAVED WATERWAY
DMH	DRAINAGE MANHOLE	R	RADIUS
DWG	DRAWING	RAD	RADIUS
EA	EACH	RCP	REINFORCED CONCRETE PIPE
E	EAST	RD	ROAD
ELB	ELBOW	RDCR	REDUCER
EL OR ELEV	ELEVATION	REINF	REINFORCEMENT
EMH	ELECTRIC MANHOLE	REM	REMOVE
EP	EDGE OF PAVEMENT	REQ'D	REQUIRED
EPLP	ESCUTCHEON PIN IN LEAD	R&R	REMOVE AND RESET
EQ	EQUAL	R&S	REMOVE AND STACK
ES	EDGE OF SHOULDER	RET	RETAIN
ET	ELECTRICAL TRANSFORMER	RR	RAILROAD
EVC	END VERTICAL CURVE	RSV	RESILIENT SEAT VALVE
EW	EACH WAY	RT	RIGHT
EXIST OR EX	EXISTING	RTE	ROUTE
FB	FLATBAR	RTF	RAILROAD TRANSFER FACILITY
FCA	FLANGED COUPLING ADAPTER	R/W	RIGHT OF WAY
F & C	FRAME AND COVER	S	SLOPE IN FEET/FOOT
FD	FOUND	SB/DH	STONE BOUND WITH DRILL HOLE
FDN	FOUNDATION	SCH	SCHEDULE
FES	FLARED END SECTION	SDR	STANDARD DIMENSION RATIO
FFE	FINISHED FLOOR ELEVATION	SEC	SECURITY
FG	FINISHED GRADE	SECT	SECTION
F&G	FRAME AND GRATE	SED	SEDIMENTATION
FIG	FIGURE	SF	SQUARE FEET
FL	FLOWLINE	SGC	SLOPED GRANITE CURB
FLG	FLANGE	SHLDR	SHOULDER
FLR	FLOOR	SHT	SHEET
FM	FORCE MAIN	SMH	SEWER MANHOLE
FML	FLEXIBLE MEMBRANE LINER	SPECS	SPECIFICATIONS
FT	FOOT/FEET	SS	SANITARY SEWER
G	GAS	SST	STAINLESS STEEL
GAL	GALLON	STA	STATION
GALV	GALVANIZED	STL	STEEL
GB	GRADE BREAK	STMH	STEAM MANHOLE
GC	GRANITE CURB	ST/NL	STAKE AND NAIL
GCL	GEOSYNTHETIC CLAY LINER	SY	SQUARE YARD
GND	GROUND	TBA	TO BE ABANDONED
GPM	GALLONS PER MINUTE	TBM	TEMPORARY BENCH MARK
GRAN	GRANITE	TBR	TO BE REMOVED
GR	GRAVEL	TBR&R	TO BE REMOVED & RESET
H	HEIGHT	TD	TRENCH DRAIN
HCP	HANDICAPPED PARKING	TMH	TELEPHONE MANHOLE
HDPE	HIGH DENSITY POLYETHYLENE	TOC	TOP OF CONCRETE
HGCS	HYDRAULIC GRADIENT CONTROL SYSTEM	TOR	TOP OF RAIL
HORIZ	HORIZONTAL	T	TANGENT/THICKNESS/TELEPHONE
HP	HIGH POINT	TO#	TURNOUT NUMBER
HPFF	HIGH POINT FINISHED FLOOR	TOS	TOP OF SLOPE
HRCS	HOT ROLLED CARBON STEEL	TRK	TRACK
HYD	HYDRANT	TR/BR	TREES AND BRUSH
ID	INSIDE DIAMETER	TSVB	TAPPING SLEEVE, VALVE & BOX
IE OR INV	EL INVERT ELEVATION	TW	TOP OF WALL
IN	INCH	TYP	TYPICAL
INV	INVERT	UE	UNDERGROUND ELECTRIC
IP	IRON PIPE	UL	UTILITY POLE
IPS	IRON PIPE SIZE	ULP	UTILITY LIGHT POLE
IR	IRON ROD	VC	VERTICAL CURVE
L	LENGTH	VCP	VITRIFIED CLAY PIPE
LCRS	LEACHATE COLLECTION & REMOVAL SYSTEM	VERT	VERTICAL
LEACH	LEACHATE	VGC	VERTICAL GRANITE CURB
LF	LINEAR FEET	W	WEST/WIDTH
LONG	LONGITUDINAL	W/	WITH
LP	LIGHT POLE/LOW POINT	WCR	WHEELCHAIR CURB RAMP
LSA	LANDSCAPED AREA	WF	WETLAND FLAG
LS	LUMP SUM	WG	WATER GATE
LT	LEFT	W/O	WITHOUT
LTO	LEFT TURN ONLY	WWM	WELDED WIRE MESH
		YH	YARD HYDRANT

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

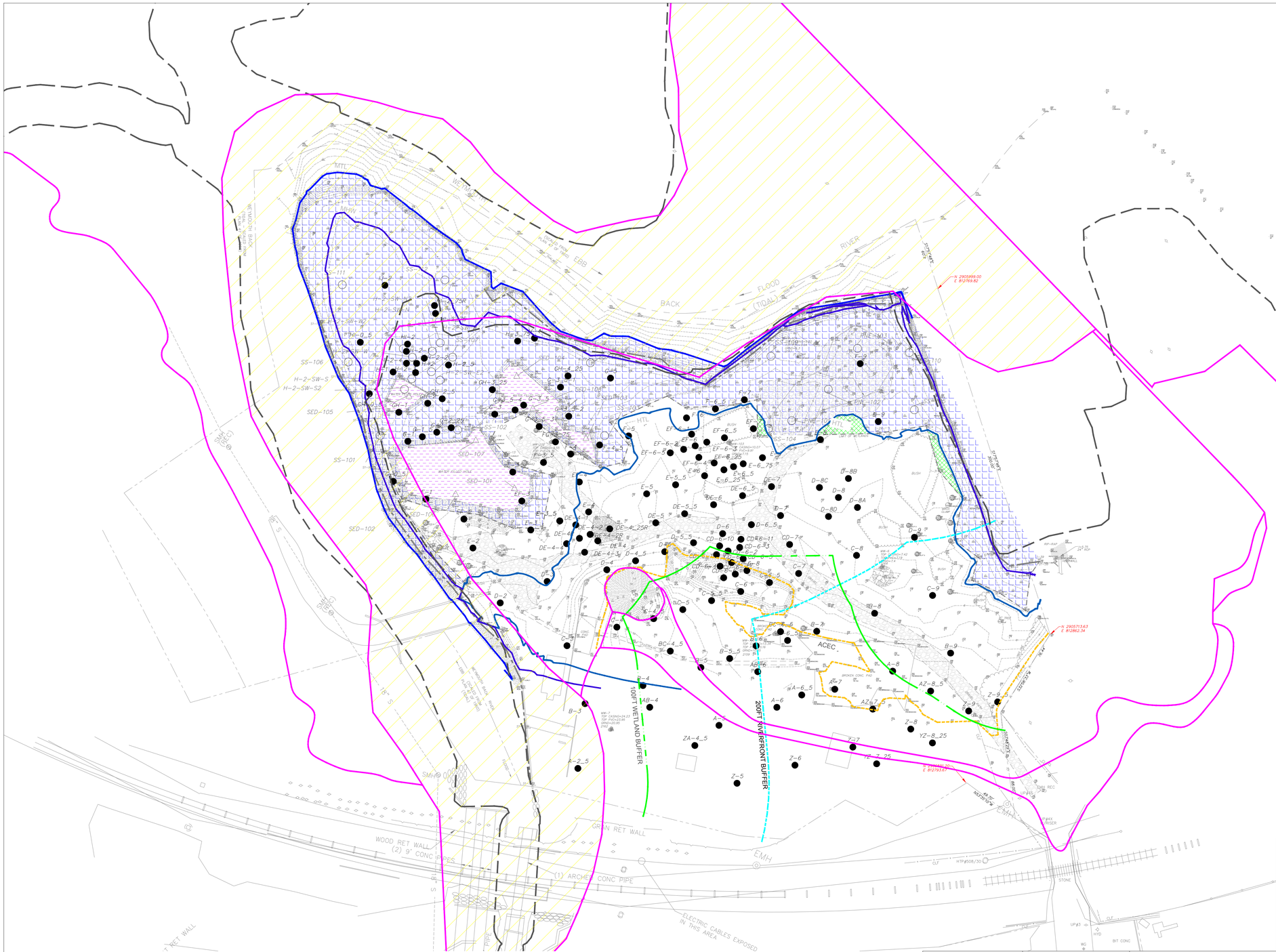
MEPA EENF AND ROLLOVER EIR
FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

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650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

SCALE: NOT TO SCALE	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.: 2	ISSUE
DATE: JULY 29, 2025	DO	ACT	IMH	SHEET: GENERAL NOTES, LEGEND, AND ABBREVIATIONS	


MTL
MHW
WETLAND
EBB
FLOOD
(TIDAL)
BACK
RIVER
STREET
N 2905899.00
E 912769.92
N 2905713.63
E 912862.54
N 2905480.45
E 912793.83
ACEC
100FT WETLAND BUFFER
200FT RIVERFRONT BUFFER
SMH-6
SMH-5
SMH-4
SMH-3
SMH-2
SMH-1
EMH
WOOD RET WALL
(2) 9' CONC PIPES
STONE RET WALL
(1) ARCHED CONC PIPE
ELECTRIC CABLES EXPOSED IN THIS AREA
BIT CONC
SED-101
SED-102
SED-103
SED-104
SED-105
SED-106
SED-107
SS-101
SS-102
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SS-140



LEGEND

- AREAS TO BE CLEARED
- HERBICIDE TREATMENT
- LOD — LOD — LIMITS OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY 40' SWING GATE
- SF — SILT FENCE
- HAY BALES

NOTES:

1. REFER TO SHEET 2, GENERAL NOTES, LEGEND AND ABBREVIATIONS, FOR ADDITIONAL INFORMATION.
2. DEWATERING TREATMENT SYSTEM TO BE DESIGNED AND OPERATED BY CONTRACTOR IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DEWATERING REMEDIATION GENERAL PERMIT (DRGP).
3. CONTRACTOR IS MADE AWARE OF THE TIGHT SPACE AND HEIGHT RESTRICTIONS OF THE RAILROAD UNDERPASS. CONTRACTOR TO DETERMINE APPROPRIATELY SIZED EQUIPMENT TO SAFELY PASS BENEATH THE RAILROAD UNDERPASS.

N

NAD 83

0 40 100 160

SCALE: 1" = 40'

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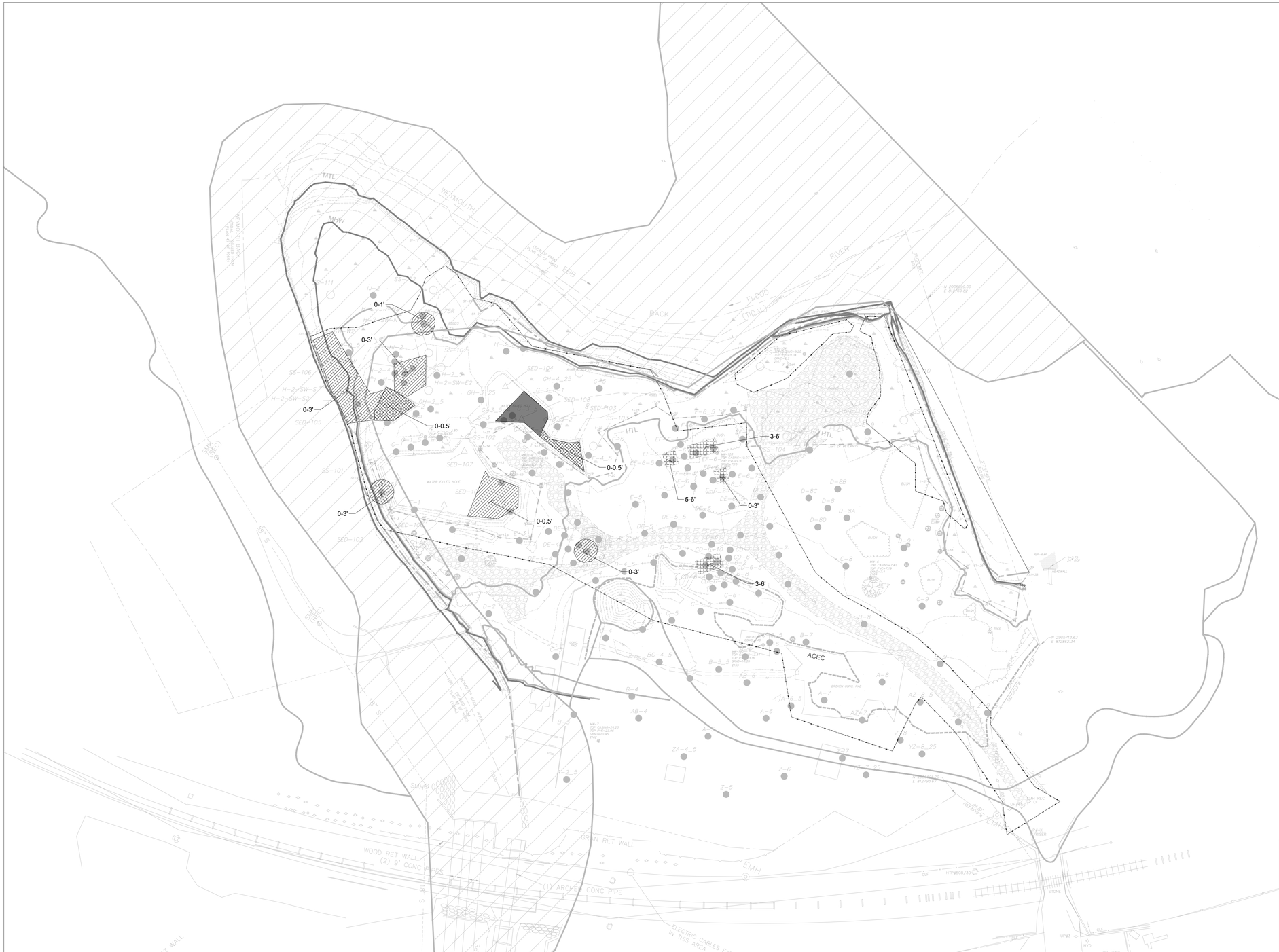
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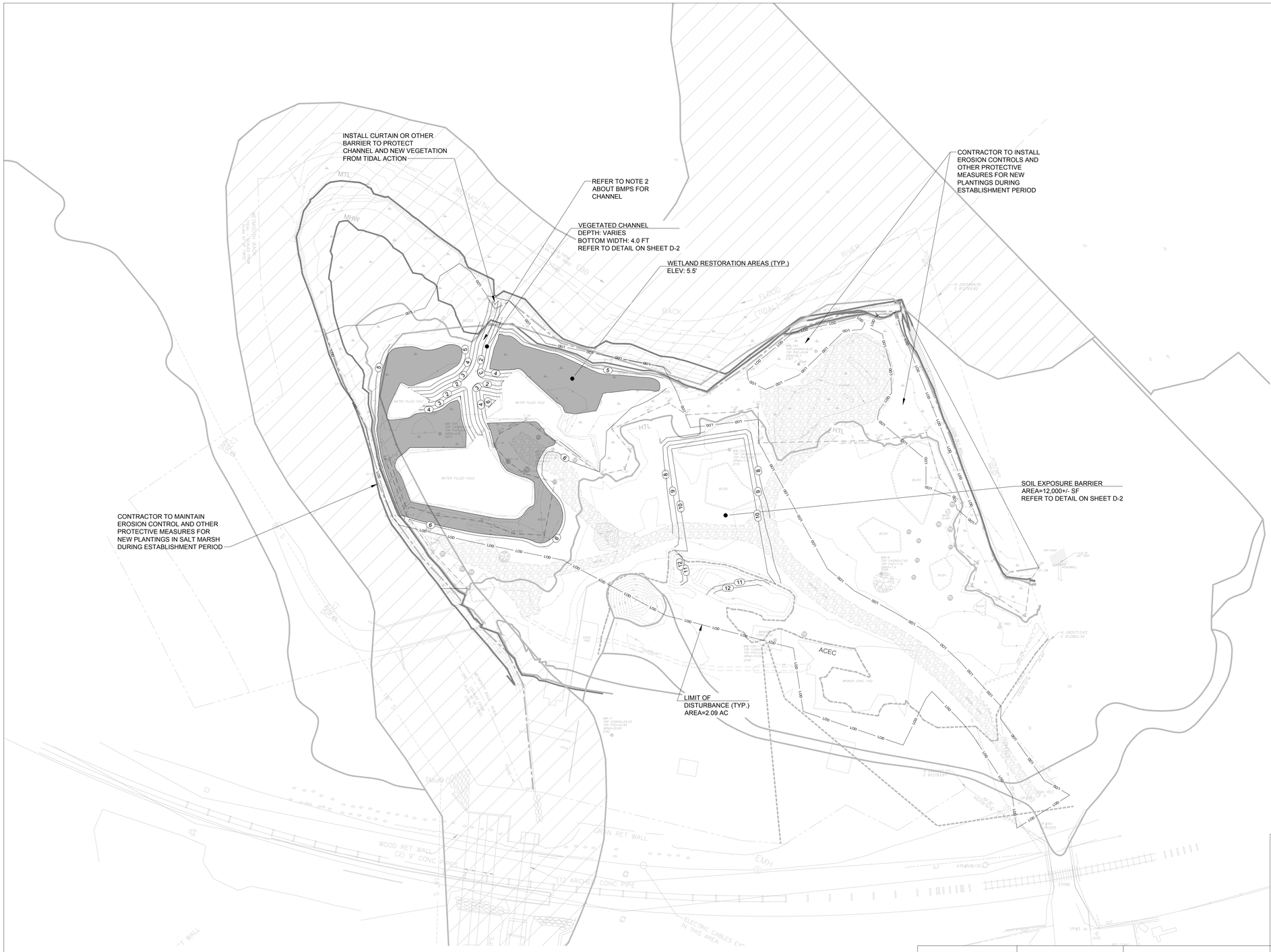
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DATE: JULY 29, 2025	DO	ACT	IMH	SHEET: DEMOLITION AND EROSION & SEDIMENT CONTROL PLAN	


0-1'
0-3'
0-3'
0-0.5'
0-0.5'
0-3'
0-0.5'
0-3'
3-6'
5-6'
0-3'
3-6'
ACEC
MTL
MHW
WEYMOUTH BACK RIVER
BACK RIVER
FLOOD (TIDAL)
HTL
WOOD RET WALL
(2) 9' CONC PIPE
(1) ARCHED CONC PIPE
STONE RET WALL
ELECTRIC CABLES FR
IN THIS AREA
SMH #0
EMH
EMH
EMH
SMH
DRAIN MANHOLE
DRAIN MANHOLE
DRAIN MANHOLE



LEGEND

10 — FINAL CONTOURS MAJOR

8 — FINAL CONTOURS MINOR

NOTES:

1. REFER TO SHEET G-2, GENERAL NOTES, LEGEND AND ABBREVIATIONS, FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO INSTALL STORMWATER CONTROL BEST MANAGEMENT PRACTICES, AS SHOWN ON PLAN AND IN ACCORDANCE WITH CONTRACT DOCUMENTS AND PERMITS, PRIOR TO EXCAVATION FOR CHANNEL..

N

NAD 83

0 40 100 160

SCALE: 1" = 40'

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NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MEPA EENF AND ROLLOVER EIR
FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

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DATE: JULY 29, 2025	DO	ACT	IMH	SHEET: FINAL GRADING PLAN	



LEGEND

- CHANNEL RESTORATION WITH LOW AND HIGH MARSH PLANTING SPECIES (0.08 AC)
- LOW MARSH RESTORATION AREA (3.04' - 4.53', 0.11 AC)
- HIGH MARSH RESTORATION AREA (4.53' - 5.03', 0.08 AC)
- HIGHER HIGH MARSH RESTORATION AREA (5.03' - 5.80', 0.64 AC)

NOTES:

1. REFER TO SHEET 2, GENERAL NOTES, LEGEND AND ABBREVIATIONS, FOR ADDITIONAL INFORMATION.
2. DELINEATION OF LOW, HIGH AND HIGH HIGHER MARSH ARE APPROXIMATE AND BASED UPON A BIO-BENCHMARK STUDY PREPARED BY TRC ENVIRONMENTAL CORPORATION AND DATED JUNE 2023. CONTRACTOR SHALL VERIFY DELINEATION OF MARSH AREAS USING THEIR OWN CERTIFEID WETLAND SCIENTIST PRIOR TO IMPLEMENTATION OF THE SALT MARSH RESTORATION.
3. MEAN TIDE LINE (MTL), MEAN HIGH WATER (MHW), AND HIGH TIDE LINE (HTL) ARE DERIVED FROM THE NEAREST TIDAL DATUM (2883) FROM THE BUZZARDS BAY NATIONAL ESTUARY PROGRAM. TIDAL VERTICAL ELEVATION DATUM IS IN NAVD88.
4. PLANTING TYPES AND DENSITIES AS INDICATED IN THESE PLANS ARE GUIDELINES AND FOR REFERENCE ONLY. TYPES OF PLANTINGS AND DENSITY OF PLANTINGS MAY CHANGE BASED UPON OVERSIGHT OF WETLAND SCIENTIST AND AVAILABILITY OF PLANTINGS.
5. CONTRACTOR SHALL READ, UNDERSTAND AND COMPLY WITH THE TIMING REQUIREMENTS FOR EXCAVATION AND PLANTING AS INDICATED IN THE APPLICABLE PERMITS. TO MAXIMIZE THE POTENTIAL FOR SUCCESS OF THESE PLANTINGS, THE CONTRACTOR SHALL INSTALL NO EARLIER THAN APRIL 1 AND NO LATER THAN APRIL 30 TO ENSURE APPROPRIATE WEATHER CONDITIONS AND PROVIDE AMPLE TIME THROUGHOUT THE GROWING SEASON FOR ESTABLISHMENT.
6. CONTRACTOR AND OVERSEEING WETLAND SCIENTIST SHALL HAVE THE REQUISITE QUALIFICATIONS RELATED TO SALT MARSH RESTORATION PROJECTS AS STIPULATED IN THE CONTRACT DOCUMENTS.
7. HERBICIDE TREATMENT AREAS SHALL BE TREATED BY A LICENSED APPLICATOR AND FOLLOW MASSACHUSETTS DEPARTMENT OF AGRICULTURAL RESOURCES (MDAR) GUIDELINES FOR APPROVED CHEMICAL TREATMENT. NATIVE PLANTINGS ARE NOT TO BE INSTALLED WITHIN ZONES OF INVASIVE TREATMENT UNTIL THE INVASIVE REGIME IS DEEMED SUCCESSFUL IN THE OPINION OF THE OVERSEEING WETLAND SCIENTIST.
8. CONTRACTOR SHALL USE LIGHT-WEIGHT, LOW GROUND PRESSURE EQUIPMENT IN LIEU OF WHEELS. IN AREAS WHERE LOW-PRESSURE EQUIPMENT IS NOT SUFFICIENT TO CONDUCT THE WORK WHILE PROTECTING THE EXISTING GRADE AND VEGETATION, THE CONTRACTOR SHALL UTILIZE SWAMP OR OTHER PROTECTIVE MATS SUITABLE FOR WET CONDITIONS.
9. CONTRACTOR SHALL OVER-EXCAVATE FILL MATERIAL TO AT LEAST 12 INCHES BELOW FINAL GRADE AND REPLACE WITH CLEAN FILL SANDS TO THE LINES AND GRADES SHOWN ON THE FINAL GRADING PLAN.
10. CLEAN FILL SANDS SHALL MEET THE FOLLOWING PROPERTIES.

Material Particle Size	Accepted Range	Trapped by Sieve Size
Rocks & Stone	0%	
Gravel (>5.4mm)	0%	No. 10
Very Coarse Sand (2.0mm to 1.0mm)	<10%	No. 18
Coarse Sand (1.0mm to 0.5mm)	<20%	No. 35
Medium Sand (0.5mm to 0.25mm)	>70%	No. 60
Fine Sand (0.25mm to 0.15mm)	>20%	No. 100
Very Fine Sand (0.15mm to 0.05mm)	<3%	No. 270
Silt and Clay (0.05mm to 0.002mm)	<10%	Passing through No. 270

Variable	Maximum Value	Minimum
Organic Matter	3%(loss on ignition)	0%
pH	8	4
Electro Conductivity	1 mmhos/cm	0
Total nitrogen (TKN)	200 ppm	0
Nitrate	1 ppm	0

N

NO 83

0 40 100 160

SCALE: 1" = 40'

FOR PERMITTING ONLY

NOT AUTHORIZED FOR CONSTRUCTION

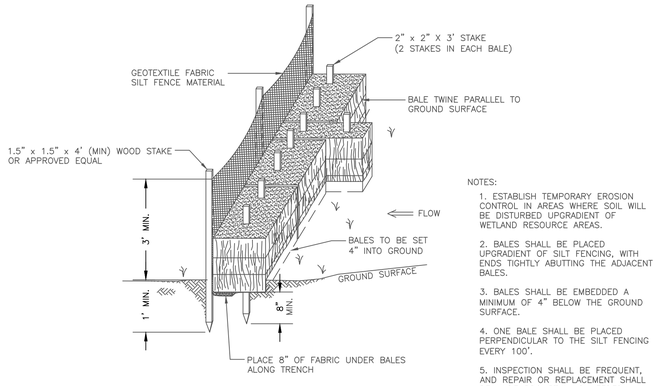
ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MEPA EENF AND ROLLOVER EIR
FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

TRC
650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

SCALE: NOT TO SCALE	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.: 7	ISSUE
DATE: July 29, 2025	DO	ACT	IMH	SHEET: LANDSCAPING & WETLAND RESTORATION PLAN	



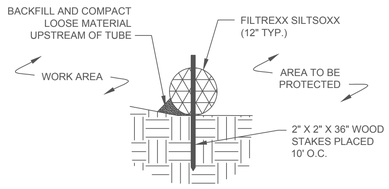
NOT TO SCALE

NOTES:

1. ESTABLISH TEMPORARY EROSION CONTROL IN AREAS WHERE SOIL WILL BE DISTURBED UPGRADIENT OF WETLAND RESOURCE AREAS.
2. BALES SHALL BE PLACED UPGRADIENT OF SILT FENCING, WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
3. BALES SHALL BE EMBEDDED A MINIMUM OF 4" BELOW THE GROUND SURFACE.
4. ONE BALE SHALL BE PLACED PERPENDICULAR TO THE SILT FENCING EVERY 100'.
5. INSPECTION SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. BALES AND SILT FENCE SHALL NOT BE INSTALLED IN STANDING WATER.

1/8 HAYBALE AND SILT FENCING DETAIL

SCALE: NTS

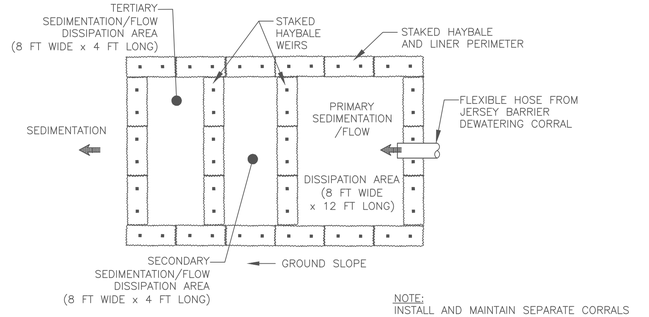


NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. SILTSOXX TO BE LEFT IN PLACE ONCE CONSTRUCTION IS COMPLETE.

2/8 FILTER SOCK DETAIL

SCALE: NTS



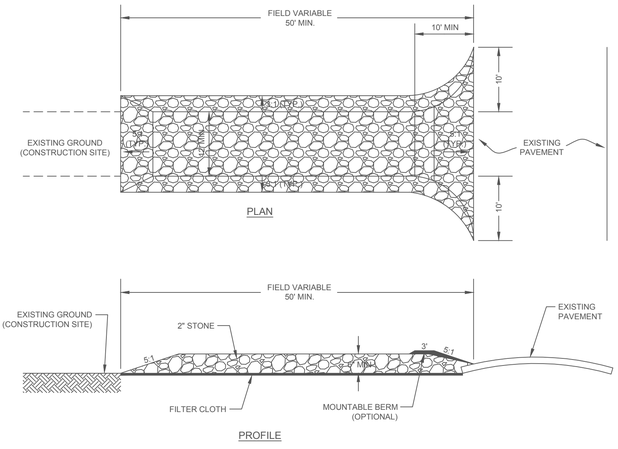
NOTE:
INSTALL AND MAINTAIN SEPARATE CORRALS FOR EACH DISCHARGE LINE.

FLOW DISSIPATION CORRAL

N.T.S.

3/8 DEWATERING BASIN DETAIL

SCALE: NTS

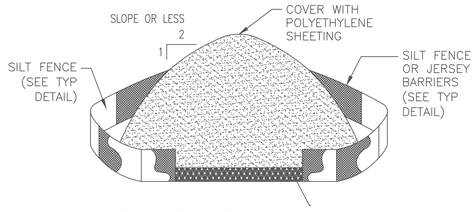


CONSTRUCTION SPECIFICATIONS:

1. USE 2" DIAMETER STONE OR RECLAIMED/RECYCLED CONCRETE EQUIVALENT.
2. RECOMMENDED LENGTH GREATER THAN 50 FEET WHERE PRACTICAL.
3. THICKNESS NOT LESS THAN 6 INCHES.
4. 12-FOOT MINIMUM WIDTH, BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCUR.
5. FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION EXIT SHALL BE PIPED ACROSS THE EXIT. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WILL BE PERMITTED.
7. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED BY THE CONTRACTOR.
9. REMOVE STABILIZED CONSTRUCTION EXIT PRIOR TO PLACEMENT OF HOT MIX ASPHALT PAVEMENT.

4/8 CONSTRUCTION ENTRANCE DETAIL

SCALE: NTS



INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS WITHIN THE SOIL MANAGEMENT AREA SHALL BE DRY AND STABLE.
2. STOCKPILE TO BE PLACED ON IMPERVIOUS SURFACE OR ON MIN. 6 MIL THICK POLYETHYLENE SHEETING.
3. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
4. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR JERSEY BARRIERS, THEN COVERED WITH POLYETHYLENE SHEETING.
5. COVER STOCKPILED MATERIAL WITH POLYETHYLENE SHEETING. COVER TO BE MAINTAINED TO PREVENT WIND EROSION AND SEED DISPERSAL OF INVASIVES.

5/8 TEMPORARY STOCKPILE DETAIL

SCALE: NTS

FOR PERMITTING ONLY

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

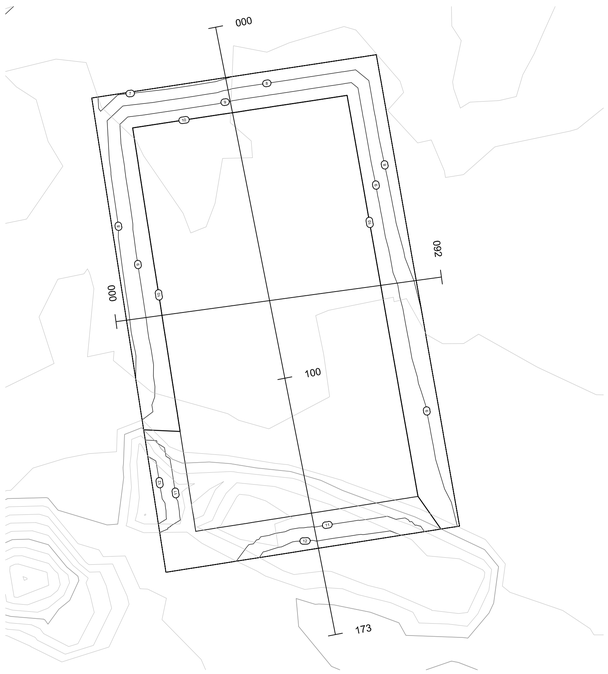
MEPA EENF AND ROLLOVER EIR
FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

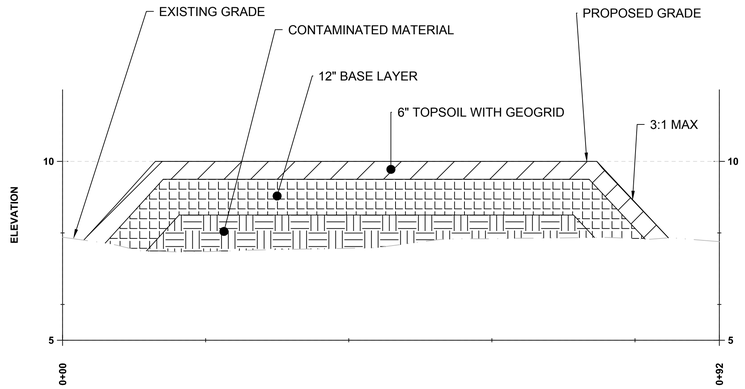
TRC
650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

SCALE: NOT TO SCALE	DRAWN BY	DESIGN BY	CHECK BY	PLAN NO.: 8	ISSUE
DATE: July 29, 2025	DO	ACT	IMH	SHEET: DETAILS I	



SOIL EXPOSURE BARRIER PLAN VIEW

1"=20'



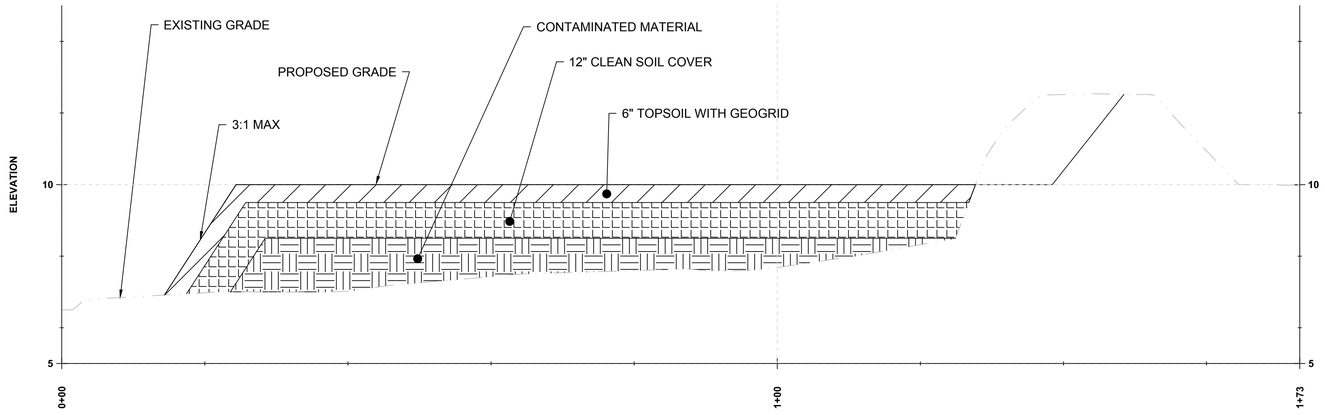
SOIL EXPOSURE BARRIER CROSS SECTION

H:1"=10' / V:1"=2'



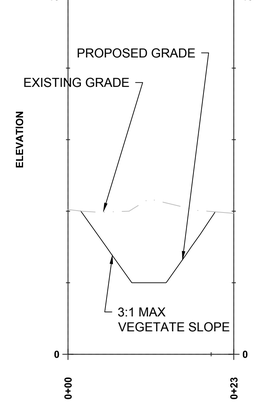
CHANNEL PLAN VIEW

1"=20'



SOIL EXPOSURE BARRIER PROFILE

H:1"=10' / V:1"=2'



CHANNEL CROSS SECTION

H:1"=10' / V:1"=2'

FOR PERMITTING ONLY

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

TRC
650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

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LOW MARSH PLANTINGS

SCALE: NTS

Smooth Cordgrass



Sporobolus alterniflorus, or synonymously known as Spartina alterniflora, the smooth cordgrass, saltmarsh cordgrass, or salt–water cordgrass, is a perennial deciduous grass which is found in intertidal wetlands, especially estuarine salt marshes.

UPLAND SEED MIX

SCALE: NTS

NEW ENGLAND WETLAND PLANTS, INC
14 Pearl Lane South Hadley, MA 01075
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Conservation/Wildlife Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACW-
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Festuca rubra	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Chamaecrista fasciculata	Partridge Pea	FACU
Desmodium canadense	Showy Tick Trefoil	FAC
Asclepias tuberosa	Butterfly Milkweed	NI
Bidens frondosa	Beggar Ticks	FACW
Eupatorium purpureum (Eutrochium maculatum)	Purple Joe Pye Weed	FAC
Rudbeckia hirta	Black Eyed Susan	FACU-
Aster pilosus (Symphyotrichum pilosum)	Heath (or Hairy) Aster	UPL
Solidago juncea	Early Goldenrod	

APPLY: 25 LBS/ACRE :1750 sq ft/lb

The New England Conservation/Wildlife Mix provides a permanent cover of grasses, wildflowers, and legumes For both good erosion control and wildlife habitat value. The mix is designed to be a no maintenance seeding, and is appropriate for cut and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects.
New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

WETLAND SEED MIX

SCALE: NTS

NEW ENGLAND WETLAND PLANTS, INC
14 Pearl Lane South Hadley, MA 01075
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites

Botanical Name	Common Name	Indicator
Elymus riparius	Riverbank Wild Rye	FACW
Schizachyrium scoparium	Little Bluestem	FACU
Festuca rubra	Red Fescue	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Vernonia noveboracensis	New York Ironweed	FACW+
Agrostis perennans	Upland Bentgrass	FACU
Bidens frondosa	Beggar Ticks	FACW
Eupatorium maculatum (Eutrochium maculatum)	Spotted Joe Pye Weed	OBL
Eupatorium perfoliatum	Boneset	FACW
Asier novae-angliae (Symphyotrichum novae-angliia	New England Aster	FACW-
Scirpus cyperinus	Wool Grass	FACW
Juncus effusus	Soft Rush	FACW+

APPLY: 35 LBS/ACRE :1250 sq ft/lb

The New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an appropriate seed mix for ecologically sensitive restorations that require stabilization as well as long-term establishment of native vegetation. This mix is particularly appropriate for detention basins that do not hold standing water. Many of the plants in this mix can tolerate infrequent inundation, but not constant flooding. The mix may be applied by hand, by mechanical spreader, or by hydro-seeder. After sowing, lightly rake, roll or cultipack to insure good seed-to-soil contact. Best results are obtained with a Spring or late Summer seeding. Late Fall and Winter dormant seeding requires an increase in the application rate. A light mulching of clean, weed-free straw is recommended
New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

HIGH MARSH PLANTINGS

SCALE: NTS

Salt Grass



Distichlis spicata is a species of grass known by several common names, including seashore saltgrass, inland saltgrass, and desert saltgrass. Distichlis spicata thrives along coastlines and on salt flats and disturbed soils, as well as forest, woodland, montane, and desert scrub habitats.

Saltmeadow Rush



Black grass (Juncus gerardii), also known as salt meadow rush or salt marsh rush, is a loosely tufted, perennial herb. It grows from 1 to 2 feet tall and has rounded stems, grass–like leaves located on the lower half of the stem, and small green–brown flowers in dense spikes or in loose clusters. The flowering and fruiting period occurs from spring through summer. This grass spreads by rhizomes and forms extensive colonies in coastal estuaries and salt marshes just above the high tide line, where it is flooded only by the most extreme tides each month. Black grass can also be grown on more inland sites. The rigid stems growings from fibrous roots make it a good plant for erosion control. Its adaptability to wet sites makes it a good plant for water or rain gardens, stormwater basins, low areas of the yard subject to flooding, and coastal gardens. The dense cover of black grass provides good shelter for birds and small mammals. .

Saltmeadow Cordgrass



Saltmeadow cordgrass (Spartina patens), a native, perennial grass, grows from 1 to 3 feet tall and spreads extensively by long, slender rhizomes. Although typically associated with tidal salt marshes, saltmeadow cordgrass also naturally occurs in back dune areas, particularly within dune troughs (low points between dunes). It is dominant in these areas since most other sand dune species cannot tolerate wet–to saturated–soil conditions. Saltmeadow cordgrass will tolerate irregular inundations with significant amounts of salinity. The trailing rhizomes of saltmeadow cordgrass are slender but form dense mats near the surface, offering effective sand dune stabilization. It can be grown and established on normal sites using freshly harvested stems (culms) or containerized plants. From late June to October, an inflorescence emerges at the end of the stem. Saltmeadow cordgrass also provides food and cover for a numebr of animals.

HIGHER HIGH MARSH PLANTINGS

SCALE: NTS

High Tide Bush



Iva frutescens is a species of flowering plant in the family Asteraceae known by the common names Jesuit's bark, bigleaf marsh–elder, and high–tide bush. Iva frutescens is very common in salt marsh habitat throughout its native range. While it is tolerant of salinity, it is not very tolerant of flooding, so it tends to grow in a narrow band along the upper margins of marshes.

Seaside Goldenrod



Solidago sempervirens, the seaside goldenrod or salt–marsh goldenrod, is a plant species in the genus Solidago of the family Asteraceae. It grows on sand dunes, salt marshes, and the banks of estuaries. Solidago sempervirens is a seashore plant with a high salinity tolerance.

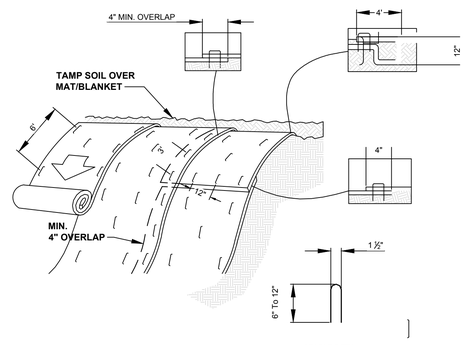
Switchgrass



Panicum virgatum, commonly known as switchgrass, is a perennial warm season bunchgrass native to North America, where it occurs naturally from 55°N latitude in Canada southwards into the United States and Mexico. Due to its height, switchgrass can form an effective wind erosion barrier. Its root system, also, is excellent for holding soil in place, which helps prevent erosion from flooding and runoff.

EROSION CONTROL BLANKET

SCALE: NTS



STAPLE DETAIL

NOTES

1. DIMENSIONS GIVEN IN THE DRAWINGS ARE EXAMPLES, DEVICE SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS, MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

PLUG PLANTING DETAIL

SCALE: NTS

PLANT SPECIES:

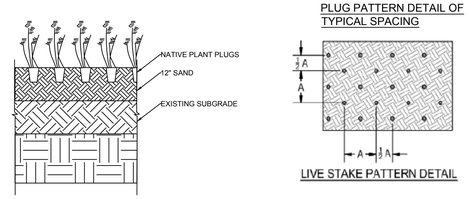
HIGHER HIGH MARSH
HIGH TIDE BUSH (IVA FRUTESCENS) A = 7' O.C.
SEASIDE GOLDENROD (SOLIDAGO SEMPIRVIRENS) A = 12" O.C. 25%
SWITCHGRASS (PANICUM VIRGATUM) A = 12" O.C. 75%

HIGH MARSH
SALTMEADOW CORDGRASS (SPARTINA PATENS) A = 12" O.C. 70%
SALTMEADOW RUSH (JUNCUS GERARDII) A = 12" O.C. 15%
SEASHORE SALTGRASS (DISTICHLIS SPICATA) A = 12" O.C. 15%

LOW MARSH
SALTMARSH CORDGRASS (SPARTINA ALTERNIFLORA) A = 12" O.C.

NOTE:
PLUGS MUST BE BURIED AT A MINIMUM DEPTH OF 12" OF SAND.
PLUGS IN LOW MARSH SHALL BE INSTALLED IN JUTE NETTING OR THROUGH BIODEGRADABLE EROSION CONTROL BLANKET.
PLUGS SHOULD HAVE AT LEAST 4" OF TOP GROWTH AND BE KEPT MOIST TO MAINTAIN VIABILITY FOR PLANTING.
PERCENTAGES LISTED AFTER HERBACEOUS SPECIES ABOVE IN HIGH MARSH AND HIGHER HIGH MARSH REPRESENT THE RELATIVE DENSITY OF EACH HERBACEOUS PLUG WITHIN THAT PLANTING ZONE. SUCH THAT THE FINAL DENSITY OF HERBACEOUS PLANTINGS WILL BE 12" ON-CENTER (O.C.)

PLUG PATTERN DETAIL OF TYPICAL SPACING



LIVE STAKE PATTERN DETAIL

FOR PERMITTING ONLY

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

MEPA EENF AND ROLLOVER EIR
FORMER DURANTE SITE
REMEDIATION AND RESTORATION
0 WHARF STREET NORTH
WEYMOUTH, MASSACHUSETTS

NOT AUTHORIZED FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION	BY	CHK'D	APP.

TRC
650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

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DATE: July 29, 2025	DO	ACT	IMH	SHEET: DETAILS III	

Attachment C: Photographic Log

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 1

Date: 8/19/2022

Direction: North

Description:

Photo from Data plot location for W-KCF-01-E2EM, facing north.



Photograph: 2

Date: 8/19/2022

Direction: East

Description:

Photo facing east towards W-KCF-01-E2EM



DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 3 **Date**: 8/19/2022 **Direction**: South **Description**: Photo from Data plot location for W-KCF-01-E2EM, facing south.	
Photograph: 4 **Date**: 8/19/2022 **Direction**: West **Description**: Photo facing S-KCF-1, Mill River, that borders W-KCF-01-E2EM.	

DURANTE REMEDIATION AND WETLAND RESTORATION
WEYMOUTH, MASSACHUSETTS

Photograph: 5 **Date**: 8/19/2022 **Direction**: Northwest **Description**: Photo taken of S-KCF-1 facing northwest.	
Photograph: 6 **Date**: 8/19/2022 **Direction**: South **Description** Photo of wetland W-KCF-01-E2EM with Mill River shown as well.	

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 7 **Date**: 8/19/2022 **Direction**: East **Description**: Photo of culvert that connects to S-KCF-1.	
Photograph: 8 **Date**: 8/19/2022 **Direction**: Southeast **Description:** Photo of the northern edge of stream S-KCF-1**.**	

Attachment D: MEPA Distribution List

Durante MEPA Distribution List		
Agency	**Email**	**Physical Address**
Massachusetts Environmental Policy Act (MEPA) Office	MEPA@mass.gov	**MEPA Office:** 100 Cambridge Street, Suite 900 Boston, MA 02144
Department of Environmental Protection, Boston Office	helena.boccadoro@mass.gov	**Commissioner's Office:** One Winter Street Boston, MA 02108
Department of Environmental Protection, Southeast Regional Office	george.zoto@mass.gov jonathan@hobill@mass.gov	**DEP/Southeast Regional Office:** Attn: MEPA Coordinator 20 Riverside Drive Lakeville, MA 02347
Massachusetts Department of Transportation - Boston	MassDOTPPDU@dot.state.ma.us	**Public/Private Development Unit:** 10 Park Plaza, Suite #4150 Boston, MA 02116
Massachusetts Department of Transportation - District Office	michael.garrity@dot.state.ma.us	**District #6:** Attn: MEPA Coordinator 185 Kneeland Street Boston, MA 02111
Masssachusetts Historical Commission	Mail a hard copy of the filing to MHC	**The MA Archives Building:** 220 Morrissey Boulevard Boston, MA 02125
Metropolitian Area Planning Council (MAPC)	mpillsbury@mapc.org afelix@mapc.org	**MAPC:** 60 Temple Place, 6th Floor Boston, Massachusetts 02111
Energy and Environmental Affairs (EEA) Environmental Justice	MEPA-EJ@mass.gov	**MEPA Office:** Attn: EEA EJ Director 100 Cambridge Street, Suite 900 Boston, MA 02144
Coastal Zone Management (CZM)	sean.duffey@mass.gov patrice.bordonaro@mass.gov	**Coastal Zone Management:** Attn: Project Review Coordinator 100 Cambridge Street, Suite 900 Boston, MA 02144
Division of Marine Fisheries (DMF)	DMF.EnvReview-North@mass.gov	**From Hull to New Hampshire Border** DMF - North Shore Attn: Environmental Reviewer 30 Emerson Avenue Gloucester, MA 01930
Massachusetts Department of Conservation and Recreation (DCR)	andy.backman@mass.gov	**DCR:** Attn: MEPA Coordinator 251 Causeway St. Suite 600 Boston, MA 02114
Department of Public Health	dphtoxicology@massmail.state.ma.us	**Department of Public Health:** Director of Environmental Health 250 Washington Street Boston, MA 02115
Massachusetts Bay Transportation Authority (MBTA)	MEPAcoordinator@mbta.com jblankenship@mbta.com	**Massachusetts Bay Transportation Authority:** Attn: MEPA Coordinator 10 Park Plaza, 6th Floor Boston, MA 02116
Massachusetts Water Resource Authority (MWRA)	Hillary.Monahan@mwra.com	**Massachusetts Water Resource Authority:** Attn: MEPA Coordinator 33 Tafts Avenue Deer Island Boston, MA 02128
Weymouth Town Council	towncouncil@weymouth.ma.us	**Weymouth Town Hall:** 75 Middle Street, 2nd Floor Weymouth, MA 02189

Weymouth Planning Board	Eschneider@weymouth.ma.us	**Weymouth Town Hall:** Attn: Planning Office 75 Middle Street Weymouth, MA 02189
Weymouth Conservation Commission	AHultin@weymouth.ma.us	**Weymouth Town Hall:** 75 Middle Street, 3rd Floor Weymouth, MA 02189
Weymouth Board of Health	DMcCormack@weymouth.ma.us	**Weymouth Town Hall:** 75 Middle Street Weymouth, MA 02189

Attachment E: List of Federal, State, and Local Permits

Attachment E: Permits Required

Agency	Permit/Review/Approval	Status
Federal		
United States Army Corps of Engineers (USACE)	Section 404 Pre-Construction Notification (PCN) Permit and consultations under Section 106 of National Historic Preservation Act and Section 7 of the Endangered Species Act	Anticipate filing in August 2025
United States Environmental Protection Agency (USEPA)	National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges and Construction Dewatering Activities/Stormwater Pollution Prevention Plan (SWPPP)	Anticipate filing May 2026
State		
Massachusetts Department of Environmental Protection (MassDEP)	Section 401 Individual Water Quality Certification (IWQC)	Anticipate filing August 2025
	Chapter 91 License Application	Anticipate filing August 2025
Massachusetts Office of Coastal Zone Management (CZM)	Federal Consistency Review	Anticipate filing December 2025
Local		
Weymouth Conservation Commission	Order of Conditions per the Massachusetts Wetlands Protection Act (WPA)[1] and local bylaws.	Filed in July 2025

1 MA WPA Orders of Conditions are local permits unless and until a superseding Order of Conditions is issued by MassDEP.

Attachment F: RMAT Report

Climate Resilience Design Standards Tool Project Report

Durante

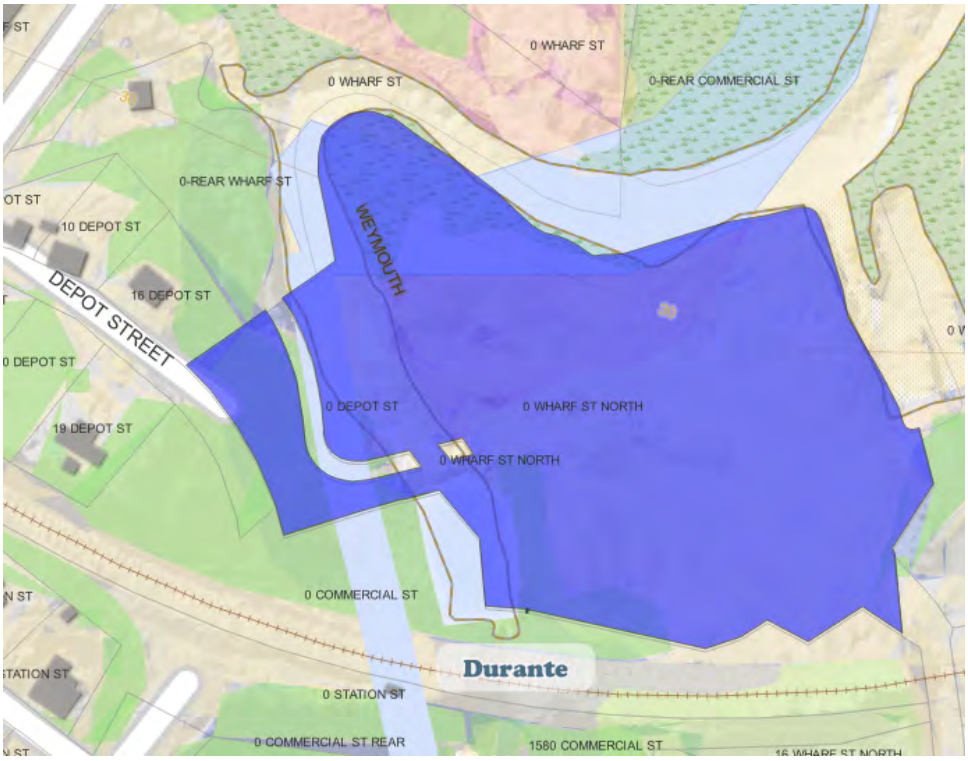
Date Created: 6/2/2025 3:19:57 PM
Created By: kanastas@trccompanies.com
Date Report Generated: 6/4/2025 2:02:27 PM
Tool Version: Version 1.4
Project Contact Information: Katherine Anastas (kanastas@trccompanies.com)

Project Summary

Link to Project

Estimated Capital Cost: $1300000.00
End of Useful Life Year: 2056
Project within mapped Environmental Justice neighborhood: No

Ecosystem Service Benefits	Scores
Project Score	High
Exposure	**Scores**
Sea Level Rise/Storm Surge Exposure	High
Extreme Precipitation - Stormwater Flooding Exposure	High
Extreme Precipitation - Riverine Flooding Exposure	Moderate
Extreme Heat Exposure	Moderate



Asset Preliminary Climate Risk Rating Summary

Number of Assets: 6

Asset Risk	Sea Level Rise/Storm Surge	Extreme Precipitation - Stormwater Flooding	Extreme Precipitation - Riverine Flooding	Extreme Heat
Salt Marsh	Natural Resource project assets do not receive a preliminary climate risk rating.			
LSCSF	Natural Resource project assets do not receive a preliminary climate risk rating.			
Coastal Bank	Natural Resource project assets do not receive a preliminary climate risk rating.			
RA	Natural Resource project assets do not receive a preliminary climate risk rating.			
BVW	Natural Resource project assets do not receive a preliminary climate risk rating.			
Remediation Strategy	High Risk	High Risk	High Risk	High Risk

Climate Resilience Design Standards Summary

	Target Planning Horizon	Intermediate Planning Horizon	Percentile	Return Period	Tier
Sea Level Rise/Storm Surge					
Salt Marsh	2030				
LSCSF	2030				
Coastal Bank	2030				
RA	2030				

BVW	2030		
Remediation Strategy	2050		
Extreme Precipitation			
Salt Marsh	2030		Tier 1
LSCSF	2030		Tier 1
Coastal Bank	2030		Tier 1
RA	2030		Tier 1
BVW	2030		Tier 1
Remediation Strategy	2050		Tier 3
Extreme Heat			
Salt Marsh	2030	50th	Tier 1
LSCSF	2030	50th	Tier 1
Coastal Bank	2030	50th	Tier 1
RA	2030	50th	Tier 1
BVW	2030	50th	Tier 1
Remediation Strategy	2050	90th	Tier 3

Scoring Rationale - Project Exposure Score

The purpose of the Exposure Score output is to provide a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool will calculate one of the following exposure ratings: Not Exposed, Low Exposure, Moderate Exposure, or High Exposure. The rationale behind the exposure rating is provided below.

Sea Level Rise/Storm Surge

This project received a "High Exposure" because of the following:

- Located within the predicted mean high water shoreline by 2030
- Exposed to the 1% annual coastal flood event as early as 2030
- Historic coastal flooding at project site

Extreme Precipitation - Stormwater Flooding

This project received a "High Exposure" because of the following:

- Historic flooding at the project site
- Maximum annual daily rainfall exceeds 10 inches within the overall project's useful life
- No increase to impervious area
- Existing impervious area of the project site is less than 10%

Extreme Precipitation - Riverine Flooding

This project received a "Moderate Exposure" because of the following:

- Project site has a history of riverine flooding
- The project is not within a mapped FEMA floodplain [outside of the Massachusetts Coast Flood Risk Model (MC-FRM)]
- Project is more than 500ft from a waterbody
- Project is not likely susceptible to riverine erosion

Extreme Heat

This project received a "Moderate Exposure" because of the following:

- Between 10% and 40% of the existing project site has canopy cover
- 10 to 30 day increase in days over 90 deg. F within project's useful life
- Located within 100 ft of existing water body
- No increase to the impervious area of the project site
- No tree removal

Scoring Rationale - Asset Preliminary Climate Risk Rating

A Preliminary Climate Risk Rating is determined for each infrastructure and building asset by considering the overall project Exposure Score and responses to Step 4 questions provided by the user in the Tool. Natural Resource assets do not receive a risk rating. The following factors are what influenced the risk ratings for each asset.

Asset - Salt Marsh
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Asset - LSCSF
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Asset - Coastal Bank
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Asset - RA
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Asset - BVW
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Asset - Remediation Strategy
Primary asset criticality factors influencing risk ratings for this asset:

- Asset must be operable at all times, even during natural hazard event
- Less than 100,000 people would be directly affected by the loss/inoperability of the asset
- Inoperability of the asset would be expected to result in minor impacts to people's health, including minor injuries or minor impacts to chronic illnesses
- Cost to replace is less than $10 million
- Spills and/or releases of hazardous materials would be moderately difficult to clean up

Project Climate Resilience Design Standards Output

Climate Resilience Design Standards and Guidance are recommended for each asset and climate parameter. The Design Standards for each climate parameter include the following: recommended planning horizon (target and/or intermediate), recommended return period (Sea Level Rise/Storm Surge and Precipitation) or percentile (Heat), and a list of applicable design criteria that are likely to be affected by climate change. Some design criteria have numerical values associated with the recommended return period and planning horizon, while others have tiered methodologies with step-by-step instructions on how to estimate design values given the other recommended design standards.

Asset: Salt Marsh — Natural Resources

Sea Level Rise/Storm Surge

Target Planning Horizon: 2030
Intermediate Planning Horizon: Not Applicable

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

The projected values, Standards, and Guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Projected Tidal Datums: APPLICABLE

Planning Horizon	MHHW	MHW	MTL	MLW	MLLW
	(ft-NAVD88)				
2030	6.5	6.1	1.2	-3.6	-3.8

Projected Water Surface Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
Salt Marsh	2030	5% (20-Year)	10.3	10.1	10.2

Projected Wave Action Water Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
Salt Marsh	2030	5% (20-Year)	11.7	10.2	11.1

Projected Wave Heights: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(Feet)		
Salt Marsh	2030	5% (20-Year)	2.0	0.0	1.2

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: APPLICABLE
Methodology to Estimate Projected Values

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Salt Marsh	2030	25-Year (4%)	7.3	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: NOT APPLICABLE

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
Salt Marsh	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek

more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: NOT APPLICABLE

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: NOT APPLICABLE

Asset: LSCSF — Natural Resources

Sea Level Rise/Storm Surge

Target Planning Horizon: 2030
Intermediate Planning Horizon: Not Applicable

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

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Applicable Design Criteria

Projected Tidal Datums: APPLICABLE

Planning Horizon	MHHW	MHW	MTL	MLW	MLLW
	(ft-NAVD88)				
2030	6.5	6.1	1.2	-3.6	-3.8

Projected Water Surface Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
LSCSF	2030	5% (20-Year)	10.3	10.1	10.2

Projected Wave Action Water Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
LSCSF	2030	5% (20-Year)	11.7	10.2	11.1

Projected Wave Heights: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(Feet)		
LSCSF	2030	5% (20-Year)	2.0	0.0	1.2

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: APPLICABLE
Methodology to Estimate Projected Values

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

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Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
LSCSF	2030	25-Year (4%)	7.3	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: NOT APPLICABLE

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
LSCSF	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: NOT APPLICABLE

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: NOT APPLICABLE

Asset: Coastal Bank — Natural Resources

Sea Level Rise/Storm Surge

Target Planning Horizon: 2030
Intermediate Planning Horizon: Not Applicable

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

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Applicable Design Criteria

Projected Tidal Datums: APPLICABLE

Planning Horizon	MHHW	MHW	MTL	MLW	MLLW
	(ft-NAVD88)				
2030	6.5	6.1	1.2	-3.6	-3.8

Projected Water Surface Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
Coastal Bank	2030	5% (20-Year)	10.3	10.1	10.2

Projected Wave Action Water Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
Coastal Bank	2030	5% (20-Year)	11.7	10.2	11.1

Projected Wave Heights: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(Feet)		
Coastal Bank	2030	5% (20-Year)	2.0	0.0	1.2

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: APPLICABLE
Methodology to Estimate Projected Values

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

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The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Coastal Bank	2030	25-Year (4%)	7.3	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: NOT APPLICABLE

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
Coastal Bank	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: NOT APPLICABLE

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: NOT APPLICABLE

Asset: RA — Natural Resources

Sea Level Rise/Storm Surge

Target Planning Horizon: 2030
Intermediate Planning Horizon: Not Applicable

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

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Applicable Design Criteria

Projected Tidal Datums: APPLICABLE

Planning Horizon	MHHW	MHW	MTL	MLW	MLLW
	(ft-NAVD88)				
2030	6.5	6.1	1.2	-3.6	-3.8

Projected Water Surface Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
RA	2030	5% (20-Year)	10.3	10.1	10.2

Projected Wave Action Water Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
RA	2030	5% (20-Year)	11.7	10.2	11.1

Projected Wave Heights: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(Feet)		
RA	2030	5% (20-Year)	2.0	0.0	1.2

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
RA	2030	25-Year (4%)	7.3	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
Methodology to Estimate Projected Values : Tier 1

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
RA	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Growing Degree Days (degree days)
RA	2030	50th	3732

LIMITATIONS: The recommended Standards for ProjectedÂ Cooling Degree Days and Heating Degree DaysÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: NOT APPLICABLE

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: NOT APPLICABLE

Asset: BVW — Natural Resources

Sea Level Rise/Storm Surge

Target Planning Horizon: 2030
Intermediate Planning Horizon: Not Applicable

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

The projected values, Standards, and Guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Projected Tidal Datums: APPLICABLE

Planning Horizon	MHHW	MHW	MTL	MLW	MLLW
	(ft-NAVD88)				
2030	6.5	6.1	1.2	-3.6	-3.8

Projected Water Surface Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
BVW	2030	5% (20-Year)	10.3	10.1	10.2

Projected Wave Action Water Elevation: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(ft - NAVD88)		
BVW	2030	5% (20-Year)	11.7	10.2	11.1

Projected Wave Heights: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period	Max	Min	Area Weighted Average
			(Feet)		
BVW	2030	5% (20-Year)	2.0	0.0	1.2

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

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Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
BVW	2030	25-Year (4%)	7.3	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
Methodology to Estimate Projected Values : Tier 1

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
BVW	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Growing Degree Days (degree days)
BVW	2030	50th	3732

LIMITATIONS: The recommended Standards for ProjectedÂ Cooling Degree Days and Heating Degree DaysÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: NOT APPLICABLE

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: NOT APPLICABLE

Asset: Remediation Strategy — Infrastructure

Sea Level Rise/Storm Surge — High Risk

Target Planning Horizon: 2050
Intermediate Planning Horizon: Not Applicable
Return Period: Not exposed to coastal flooding by 2070

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

The projected values, Standards, and Guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: APPLICABLE
Methodology to Estimate Projected Values

Projected Design Flood Velocity: APPLICABLE
Methodology to Estimate Projected Values

Projected Scour & Erosion: APPLICABLE
Methodology to Estimate Projected Values

Extreme Precipitation High Risk

Target Planning Horizon: 2050
Return Period: No Return Period

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 3

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Remediation Strategy	2050	No Return Period	N/A	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: NOT APPLICABLE

Extreme Heat High Risk

Target Planning Horizon: 2050
Percentile: 90th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

LIMITATIONS: The recommended Standards for ProjectedÂ Days per Year with Max Temp >95Â°F, >90Â°F, <32Â°F are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

LIMITATIONS: The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: APPLICABLE
Methodology to Estimate Projected Values : Tier 3

Sea Level Rise/Storm Surge Project Maps

The following three maps illustrate the Projected Water Surface Elevation for the 2030, 2050, and 2070 planning horizons corresponding to the lowest return period (largest design storm) recommended across the assets identified for this project in the Tool. For projects that only have Natural Resource assets, the maps will show the Projected Water Surface Elevations corresponding to the 5% (20-year) return period. Refer to the Climate Resilience Design Standards Output - Sea Level Rise/Storm Surge Section for additional values associated with other assets. The maps include the project area as drawn by the user with a 0.1 mile minimum buffer, but do not reflect the location of specific assets on the site.

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values and maps provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

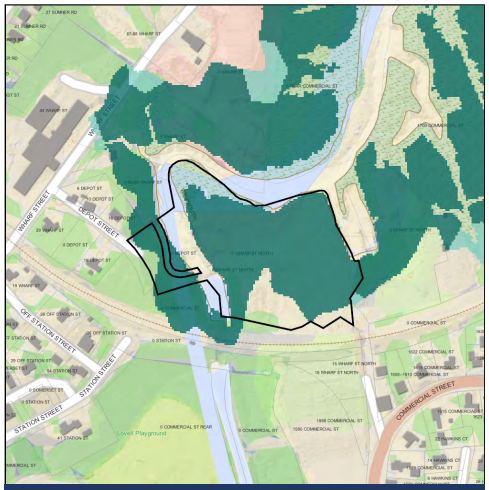
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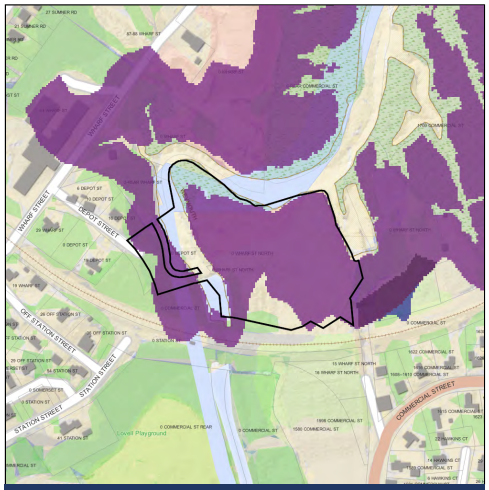
Legend

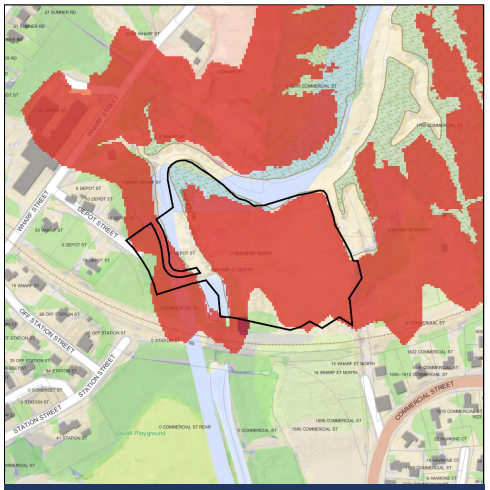
- Project Boundary

Projected Water Surface Elevation (ft-NAVD88)

- ≤ 10.1
- 10.1 - 10.2
- 10.2 - 10.4
- 10.4 - 10.6
- 10.6 - 10.8
- 10.8 - 11.0
- 11.0 - 11.2
- 11.2 - 11.4
- 11.4 - 11.6
- 11.6 - 11.8
- 11.8 - 12.0
- 12.0 - 12.2
- 12.2 - 12.4
- 12.4 - 12.6
- 12.6 - 12.8
- 12.8 - 13.0
- 13.0 - 13.2
- 13.2 - 13.4
- 13.4 - 13.6
- 13.6 - 13.8
- ≥ 13.8







Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Water Surface Elevation Map: 5% (20-yr)

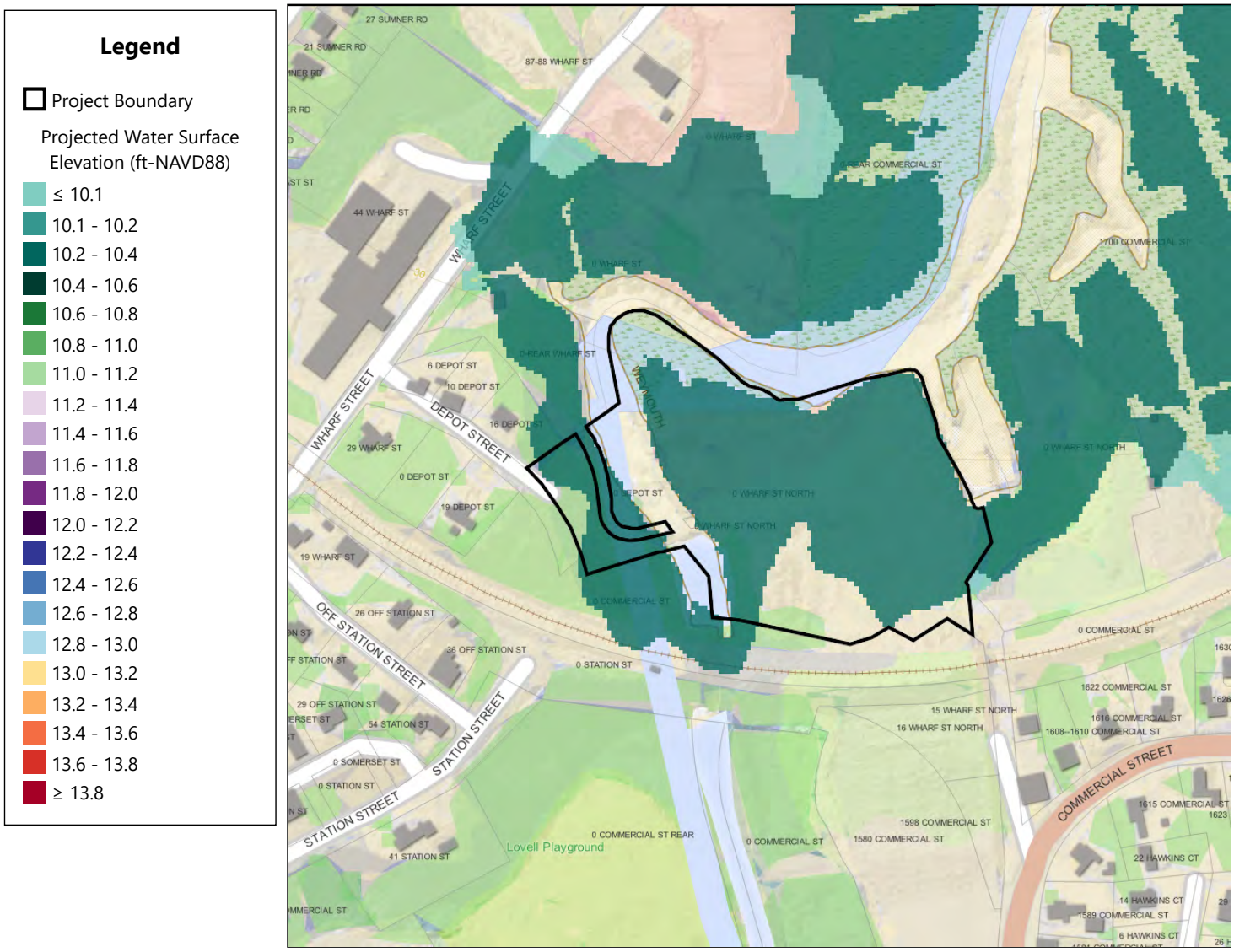
Project Name: Durante
Location (Town): Weymouth

0.05 0.1 0.25 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2030	5% (20-yr)	10.3	10.1	10.2
	2050	5% (20-yr)	11.9	11.9	11.9
	2070	5% (20-yr)	13.8	13.6	13.6



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Water Surface Elevation Map: 2030, 5% (20-yr)

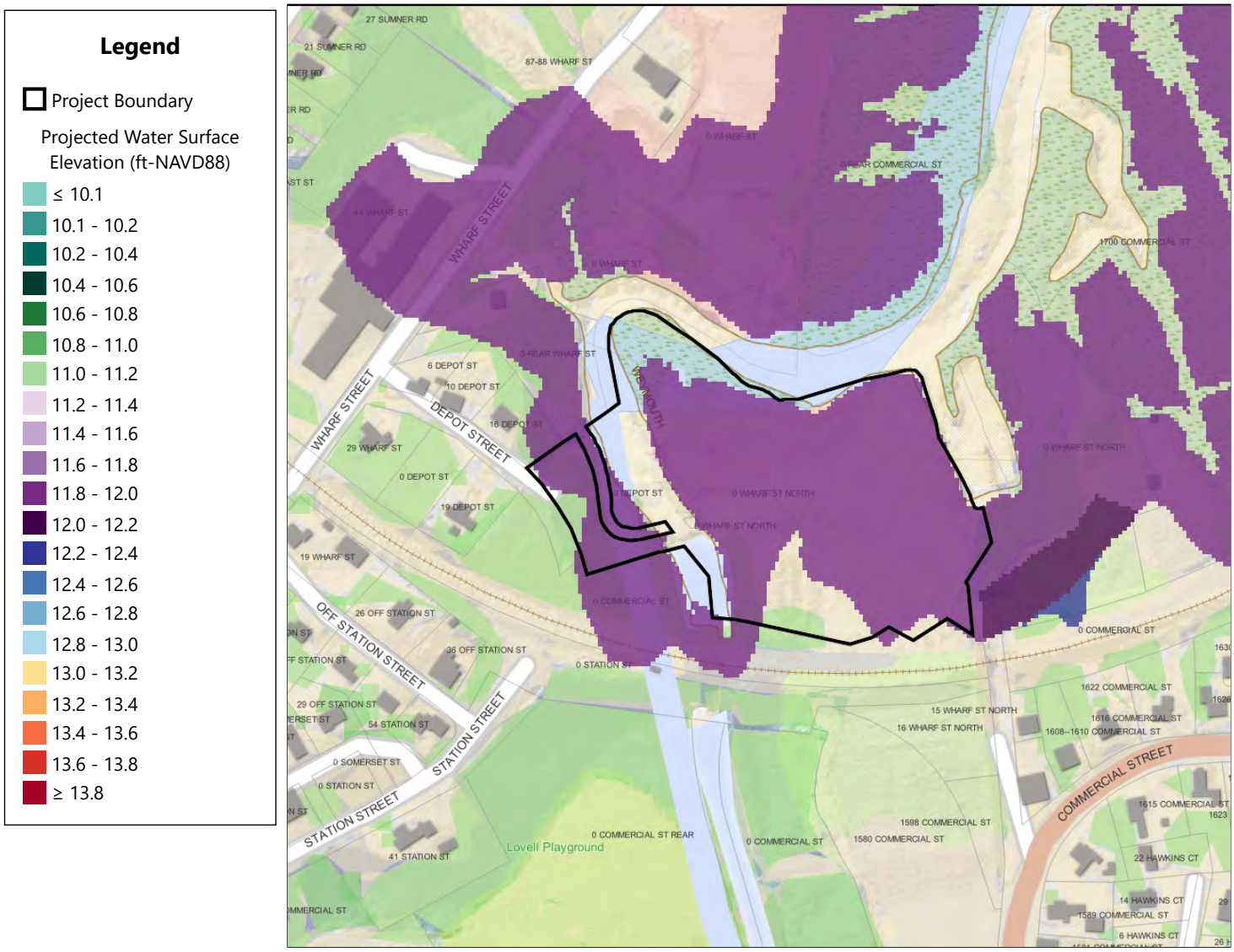
Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2030	5% (20-yr)	10.3	10.1	10.2



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Water Surface Elevation Map: 2050, 5% (20-yr)

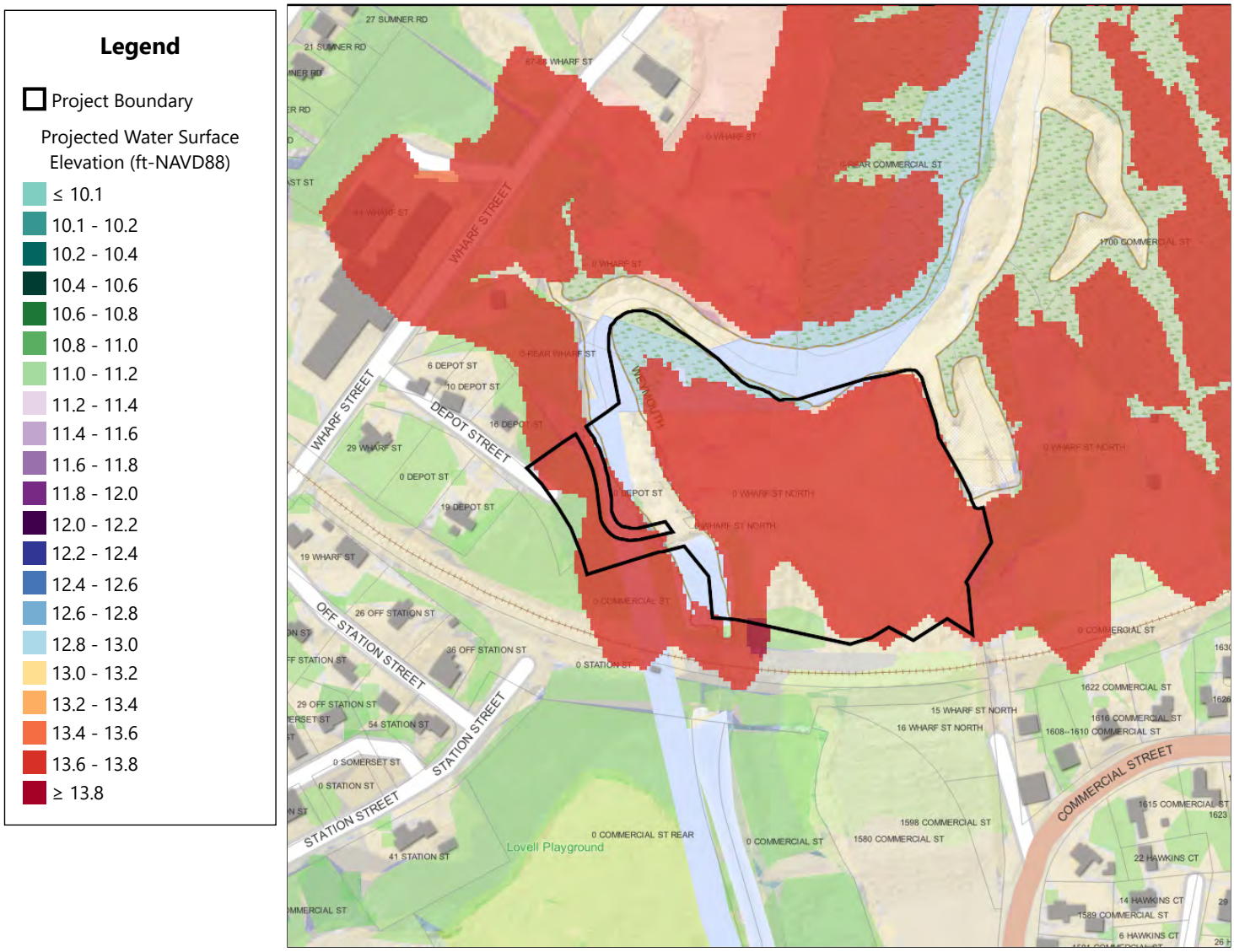
Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2050	5% (20-yr)	11.9	11.9	11.9



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Water Surface Elevation Map: 2070, 5% (20-yr)

Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2070	5% (20-yr)	13.8	13.6	13.6

Sea Level Rise/Storm Surge Project Maps

The following three maps illustrate the Projected Wave Action Water Elevation for the 2030, 2050, and 2070 planning horizons corresponding to the lowest return period (largest design storm) recommended across the assets identified for this project in the Tool. For projects that only have Natural Resource assets, the maps will show the Projected Wave Action Water Elevations corresponding to the 5% (20-year) return period. Refer to the Climate Resilience Design Standards Output - Sea Level Rise/Storm Surge Section for additional values associated with other assets. The maps include the project area as drawn by the user with a 0.1 mile minimum buffer, but do not reflect the location of specific assets on the site.

LIMITATIONS: The recommended Climate Resilience Design Standards for the Sea Level Rise / Storm Surge Design Criteria are based on the user drawn polygon and relationships as defined in the Supporting Documents. The projected values and maps provided through the Tool are based on the Massachusetts Coast Flood Risk Model (MC-FRM) outputs as of 9/13/2021, which included GIS-based data for three planning horizons (2030, 2050, 2070) and six return periods (0.1%, 0.2%, 0.5%, 1%, 2%, 5%). These values are projections based on assumptions as defined in the model and the LiDAR used at the time. For additional information on the MC-FRM, review the additional resources provided on the Start Here page.

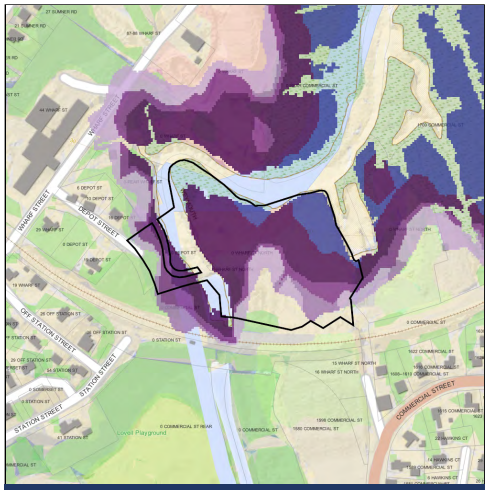
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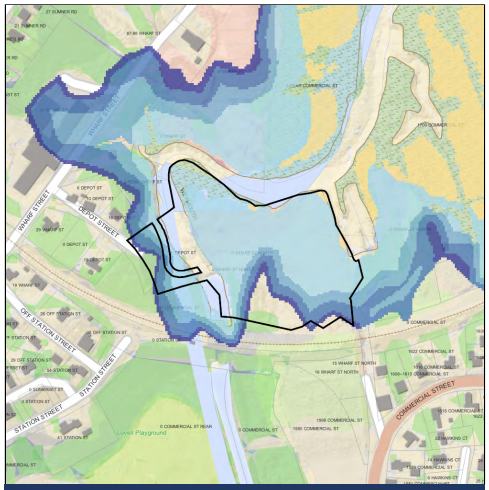
Legend

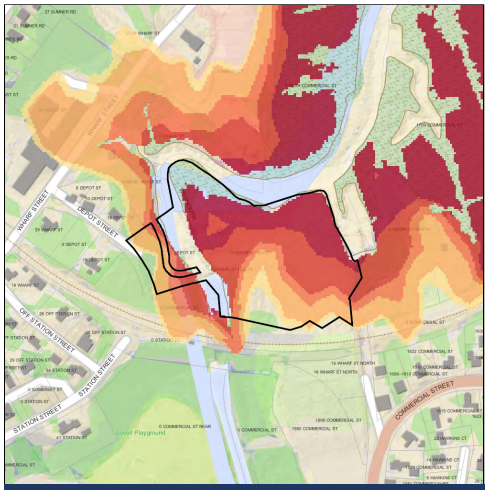
- Project Boundary

Projected Wave Action Water Elevation (ft-NAVD88)

- ≤ 10.2
- 10.2 - 10.5
- 10.5 - 11.0
- 11.0 - 11.5
- 11.5 - 12.0
- 12.0 - 12.5
- 12.5 - 13.0
- 13.0 - 13.5
- 13.5 - 14.0
- 14.0 - 14.5
- 14.5 - 15.0
- 15.0 - 15.5
- ≥ 15.5







Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Wave Action Water Elevation Map: 5% (20-yr)

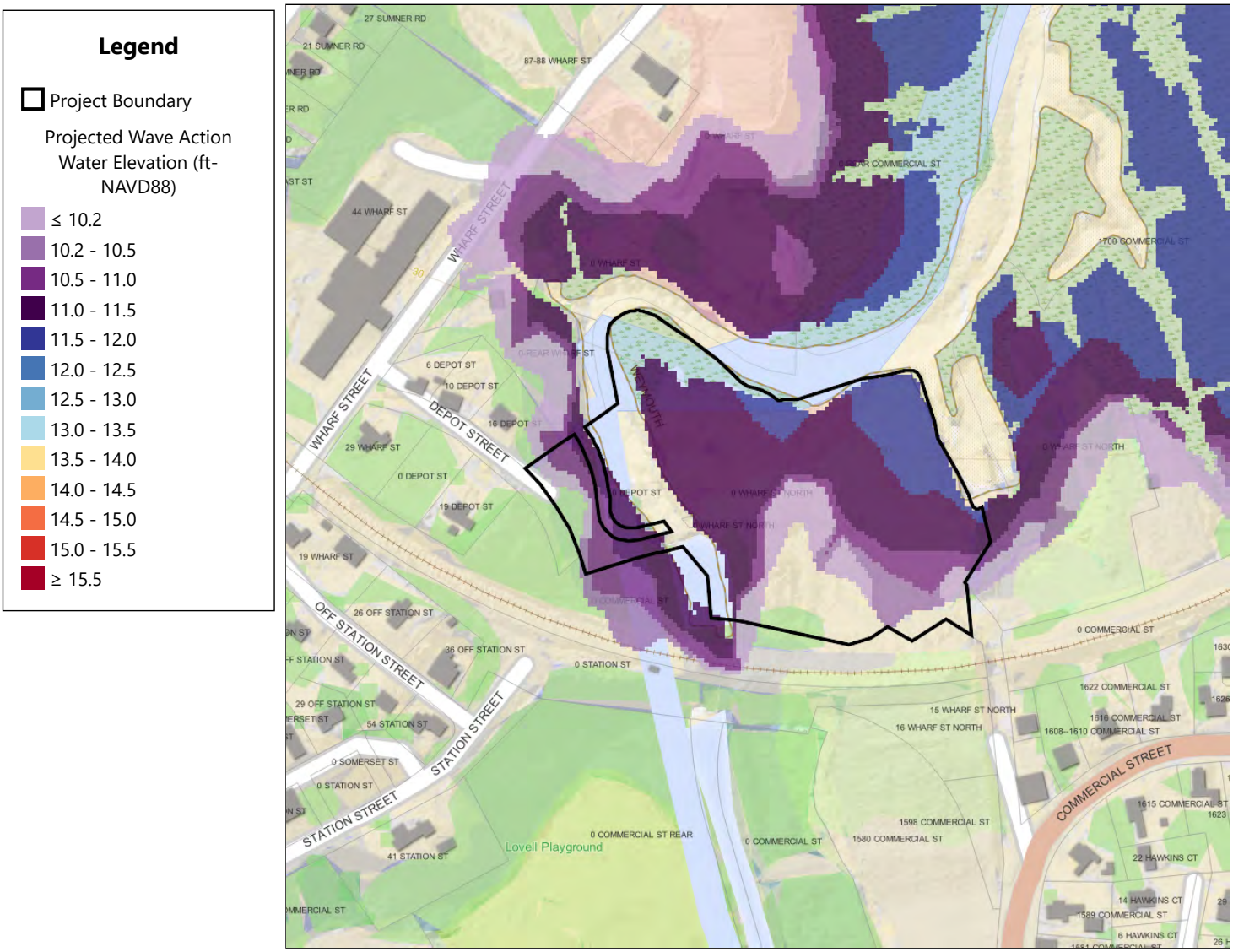
Project Name: Durante
Location (Town): Weymouth

0.05 0.1 0.25 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2030	5% (20-yr)	11.7	10.2	11.1
	2050	5% (20-yr)	13.8	11.9	13.0
	2070	5% (20-yr)	15.5	13.6	14.9



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Wave Action Water Elevation Map: 2030, 5% (20-yr)

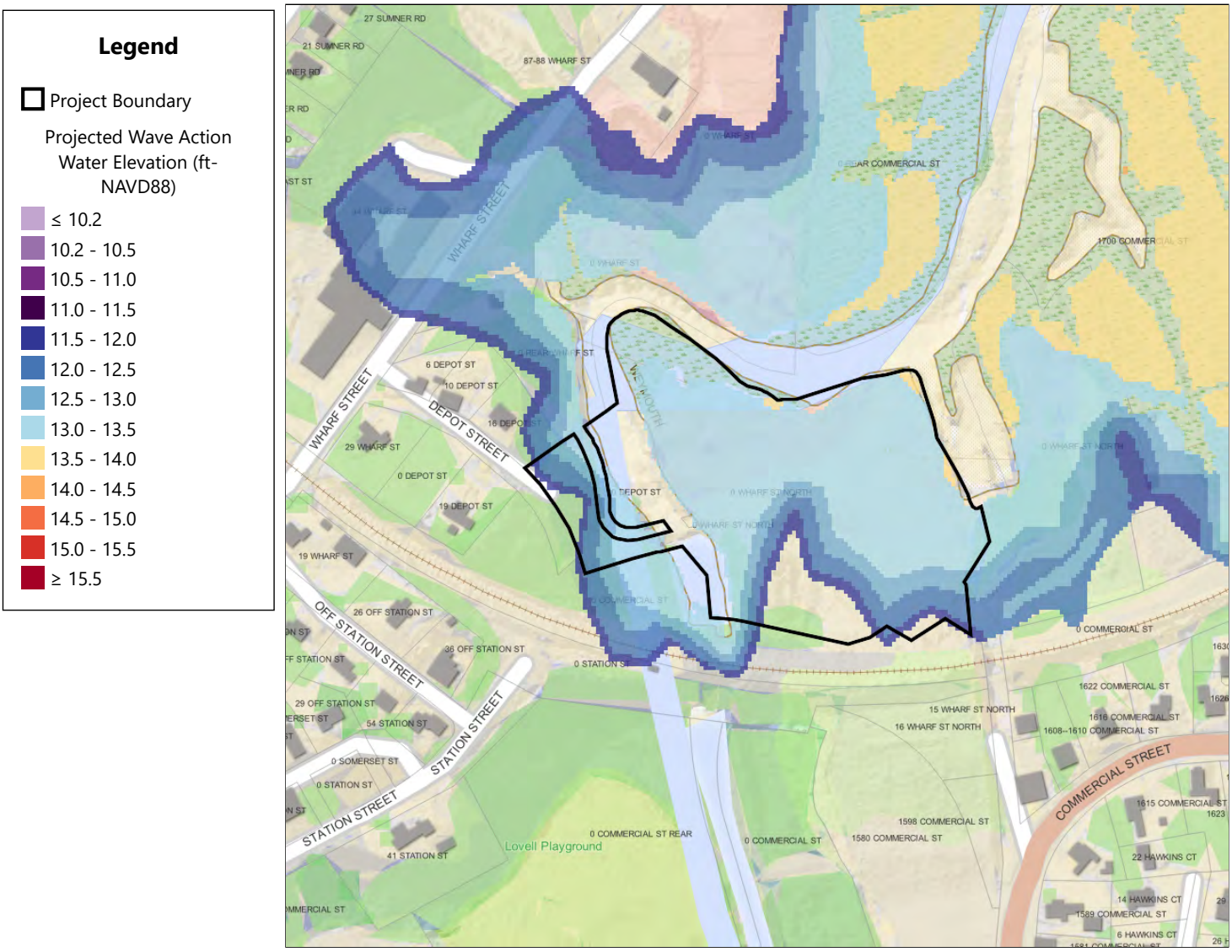
Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2030	5% (20-yr)	11.7	10.2	11.1



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Wave Action Water Elevation Map: 2050, 5% (20-yr)

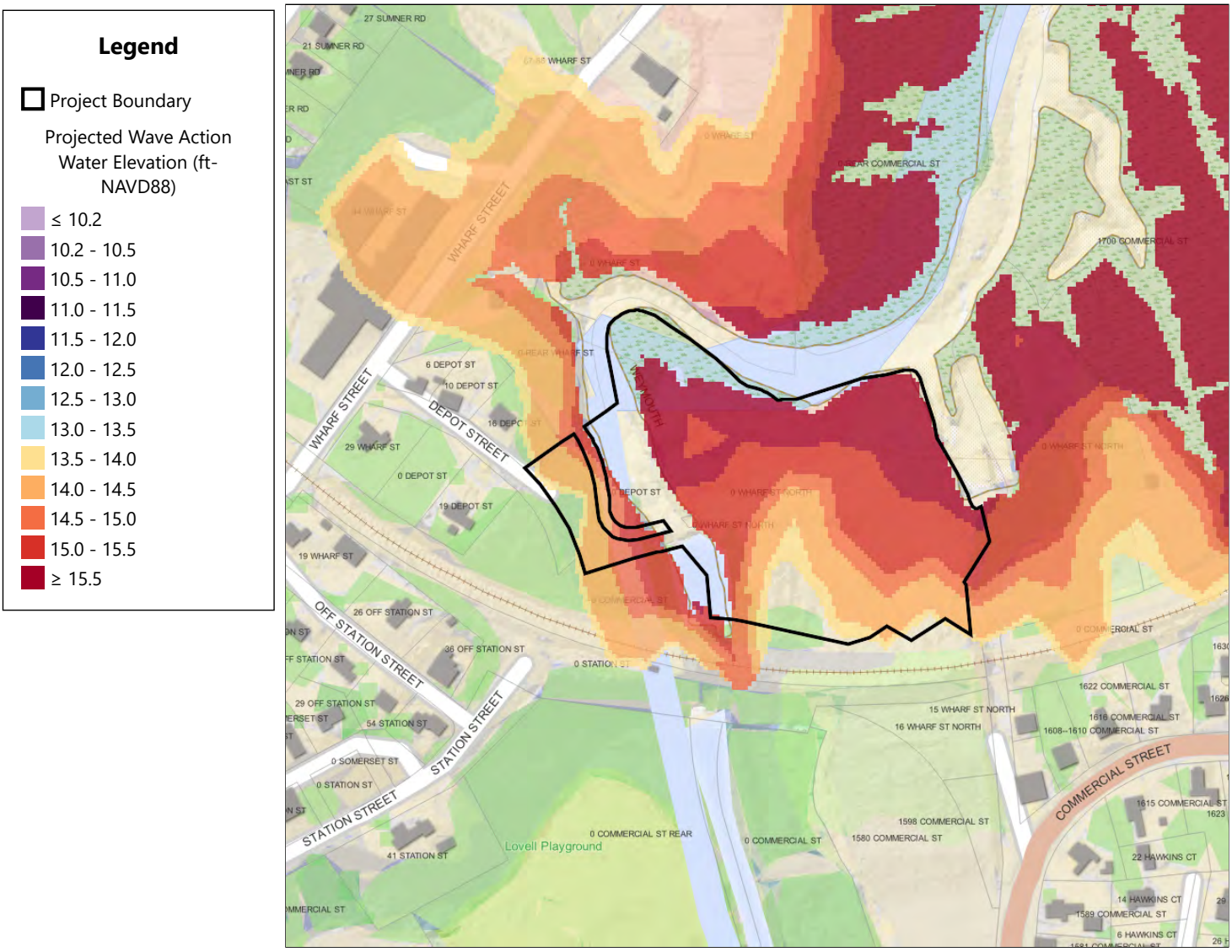
Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2050	5% (20-yr)	13.8	11.9	13.0



Climate Resilience Design Standards Tool:
Sea Level Rise/Storm Surge Design Criteria
Projected Wave Action Water Elevation Map: 2070, 5% (20-yr)

Project Name: Durante
Location (Town): Weymouth

0.025 0.05 0.1 Miles

Created by: kanastas@trccompanies.com
Date Created: 6/2/2025
Tool Version: 1.4

N

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average (ft-NAVD88)
Salt Marsh, LSCSF, Coastal Bank, RA, BVW	2070	5% (20-yr)	15.5	13.6	14.9

Project Inputs

Core Project Information

Name:	Durante
Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)?	2056
Location of Project:	Weymouth
Estimated Capital Cost:	$1,300,000
Who is the Submitting Entity?	Private Other TRC Companies Katherine Anastas (kanastas@trccompanies.com)
Is this project being submitted as part of a state grant application?	No
Which grant program?	
What stage are you in your project lifecycle?	Permitting
Is climate resiliency a core objective of this project?	Yes
Is this project being submitted as part of the state capital planning process?	No
Is this project being submitted as part of a regulatory review process or permitting?	Yes
Brief Project Description:	MBTA proposes to conduct site remediation and wetland restoration. Activities include site cleanup (e.g. soil reuse and offsite disposal, installation of an exposure barrier for residual contamination remaining in place, invasive species management, and selective excavation/dredging to optimize surface water infiltration and connection between open water areas and the river. The purpose of the proposed Project is to restore the function of the wetlands and salt marsh, which have the capability to sequester carbon. Therefore, the Project is anticipated to help reduce potential GHG emissions and contribute towards advancing climate resilience and adaptation in the Commonwealth. The Project will require the following permits: a PCN from USACE, a NPDES SWPPP and DRGP, a CZM federal consistency review, an EENF/Rollover EIR from MEPA, a Section 401 WQC and Chapter 91 License from MassDEP, and an OOC from the Weymouth Conservation Commission.

Project Ecosystem Service Benefits

Factors Influencing Output

- ✓ This is an ecological restoration project
- ✓ Project provides flood protection through nature-based solutions
- ✓ Project reduces storm damage
- ✓ Project filters stormwater using green infrastructure
- ✓ Project improves water quality
- ✓ Project enables carbon sequestration
- ✓ Project protects fisheries, wildlife, and plant habitat
- ✓ Project provides pollinator habitat
- ✓ Project remediates existing sources of pollution
- ✓ Project provides recreation
- ✓ Project prevents pollution

Factors to Improve Output

- ✓ Protect public water supply by reducing the risk of contamination, pollution, and/or runoff of surface and groundwater sources used for human consumption
- ✓ Incorporate strategies that reduce carbon emissions
- ✓ Incorporate green infrastructure or nature-based solutions that recharge groundwater
- ✓ Preserve, enhance, and/or restore coastal shellfish habitats
- ✓ Increase plants, trees, and/or other vegetation to provide oxygen production
- ✓ Mitigate atmospheric greenhouse gas concentrations and other toxic air pollutants through nature-based solutions
- ✓ Incorporate education and/or protect cultural resources as part of your project

Is the primary purpose of this project ecological restoration?

Yes

Project Benefits

Provides flood protection through nature-based solutions	Yes
Reduces storm damage	Yes
Recharges groundwater	No
Protects public water supply	No

Filters stormwater using green infrastructure	Yes
Improves water quality	Yes
Promotes decarbonization	No
Enables carbon sequestration	Yes
Provides oxygen production	No
Improves air quality	No
Prevents pollution	Yes
Remediates existing sources of pollution	Yes
Protects fisheries, wildlife, and plant habitat	Yes
Protects land containing shellfish	No
Provides pollinator habitat	Yes
Provides recreation	Yes
Provides cultural resources/education	No

Project Climate Hazard Exposure

Is the primary purpose of this project ecological restoration?	Yes
Does the project site have a history of coastal flooding?	Yes
Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)?	Yes
Does the project site have a history of riverine flooding?	Yes
Does the project result in a net increase in impervious area of the site?	No
Are existing trees being removed as part of the proposed project?	No

Project Assets

Asset: Salt Marsh
Asset Type: Coastal Resource Area
Asset Sub-Type: Salt marsh
Construction Type: Restoration or enhancement
Construction Year: 2026
Monitoring Frequency: 1
Asset: LSCSF
Asset Type: Coastal Resource Area
Asset Sub-Type: Land subject to coastal 100-year storm flowage
Construction Type: Restoration or enhancement
Construction Year: 2026
Monitoring Frequency: 1
Asset: Coastal Bank
Asset Type: Coastal Resource Area
Asset Sub-Type: Coastal bank
Construction Type: New Construction
Construction Year: 2026
Monitoring Frequency: 1
Asset: RA
Asset Type: Wetland Resource Area - Inland
Asset Sub-Type: Riverfront Area
Construction Type: Restoration or enhancement
Construction Year: 2026
Monitoring Frequency: 1
Asset: BVW
Asset Type: Wetland Resource Area - Inland
Asset Sub-Type: Emergent wetlands
Construction Type: Maintenance (environmental)
Construction Year: 2026
Monitoring Frequency: 1
Asset: Remediation Strategy
Asset Type: Other
Asset Sub-Type: Other
Construction Type: New Construction
Construction Year: 2026
Useful Life: 30

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.
Infrastructure must be accessible/operable at all times, even during natural hazard event.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.
Impacts would be limited to local area and/or municipality

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.
Less than 100,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

Yes

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would be expected to result in minor impacts to people's health, including minor injuries or minor impacts to chronic illnesses

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

Spills and/or releases of hazardous materials are expected with moderately difficult cleanup

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Minor – Inoperability will not likely affect other facilities, assets, or buildings

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than $10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

Impact on natural resources will require remediation/rehabilitation

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure is not expected to reduce the ability to maintain government services

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

No Impact

Report Comments

N/A

Attachment G: EJ Populations Information

Advanced Notification
EJ Reference List
Email of Advanced Notification Form

Environmental Justice Screening Form

Project Name	Durante Site Remediation and Wetland Restoration Project
Anticipated Date of MEPA Filing	July 2025
Proponent Name	Massachusetts Bay Transportation Authority (MBTA)
Contact Information (e.g., consultant)	Isabel Mohammadi-Hall, TRC Companies, Inc 650 Suffolk St Suite 200 Lowell, MA 01854
Public website for project or other physical location where project materials can be obtained (if available)	https://www.mbta.com/projects/durante-remediation-and-wetland-enhancement
Municipality and Zip Code for Project (if known)	Weymouth (02189)
Project Type* (list all that apply)	Ecological Restoration Remediation
Is the project site within a mapped 100-year FEMA flood plain? Y/N/ unknown	Yes
Estimated GHG emissions of conditioned spaces (click **here** for GHG Estimation tool)	Not applicable – No buildings are proposed as part of this project.

Project Description

1. Provide a brief project description, including overall size of the project site and square footage of proposed buildings and structures if known.

The MBTA is proposing to conduct site remediation and wetland restoration at 0 Wharf Street in Weymouth, Massachusetts (the Project; the Project Site). The Project Site is located at the north end of North Wharf Street and is approximately 6.17 acres in size. The Project Site is vacant, and no utilities currently service the Site. Additionally, there are currently no buildings located on the Project Site. Refer to **Attachment A, Figure 1** for a Site Location Map.

The Project will include Site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen. There are no buildings or structures are proposed for this Project. After the Project is completed, the Project Site will be turned over to the City of Weymouth.

2. List anticipated MEPA review thresholds (301 CMR 11.03) (if known)

The Project is anticipated to trigger the following MEPA thresholds:

ENF and Other MEPA Review:

- Wetlands, Waterways, and Tidelands (301 CMR 11.03(3)(b)(c – f)
    - Alteration of 1,000 or more sf of salt marsh or outstanding resource waters;
    - Alteration of 5,000 or more sf of bordering or isolated vegetated wetlands;
    - New fill or structure or Expansion of existing fill or structure, except a pile-supported structure, in a velocity zone or regulatory floodway;
    - Alteration of ½ or more acres of any other wetlands
- Areas of Critical Environmental Concern (301 CMR 11.03(11)(b)
    - Any Project of ½ or more acres within designated ACEC

The project also requires an Environmental Impact Report due to the provisions found in 301 CMR 11.06(7)(b), which states that "The Secretary shall require an EIR for any Project that is located within a Designated Geographic Area around an Environmental Justice Population".

3. List all anticipated state, local and federal permits needed for the project (if known)

Agency	Permit, Review, or Approval
Federal	
United States Army Corps of Engineers (USACE)	Section 404 Pre-Construction Notification (PCN) Permit which includes consultations under Section 106 of National Historic Preservation Act and Section 7 of the Endangered Species Act
United States Environmental Protection Agency (USEPA)	National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), Dewatering and Remediation General Permit (DRGP) and Stormwater Pollution Prevention Plan (SWPPP)
State	
Executive Office of Energy and Environmental Affairs (EOEEA)	MEPA Review/Certificate of the Secretary
Massachusetts Department of Environmental Protection (MassDEP)	Section 401 Individual Water Quality Certification Chapter 91 Minor Modification Request
Massachusetts Office of Coastal Zone Management	Federal Consistency Review
Local	
Weymouth Conservation Commission	Order of Conditions per the Massachusetts Wetlands Protection Act

4. Identify EJ populations and characteristics (Minority, Income, English Isolation) within 5 miles of project site (can attach map identifying 5-mile radius from EJ Maps Viewer in lieu of narrative)

See **Attachment A, Figure 2.**

5. Identify any municipality or census tract meeting the definition of "vulnerable health EJ criteria" in the DPH EJ Tool located in whole or in part within a 1 mile radius of the project site

See **Attachment B.**

6. Identify potential short-term and long-term environmental and public health impacts that may affect EJ Populations and any anticipated mitigation

The EJ Populations within 1-mile radius of the Project (the Designated Geographic Area for the Project) is shown in **Attachment C**.

Potential environmental and public health impacts of the Project and anticipated mitigation include the following:

Water Quality:
The Site is located in an urban area. There are wetland and surface water areas on or near the Site and there is ecological habitat on or in the Site vicinity. The Site itself is largely a vacant lot with access to the Weymouth Back River. The Site soil is contaminated polychlorinated biphenyls (PCBs), metals, polycyclic aromatic hydrocarbons (PAHs) and extractable petroleum hydrocarbons (EPH), all of which are believed to be associated with historic operations, historical filling at the Disposal Site, and the demolition of buildings and support structures at the Disposal Site. Remedy implementation measures which will be utilized to minimize potential impacts include erosion and sediment controls, dust suppression during soil excavation and movement activities, decontamination of equipment and vehicles leaving the Site, and the installation of an exposure barrier to prevent direct contact with impacted soil left on-site.

Groundwater and surface water samples have been collected at the Site and nothing was above reportable concentrations.

The Project will incorporate protective and preventative measures to minimize and avoid impacts to water quality. Excavation, dewatering, and dredging associated with the Project will be for site wetland optimization and remediation. Impacts to water quality as a result of this Project will be negligible and temporary and are not anticipated to cause impacts to public health. The Project, after the work is complete, will provide a place where the surrounding communities can have clean access to the natural resources on Site.

Land Protection and Open Space:
The Project Site is not considered protected land or open space under Article 97 and is a vacant lot. The remediation and wetland restoration effort will improve the Project Site by making it more readily available to the public and providing recreational opportunities for the surrounding communities.

Noise:
Noise impacts for the surrounding EJ Populations associated with construction-period activities are temporary in nature and will cease after the work is complete. Noise-generating activities will be conducted in accordance with any local and state requirements and are not anticipated to cause impacts to public health.

Traffic:
Impacts to traffic during the construction of the Project will be minor and intermittent. Access to the Project Site will be through Commercial Street onto North Warf Street. Once on Site, vehicle traffic will be limited to within the Site boundaries. Any contaminants leaving the Site will follow required transportation regulations to avoid impacts to EJ Populations during cleanup activities. There will be no permanent impacts to traffic patterns or use of existing roadways within EJ Populations. Therefore, no impacts to public health to EJ Populations are anticipated from traffic

7. Identify project benefits, including "Environmental Benefits" as defined in 301 CMR 11.02, that may improve environmental conditions or public health of the EJ population

In 301 CMR 11.02, Environmental Benefits are defined as the following: "*Access to clean natural resources, including air, water resources, open space, constructed playgrounds and other outdoor recreational facilities and venues, clean renewable energy sources, environmental enforcement, training and funding disbursed or administered by the executive office of energy and environmental affairs*."

Potential "Environmental Benefits" include the following:

- The Site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier to residual contamination remaining in-place) will provide public access to clean natural resources and open space.
- The wetland restoration efforts have been designed to optimize the wetland so that the wetland functions better than before the Project.
- The Project also involves the removal of invasive plant species to the extent practicable which would decrease the novel introduction of these species throughout the Site.
- The Project will provide a new open space area for outdoor recreational facilities and new access to water resources. Once the work is done, it is up to the City of Weymouth to decide what additional work will be done at the Site to increase recreation and public use.

Other benefits of this Project that are not expressly included under the definition of "Environmental Benefits" consist of the following:

- Once the Project is complete, the Site will be closed with an Activity Use Limitation (AUL) that will define the allowed activities and development at the Site. This will ensure that the Site is maintained properly.

8. Describe how the community can request a meeting to discuss the project, and how the community can request oral language interpretation services at the meeting. Specify how to request other accommodations, including meetings after business hours and at locations near public transportation.

Communities and members of the public can access information related to the Project in the following ways:

- The MBTA public website includes a page for the Project that provides information about the project and will be updated with information on Project timelines and other information as it becomes available. The link to the website page is here: https://www.mbta.com/projects/durante-remediation-and-wetland-enhancement
- The website contains a number and email address which are directed to the outreach team at MBTA for follow up.
- A virtual informational meeting was hosted by MBTA on February 18, 2025.
    - The EJ Reference List received information related to this meeting via email.

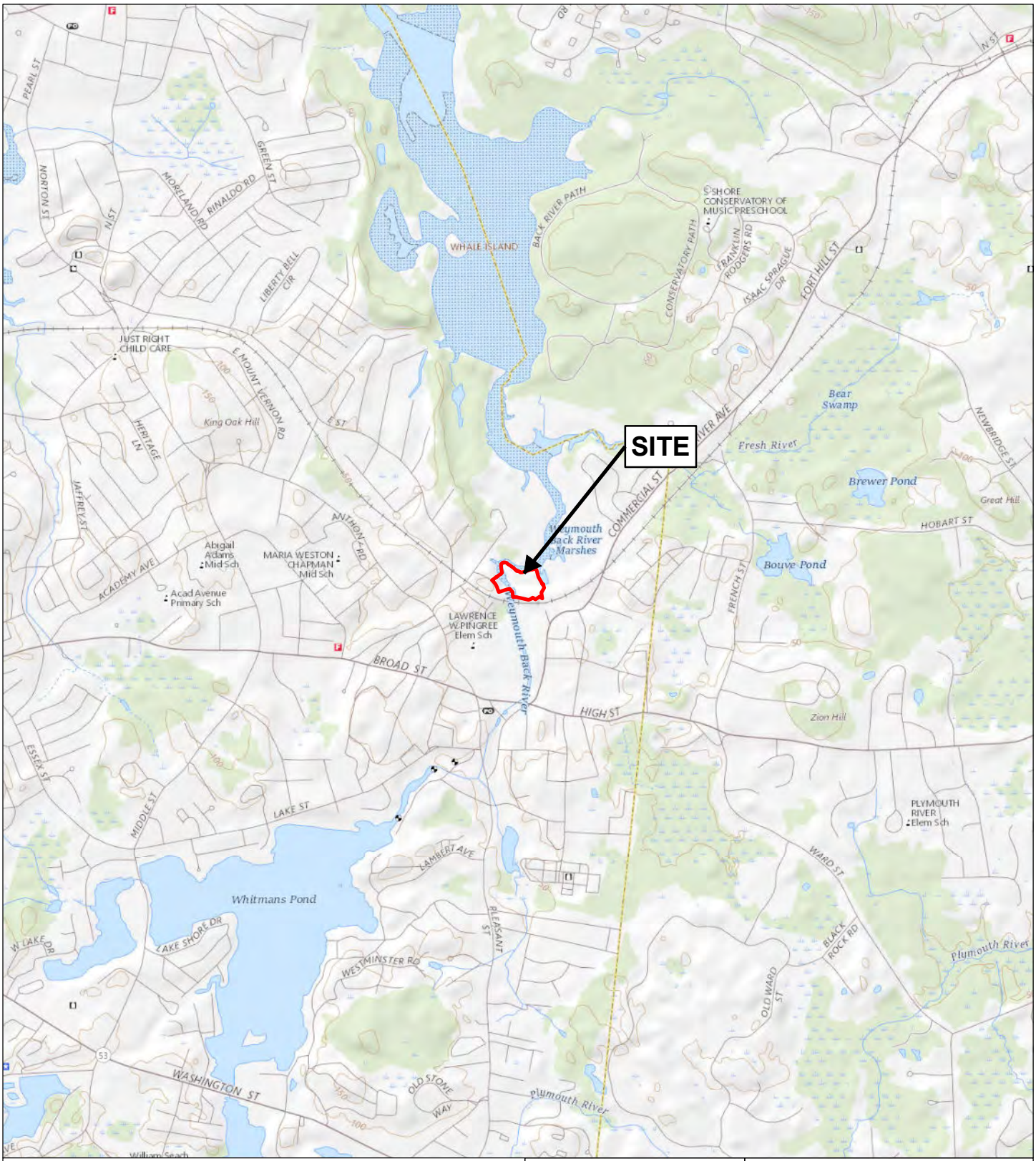
- Notifications[1] of the virtual meeting were posted in the appropriate newspaper(s) with circulations to each municipality prior to the meeting date.
- A recording of the meeting was posted on the project website.

- All cleanup and required MCP documents (Release Tracking Number [RTN] Number: 4-20447) are available at the following website: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite
- Hard copies of Project materials will be made available at municipal libraries and/or city halls or transfer stations.
- Under request, in person project informational meetings will be scheduled at a convenient location near the Project Site as the Project progresses.

Recipients of this form include organizations on the EJ Reference List provided by Massachusetts Executive Office of Energy and Environmental Affairs per the Public Involvement Protocol as well as Agency and Other Reviewers.

[1] According to the Census Bureau American Community Survey, Table B16001, 2011-2015 5-year estimates, there are no census tracts (during the data years) within one mile of the Project Site that exceed the 5 percent threshold required by the 301 CMR 11. Therefore, no translations of project documents will be provided.

Attachment A:
Figures



Approximate Site Boundary

N

0 2,000 Feet

Massachusetts

Map Location

Base Map: USGS/The National Map

TRC

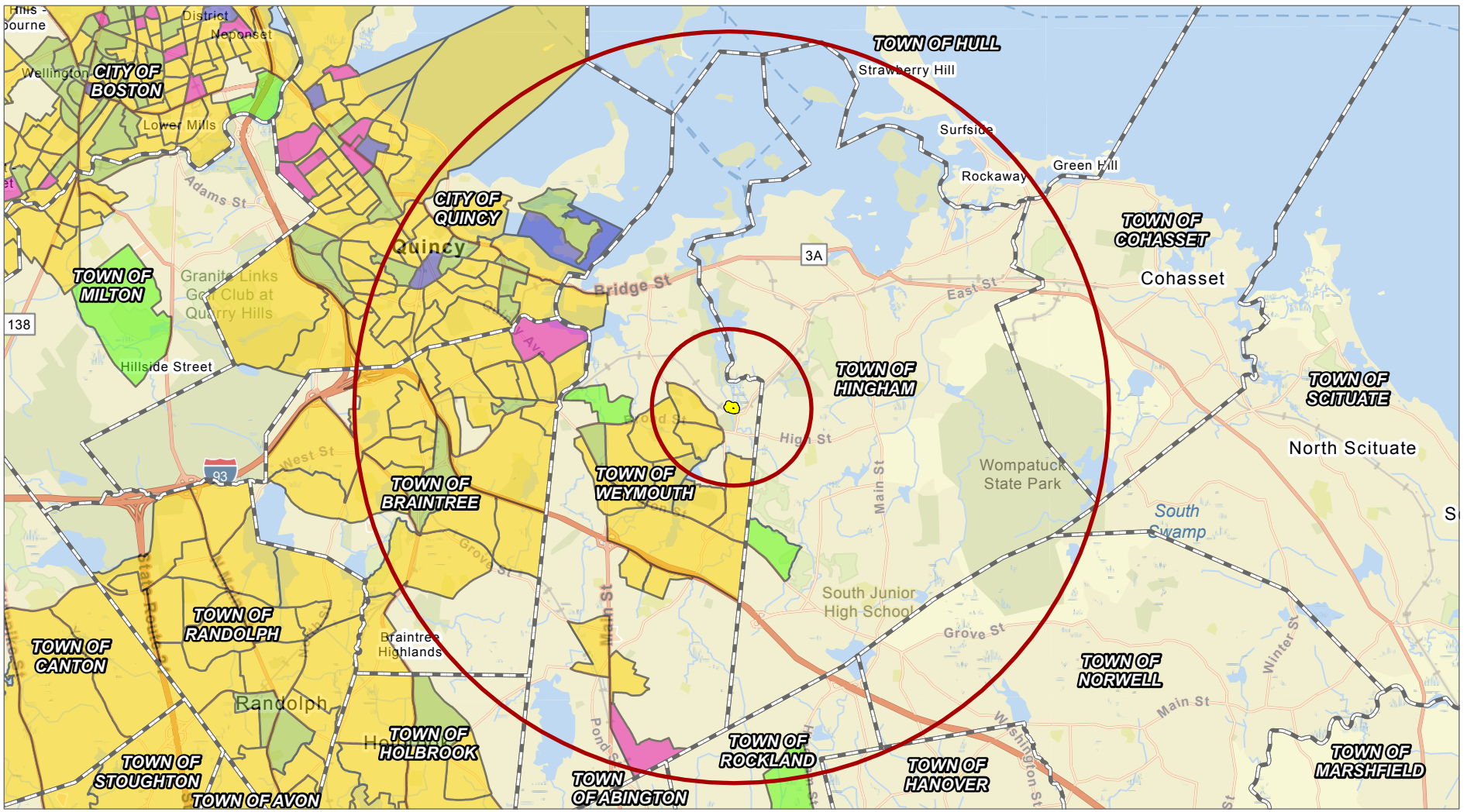
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

SITE LOCATION MAP
FORMER DURANTE PROPERTY
WHARF STREET NORTH

WEYMOUTH, MA

FIGURE 1 | JAN 2024

S:\1-PROJECTS\MBTA\FormerDurante\mxd\Fig1_Fmr Durante_weymouth_2019-05-30.mxd



DURANTE SITE

ONE- AND FIVE-MILE RADII AROUND PROJECT AREA

MUNICIPAL BOUNDARY

ENVIRONMENTAL JUSTICE BLOCK GROUPS

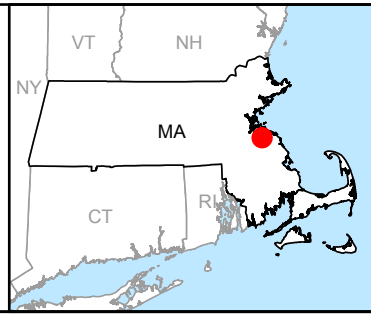
MINORITY

INCOME

MINORITY AND INCOME

MINORITY AND ENGLISH ISOLATION

MINORITY, INCOME AND ENGLISH ISOLATION



BASE MAP: MASSGIS ORTHO IMAGERY, 2023
DATA SOURCES: MASSGIS, TRC, ESRI

N

0 1 2 MILES

1:126,720 1" = 2 miles

PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: ENVIRONMENTAL JUSTICE AREAS

DRAWN BY:	G. STUDWELL	PROJ. NO.:	459216
CHECKED BY:	I. MOHAMMADI-HALL		
APPROVED BY:	J. SHUSTER		FIGURE 2
DATE:	AUGUST 2024		

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
-- SAVED BY: GSTUDWELL ON 8/7/2024, 15:20:05 PM; FILE PATH: T:\1-PROJECTS\MBTA\459216_DURANTE\2-APRX\DURANTE_FIGURES_20230417.APRX; LAYOUT NAME: EJ

Attachment B:
Project Vulnerable Health EJ Criteria (1-mile)

Attachment B: Durante Site Remediation and Wetland Restoration Project
Vulnerable Health EJ Criteria (1-mile)

Municipality	EJ and Vulnerable Health EJ Criteria Status	Vulnerable Health Topic EJ Criteria Met	Statewide Rate
Hingham	Meets at least one Vulnerable Health EJ Criteria	Pediatric Asthma Ed Visits Rate per 10,000	65.9
		Heart Attack Rate per 10,000	26.1
Weymouth	Meets at least one Vulnerable Health EJ Criteria	Pediatric Asthma Ed Visits Rate per 10,000	65.9
		Lead Poisoning Rate per 1,000	13.6
		Low Birth Weight Rate per 1,000	216.8

Attachment C:
Massachusetts Department of Health EJ
Communities within 1-mile of Project Site

Attachment C: Durante Site Remediation and Wetland Restoration Project

Massachusetts Department of Public Health (DPH) Environmental Justice (EJ) Communities (1-mile)

Municipality	Geographic Area Name	EJ Criteria Description	Minority Population (%)	Median Income	Percent of MA Median Income (%)
Weymouth	Block Group 1, Census Tract 4225.02, Norfolk County	Minority	34.38	$64,112	75.98
Weymouth	Block Group 2, Census Tract 4225.01, Norfolk County	Minority	33.33	$57,368	67.98
Weymouth	Block Group 3, Census Tract 4225.02, Norfolk County	Minority	28.15	$77,247	91.54
Weymouth	Block Group 4, Census Tract 4225.02, Norfolk County	Minority	34.41	$60,917	72.19
Weymouth	Block Group 2, Census Tract 4225.02, Norfolk County	Minority	27.12	$79,236	93.90

Project-Specific EJ Distribution List

Populate this Project-Specific Distribution List with the appropriate contacts from all 4 tabs in the EJ Reference List workbook

Project Name: Durante Site Remediation and Wetland Restoration

Project Address: North Wharf Street

MA Municipalities in Project's DGA: Weymouth

Date Generated: 12/9/2024

Filing Type: ☑ ENF/EENF ☐ DEIR/FEIR ☐ SEIR ☐ Other

First Name	Last Name	Title	Phone	Email	Affiliation	Contact Source
Claire	B.W. Muller	Movement Building Director	(508) 308-9261	claire@uumassaction.org	Unitarian Universalist Mass Action Network	
Julia	Blatt	Executive Director	(617) 714-4272	juliablatt@massriversalliance.org	Mass Rivers Alliance	
Jodi	Valenta	Massachusetts State Director	(617) 367-6200	Jodi.Valenta@tpl.org	The Trust for Public Land	
Kerry	Bowie	Board President	Not Provided	kerry@msaadapartners.com	Browning the GreenSpace	
Sylvia	Broude	Executive Director	(617) 292-4821	sylvia@communityactionworks.org	Community Action Works	
Heather	Clish	Director of Conservation & Recreation Policy	(617) 523-0655	hclish@outdoors.org	Appalachian Mountain Club	
Johannes	Epke	Staff Attorney	(617) 850-1761	jepke@clf.org	Conservation Law Foundation	
Brittney	Jenkins	Vice President		Bjenkins@clf.org	Conservation Law Foundation	
Amy	Boyd Rabin	Vice President of Policy	(617) 221-8258	aboydrabin@environmentalleague.org	Environmental League of Massachusetts	
Zahra	Saifee	Policy & Advocacy Coordinator	(435) 632-9482	zsaifee@environmentalleague.org	Environmental League of Massachusetts	

Ben	Hellerstein	MA State Director	(617) 747-4368	ben@environmentmassachusetts.org	Environment Massachusetts	
Robb	Johnson	Executive Director	(978) 443-2233	robb@massland.org	Mass Land Trust Coalition	
Cindy	Luppi	New England Director	(617) 338-8131 x208	cluppi@cleanwater.org	Clean Water Action	
Lena Miles	Entin Gresham	Director of Individual Giving Campaign Director	Not Provided	Lena@N2NMa.org Miles@N2NMa.org	Neighbor to Neighbor Mass.	
Dálida	Rocha	Executive Director	Not Provided	dalida@n2nma.org	Neighbor to Neighbor Mass.	
Rob	Moir	Executive Director	Not Provided	rob@oceanriver.org	Ocean River Institute	
Vickash	Mohanka	Director, MA Chapter	Not Provided	vick.mohanka@sierraclub.org	Sierra Club MA	
Heidi	Ricci	Director of Policy	Not Provided	hricci@massaudubon.org	Mass Audubon	
Alma	Gordon	President	Not Provided	tribalcouncil@chappaquiddickwampanoag.org	Chappaquiddick Tribe of the Wampanoag Nation	
Cheryll	Toney Holley	Chair	(774) 317-9138	crwritings@aol.com	Nipmuc Nation (Hassanamisco Nipmucs)	
John	Peters, Jr.	Executive Director	(617) 573-1292	john.peters@mass.gov	Massachusetts Commission on Indian Affairs (MCIA)	
Melissa	Ferretti	Chair	(508) 304-5023	melissa@herringpondtribe.org	Herring Pond Wampanoag Tribe	
Patricia	D. Rocker	Council Chair	Not Provided	rockerpatriciad@verizon.net	Chappaquiddick Tribe of the Wampanoag Nation, Whale Clan	
Raquel	Halsey	Executive Director	(617) 232-0343	rhalsey@naicob.org	North American Indian Center of Boston	
Cora	Pierce	Not Provided	Not Provided	Coradot@yahoo.com	Pocassett Wampanoag Tribe	

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Cc:	Hogan, Mae; Paganelli, Tess; Fontaine, Jeremy; Darby, Debra; Carvalho-Christie, Deyse; Mudge, Griffin; Cordeiro, Bryan; Shuster, Jonathan; Buchanan, Scott; MEPA-EJ@mass.gov
Subject:	MEPA Advanced Notification - Durante Site Remediation and Wetland Restoration Project in Weymouth, MA
Date:	Monday, June 16, 2025 3:35:00 PM
Attachments:	image001.png Durante_EJ Screening Form_06.16.2025.pdf

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Hello,

On behalf of the Massachusetts Bay Transportation Authority (MBTA), TRC is pleased to provide Advanced Notification for the upcoming submittals under the Massachusetts Environmental Policy Act (MEPA) for the Durante Site Remediation and Wetland Restoration Project at 0 Wharf Street in Weymouth, MA. Please see the attached EJ Screening Form for more information on the Project.

The MBTA plans to file an Expanded Environmental Notification Form (EENF) and Proposed Environmental Impact Report (PEIR) with the MEPA Office in July. Public Notice of the filings will be posted in the Patriot Ledger up to 30 days before the publication of the MEPA filings in the Environmental Monitor.

Thank you,

Izzy

Isabel Mohammadi-Hall
Project Manager
TRC
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Attachment H: Public Notice

PUBLIC NOTICE OF ENVIRONMENTAL REVIEW

PROJECT: Durante Remediation and Wetland Restoration Project

LOCATION: 0 Wharf Street, Weymouth, MA

PROPONENT: the Massachusetts Bay Transportation Authority (MBTA)

The undersigned is submitting an Environmental Notification Form ("ENF") to the Secretary of Energy & Environmental Affairs on or before July 31, 2025.

This will initiate review of the above project pursuant to the Massachusetts Environmental Policy Act ("MEPA," M.G.L. c. 30, ss. 61-62L). Copies of the ENF may be obtained from:

Isabel Mohammadi-Hall, TRC Environmental Corporation
imohammadi-hall@trccompanies.com
(201) 306-2297

Electronic copies of the ENF are also being sent to the Conservation Commission and Planning Board of Weymouth**.**

The Secretary of Energy & Environmental Affairs will publish notice of the ENF in the Environmental Monitor, receive public comments on the project, and then decide if an Environmental Impact Report is required. A site visit and/or remote consultation session on the project may also be scheduled. All persons wishing to comment on the project, or to be notified of a site visit and/or remote consultation session, should email MEPA@mass.gov or the MEPA analyst listed in the Environmental Monitor. Requests for language translation or other accommodations should be directed to the same email address. Mail correspondence should be directed to the Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, referencing the above project.

By MBTA

The Patriot Ledger

Public Notices

Originally published at patriotledger.com on 07/29/2025

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0 Wharf Street, Weymouth
LEGAL NOTICE
PUBLIC NOTICE OF
ENVIRONMENTAL REVIEW

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LOCATION: 0 Wharf Street, Weymouth, MA

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By MBTA

#11519625
PL 7/29/25

Attachment I: Wetland Delineation Report

Wetland and Waterbody Delineation Report

Durante Site Remediation and Wetland Restoration Project

East Weymouth, Massachusetts

July 2023

Prepared For:

Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, Massachusetts 02116-3974

Prepared By:

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Wannalancit Mills
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1.0 Introduction

On behalf of the Massachusetts Bay Transportation Authority (MBTA), TRC Environmental Corporation (TRC) presents the following Wetland Delineation Report for the Durante Site located in Weymouth, Massachusetts (Project Site). The Project Site is directly adjacent to the Mill River, a portion of the greater Weymouth Back River system.

1.1 Project Site Description

The Project Site is located adjacent to the Mill River which borders the north and west of the Project Site (Appendix A, Figure 1). The Project Site is located north of the East Weymouth MBTA Train Station. An electric substation is located to the east of the Project Site.

2.0 Regulatory Authority

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) asserts jurisdiction over Waters of the United States (WOTUS), defined as wetlands, streams, and other aquatic resources under the regulatory authority per Title 33 Code of Federal Regulations (CFR) Part 328, and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (EPA, 2023).

The USACE will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The USACE will decide jurisdiction over the following waters based on analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.

The USACE generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands, and that do not carry a relatively permanent flow of water.

The USACE will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires that a permit must be issued by the USACE to construct any structure in or over any navigable WOTUS, as well as any proposed action (such as excavation/dredging or deposition of materials) that would alter or disturb these waters. If the proposed structure or activity affects the course, location, condition, or capacity of the navigable water, even if the proposed activity is outside the boundaries of the stream in associated wetlands, a Section 10 permit from the USACE is required.

2.2 Massachusetts Department of Environmental Protection

The Massachusetts Wetlands Protection Act (WPA) (Section 40 of Chapter 131 of the General Laws of Massachusetts and regulated under 310 Code of Massachusetts Regulations [CMR] section 10.00) defines multiple coastal (310 CMR 10.25-10.37) and inland resource areas (310 CMR 10.54-10.59) and gives Massachusetts Department of Environmental Protection (MassDEP) jurisdiction over these resource areas. In most cases, the WPA also gives MassDEP jurisdiction over buffer zone extending 100 feet from the edge of the resource area. In addition to MassDEP, local municipalities' Conservation Commissions are responsible for administering the WPA and any local wetlands ordinance or bylaw.

The WPA defines two types of Land Subject to Flooding (310 CMR 10.57): isolated and bordering. Isolated Land Subject to Flooding (ILSF) is defined as "an isolated depression or a closed basin which serves as a ponding area for run-off or high ground water which has risen above the ground surface." Bordering Land Subject to Flooding (BLSF) is defined as "an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and waterbodies; where a bordering vegetated wetland occurs, it extends from said wetland." The boundary of BLSF is further defined as "the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm" as shown on the most recently available flood profile data prepared for the community by the National Flood Insurance Program (NFIP), currently administered by the Federal Emergency Management Agency (FEMA), successor to the U.S. Department of Housing and Urban Development. Under the WPA, ILSF and BLSF do not have associated buffer zones.

The WPA defines Bordering Vegetated Wetland (BVW) under 310 CMR 10.55 as any freshwater wetland which borders on creeks, rivers, stream ponds or lakes. Under the WPA, a 100-foot buffer

zone is associated with BVWs. Isolated wetlands (IWs) are not connected to a waterway or waterbody and, therefore, are not regulated under the WPA and do not have an associated buffer zone under the WPA. Isolated wetlands may have an associated buffer zone or similar zone associated with them under the local ordinance or bylaw. In some cases, IWs may qualify as ILSF and, in those instances, are regulated under the WPA.

The WPA defines Bank (310 CMR 10.54) as the portion of the land surface which normally abuts and confines a waterbody, occurring between a waterbody and a BVW and adjacent floodplain, or between a waterbody and an upland. Under the WPA, a 100-foot buffer zone is associated with Banks.

The WPA defines Land under Waterbodies and Waterways (LUW) (310 CMR 10.56) as land beneath any creek, river, stream, pond, or lake. The boundary of LUW is the Mean Annual Low Water (MALW) line. There are no buffer zones associated with LUW under the WPA.

The WPA defines Riverfront Area (310 CMR 10.58) as the 200-foot area of land measured horizontally from a river's Mean Annual High Water (MAHW) line. The section defines a river as any stream that is perennial and includes, but is not limited to, streams shown as perennial on current USGS maps or that have a watershed size greater than or equal to one square mile. Riverfront Area is not associated with intermittent streams as they do not flow throughout the year. Under the WPA, Riverfront Area does not have an associated buffer zone.

Land Subject to Coastal Storm Flowage (LSCSF) is defined as land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.

A Notice of Intent (NOI) filing is required, from MassDEP, for any disturbance, including the removal of vegetation or alteration to a Banks, BVW, ILSF, BLSF, Riverfront Area, LSCSF, or buffer zone.

2.3 Town of Weymouth Conservation Commission

The Weymouth Conservation Commission (WCC) administers a local wetlands protections ordinance and regulations in addition to the WPA; however, the MBTA is not subject to local ordinances.

3.0 Project Site Characteristics

TRC reviewed publicly available literature and materials used for the wetland delineation field surveys and report preparation, including:

- MassGIS MassMapper[1], the National Hydrography Dataset;
- The USGS Topographic, 7.5 Minute Quadrangle for Weymouth, Massachusetts (USGS, 2021);

[1] The MassDEP Wetlands Conservancy Program uses aerial photography and photo interpretation to delineate and map wetland boundaries. These boundaries are available via the Massachusetts Office of Geographic Information (MassGIS) online mapping tool, MassMapper. Desktop review consisted of utilizing MassGIS MassMapper to gather a general understanding of existing conditions and potential regulated resource areas.

- The FEMA Flood Insurance Rate Map (FIRM) Panel 25021C0231E (effective date July 17, 2012);
- The U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI);
- The U.S. Department of Agriculture (USDA), NRCS Web Soil Survey;
- Natural Heritage and Endangered Species Program (NHESP) Priority and Estimated Habitats Mapper
- Recent aerial orthoimagery.

The following sections summarize TRC's review of each of these resources.

3.1 Hydrology

The Project Site includes a tidal estuarine wetland system associated with the Mill River (Appendix A, Figure 2). The Mill River is tidal and flows northeast along the northern and western edges of the Project Site. On the Project Site, water generally drains west and north toward the Mill River, before flowing north to the Weymouth Back River, Hingham Bay, and Atlantic Ocean.

3.1.1 Floodplains

Flood hazard areas identified on the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps (FIRMs) are identified as Special Flood Hazard Areas (SFHAs). SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. Moderate flood hazard areas, labeled Zone B or Zone X (shaded on FEMA mapping) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded on FEMA mapping). FEMA uses a variety of labels for SFHAs and moderate flood hazard areas, of which three were identified within the Project Site and include Regulatory Floodway, Zone AE, and Zone X. According to the FEMA FIRM 25021C0231E (effective date July 17, 2012), a Regulatory Floodway and Zone AE, with a base flood elevation of 11.2 feet, occurs throughout the western and northern portion of the Project Site.

3.2 Federal and State Mapped Wetlands and Streams

The U.S. Fish and Wildlife Service (USFWS) is the principal federal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS National Wetlands Inventory (NWI) is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). The NWI mapping data is offered to promote the understanding, conservation, and restoration of wetlands. The online Commonwealth of Massachusetts, MassMapper mapping tool was accessed to determine the extent of state-mapped aquatic resources (MassGIS, 2023).

According to the NWI, there is one estuarine system located throughout the Project Site. Within the estuarine system, there are two estuarine types. There is one estuarine subtidal unconsolidated bottom wetland that has been partially excavated (E1UBLx) which encompasses

the Mill River to the north and west of the Project Site and most of the northwestern peninsula of the Project Site. There is also one estuarine intertidal unconsolidated shore wetland with regularly flooded hydrology (E2USN) which includes a small inlet that branches off from the Mill River. To the north and east of the Project Site, there is a large salt marsh complex on both sides of the Miller River that continues along the sides of the river almost continuously to where the Mill River turns into the Weymouth Back River and eventually flows into Hingham Bay. The portion of this large off-site salt marsh directly to the northeast of the site is a persistent, emergent, intertidal estuarine wetland (E2EM1). This large, off-site salt marsh complex as well as the northern and western portions of the Project Site are all within the Back River Salt Marsh Conservation Area, an ACEC.

According to MassDEP mapping, there is one large wetland system located throughout the Project Site making up three different cover types. These resources are identified as: tidal flat, salt marsh, and open water.

3.3 Mapped Soils

The NRCS's Web Soil Survey identifies five soil map units within the Project Site. Map units can represent a type of soil, a combination of soils, or miscellaneous land cover types (e.g., water, rock outcrop, developed impervious surface). Map units are usually named for the predominant soil series or land types within the map unit. A summary of soil characteristics for soils mapped within the Project Site is included in Table 1, below. The following sections provide details about hydric ratings, drainage class, prime farmland, and hydrologic soil groups (HSGs). Details regarding soil map unit descriptions are provided in the NRCS Soil Report included as Appendix B.

Table 1: Mapped Soils

Symbol	Soil Name	Hydric Rating (%)	Drainage Class	Hydrologic Soil Group	Farmland Classification
1	Water	0	N/A	N/A	Not prime farmland
65	Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded	100	Very poorly drained	A/D	Not prime farmland
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	0	Hollis, extremely stony: somewhat excessively drained Charlton, extremely stony: well drained	Hollis, extremely stony: D Charlton, extremely stony: B	Not prime farmland
654	Udorthents, loamy	Unranked	Very poorly drained	A	Not prime farmland
655	Udorthents, wet substratum	2	N/A	N/A	Not prime farmland

3.3.1 Hydric Rating

The *Corps of Engineers Wetlands Delineation Manual* ("1987 Manual") (Environmental Laboratory, 1987) defines a hydric soil as "…a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation."

Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

> *Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown on a more detailed scale.*

Hydric Soil Rating (HSR) indicates the percentage of a map unit that meets the criteria for hydric soils.

Map unit 65 has a HSR of 100 percent, map unit 655 has a HSR of 2 percent, map units 1 and 104C have a HSR of 0 percent, and map unit 654 has an unranked HSR.

3.3.2 Natural Drainage Class

Natural drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed. Anthropogenic alteration of the water regime, either through drainage or irrigation, is not a consideration unless the alterations have significantly changed the morphology of the soil.

Map units 100 and 654 are rated as very poorly drained. For map unit 104C, the Hollis, extremely stony component is rated as somewhat excessively drained and the Charlton, extremely stony component is rated as well drained.

3.3.3 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses (the land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water). Land used for a specific high-value food or fiber crop is classified as "unique farmland." Generally, additional "farmlands of statewide importance" include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. In some local areas, there is concern for certain additional farmlands, even though these lands are not identified as having national or statewide importance. These farmlands are identified as being of "local importance" through ordinances adopted by local government. The NRCS State Conservationist reviews and certifies lists of farmland of state and local importance. These lists, along with state and locally established Land Evaluation and Site Assessment (LESA) systems where applicable, are used by federal agencies to review and evaluate activities that may impact farmland. As defined in 7 CFR Part 657, important farmland encompasses prime and unique farmland, as well as farmland of statewide and local importance.

According to the NRCS, all map units are classified as “Not prime farmland.”

3.3.4 Hydrologic Soil Groups

Soils are assigned to a HSG based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

- Group A: Soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
- Group B: Soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
- Group C: Soils have a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
- Group D: Soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. Soils consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition in Group D are assigned to dual classes.

Map unit 65 is in HSG A/D and map unit 654 is in HSG A. For map unit 104C, the Hollis, extremely stony component is in HSG D while the Charlton, extremely stony component is in HSG B.

3.4 NHESP Priority and Estimated Habitats

Natural Heritage and Endangered Species Program (NHESP) Priority Habitats are identified as the known geographical extent of habitat for all state-listed rare species, including both plants and animals in the 15th Edition Natural Heritage Atlas (effective August 1, 2021). Priority Habitats are codified under the Massachusetts Endangered Species Act (MESA). Habitat alteration within Priority Habitats may result in a “take” of a state-listed species and is therefore subject to regulatory review by NHESP (MassWildlife, 2023).

The NHESP Estimated Habitats, a sub-set of the Priority Habitats, are identified based on the geographical extent of habitat of state-listed rare wetlands wildlife. The NHESP Estimated

Habitats are codified under the WPA, therefore does not include the protection of plants. All state-listed wetland wildlife species are protected under MESA and the WPA (MassWildlife, 2023).

The Project Site does not overlap with any NHESP Priority or Estimated Habitats.

3.5 Areas of Critical Environmental Concern

The ACECs are areas with high quality, unique, and significant natural and cultural resources. The ACEC Program is administered by the Department of Conservation and Recreation (DCR) which aims to preserve, restore, and enhance the critical resources found within ACECs. Work within ACECs may be required to undergo review with the Massachusetts Environmental Policy Act (MEPA) Office (DCR, 2017).

The northern and western portions of the Project Site fall within the Weymouth Back River ACEC which is located primarily to the north of the Project Site (Appendix A, Figure 2). The Weymouth Back River ACEC encompasses approximately 950 acres in Weymouth and Hingham and includes habitat for, among other important resources, productive clam flats and annual passage for thousands of alewife (*Alosa pseudoharengus*) (DCR, 2023).

3.6 Outstanding Resource Waters

Outstanding Resource Waters (ORWs) are waters with exceptional socioeconomic, recreational, ecological, and/or aesthetic values and are protected under the Massachusetts Surface Water Quality Standards (314 CMR 4). Work within ORWs typically requires coverage under a discharge permit through the Surface Water Discharge Permit Program.

The Project Site is partially within an ORW for the Weymouth Back River ACEC. The ORW includes the Mill River and its banks along the north and west borders of the Project Site as well as a portion of the peninsula in the northwestern corner and the inlet bordering the east of the Project Site.

4.0 Methodologies

4.1 Non-wetland Aquatic Resource Methodology

Streams and other non-wetland aquatic features within the Survey Area were identified by the presence of an Ordinary High-Water Mark (OHWM), which is the line established by the fluctuations of water (33 CFR 328.3). The OHWM line is indicated by physical characteristics, which can include: a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other characteristics of the surrounding areas. For streams three feet or more in width, each stream bank that lies within the Project Site was delineated with blue flagging. For smaller streams, the stream centerline is delineated with notes for the width. Flags were surveyed using NGVD29.

4.2 Wetland Delineation Methodology

On August 19, 2022, TRC conducted a wetland delineation within the Project Site. Wetland boundary flags were surveyed by Land Planning, Inc. (Land Planning) in National Geodetic Vertical Datum of 1929 (NGVD29).

The delineation of wetlands was conducted in accordance with criteria set forth in the 1987 Manual (Environmental Laboratory, 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (*"the Supplement") (USACE, 2012), and the *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act- A Handbook* (MassDEP, 1995) (the MassDEP Handbook).

The three-parameter approach to identify and delineate wetlands presented in the 1987 Manual (Environmental Laboratory, 1987) and the Supplement requires that, except for atypical and disturbed situations, wetlands possess hydrophytic vegetation, hydric soils, and wetland hydrology. A two-parameter approach that considers only vegetation and hydrology indicators is presented in the MassDEP Handbook. Per the MassDEP Handbook, hydric soil is included as evidence of wetland hydrology.

5.0 Results

Delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

5.1 Upland Areas

The upland areas consist of highly disturbed, relatively flat open space throughout the majority of the Project Site. Two gravel paths occur through the Project Site including one leading to an existing bridge on the western side of the Project Site. The dominant vegetation in the upland consists of autumn olive (*Elaeagnus umbellate*), eastern red cedar (*Juniperus virginiana*), panicled-leaf tick-trefoil (*Desmodium paniculatum*), brown-ray knapweed (*Centaurea jacea*), wrinkle-leaf goldenrod (*Solidago rugosa*), and Queen Anne's-lace (*Daucus carota*). The terrain within upland areas of the Project Site is generally sloping to the towards the west, north, and east of the Project Site towards Mill River. There are also several steep piles of dirt and debris that have been overgrown in the center of the Project Site. The soils observed throughout upland portions of the Project Site were classified as loamy sand and sand.

5.2 Delineated Wetlands and Waterbodies

Delineated wetland and waterbodies are described in the following sections, summarized in Table 2 and shown in Appendix A, Figure 3.

Project Site photographs are provided in Appendix C and USACE Wetland Delineation Data Forms are provided in Appendix D.

5.2.1 Delineated Wetland

During the August 19th, 2022, wetland delineation survey, TRC identified one wetland within the Project Site.

Wetland W-KCF-01 is an emergent estuarine salt marsh (E2EM) wetland associated with estuarine subtidal river S-KCF-01, the Mill River. This wetland is located within the northern portion of the Project Site and extends off-site to the east. Dominant vegetation within this wetland

included saltmarsh rush (*Juncus gerardii*), high-tide bush (*Iva frutescens*), and poison ivy (*Toxicodendron radicans*). Indicators of wetland hydrology included water marks, inundation visible on aerial imagery, and saturation visible on aerial imagery. Soils were composed of loamy sand; however, due to historical land use the soils on the Project Site have been significantly disturbed. This wetland is MassDEP jurisdictional, and it also falls under USACE jurisdiction as it is connected to other WOTUS.

5.2.2 Delineated Waterbody

TRC identified one estuarine subtidal river that borders the Project Site during the August 2022 wetland delineation. Only the right bank of the river was delineated as the left bank is off-site.

Stream S-KCF-01 is an estuarine subtidal river, named the Mill River (E1UBLx) which is a part of the Weymouth Back River system. The Mill River flows northeast from off-site to the southwest and continues along the border of the Project Site. The Mill River borders the western, northern, and eastern periphery of the Project Site. The riverbed consists of cobble/gravel, sand, and organic substrate. TRC observed an average width ranging from approximately 60 feet to 100 feet, a water depth ranging from approximately six inches to 15 feet due to the tidal flow in the area, and bank heights of approximately 15 feet. This waterbody is MassDEP jurisdictional, and it also falls under USACE jurisdiction, as it is connected to other WOTUS.

Table 2: Delineated Wetlands and Waterbodies

Wetland Field Designation	Field Designated NWI Classification [1]	DEP Wetland Classification	Assumed Jurisdictional Status	Assumed Buffer/ Setback Requirements
W-KCF-01	E2EM	Salt Marsh	USACE/MassDEP/Local	100-ft buffer zone
S-KCF-01	E1UBLx	Estuarine Subtidal Unconsolidated Bottom Wetland (partially excavated)	USACE/MassDEP/Local	100-ft buffer zone/ 200-ft Riverfront Area

[1] *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee, 2013).

Final determination of jurisdictional status for wetlands and waterbodies within the Project Site must be made by the regulators.

6.0 Conclusions

It is TRC's opinion that delineated wetland W-KCF-01 is considered a Salt Marsh. This delineated wetland is regulated by MassDEP and is also USACE jurisdictional in accordance with the CWA. There are no buffers or setbacks associated with USACE-regulated wetlands. However, there is a 100-foot buffer zone associated with MassDEP-wetlands.

It is TRC's opinion that delineated waterbody S-KCF-01 is regulated by MassDEP and is also likely under USACE jurisdiction. There is a 200-foot Riverfront Area associated with S-KCF-01 regulated by MassDEP and the WCC. S-KCF-01 flows into, out of, or through a MassDEP and USACE-regulated wetland.

Final determination of jurisdictional status for wetlands and waterbodies within the Project Site must be made by the WCC.

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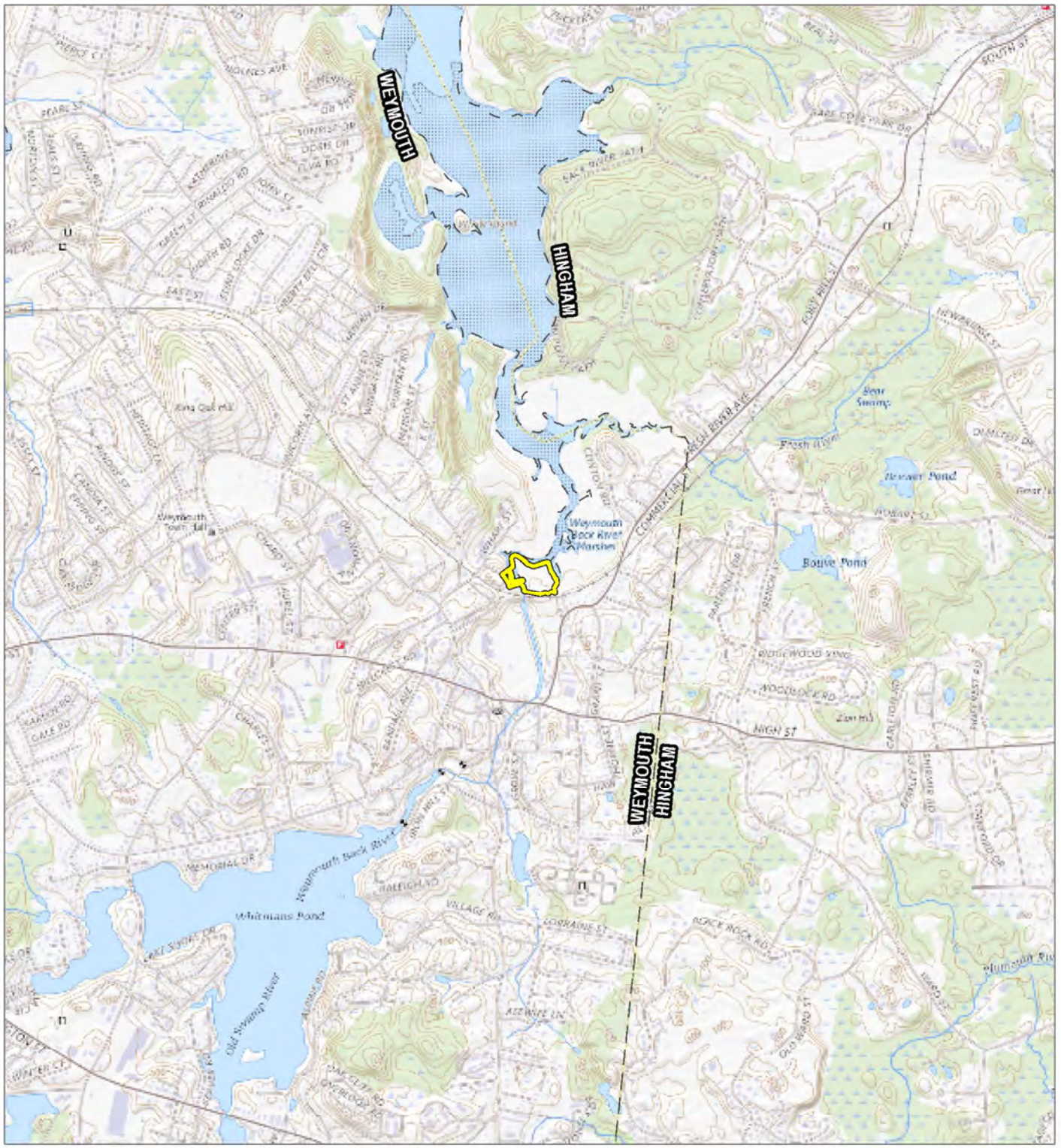
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Appendix A: Figures



PROJECT BOUNDARY

MUNICIPAL BOUNDARY

0 1,000 2,000

FEET

1:24,000 1" = 2,000'



BASE MAP: USGS TOPO (THE NATIONAL MAP)
DATA SOURCES: USGS, ESRI, TRC

PROJECT: **MBTA**

DURANTE - WEYMOUTH
WEYMOUTH, MASSACHUSETTS

TITLE:

SITE LOCATION MAP (TOPOGRAPHIC)

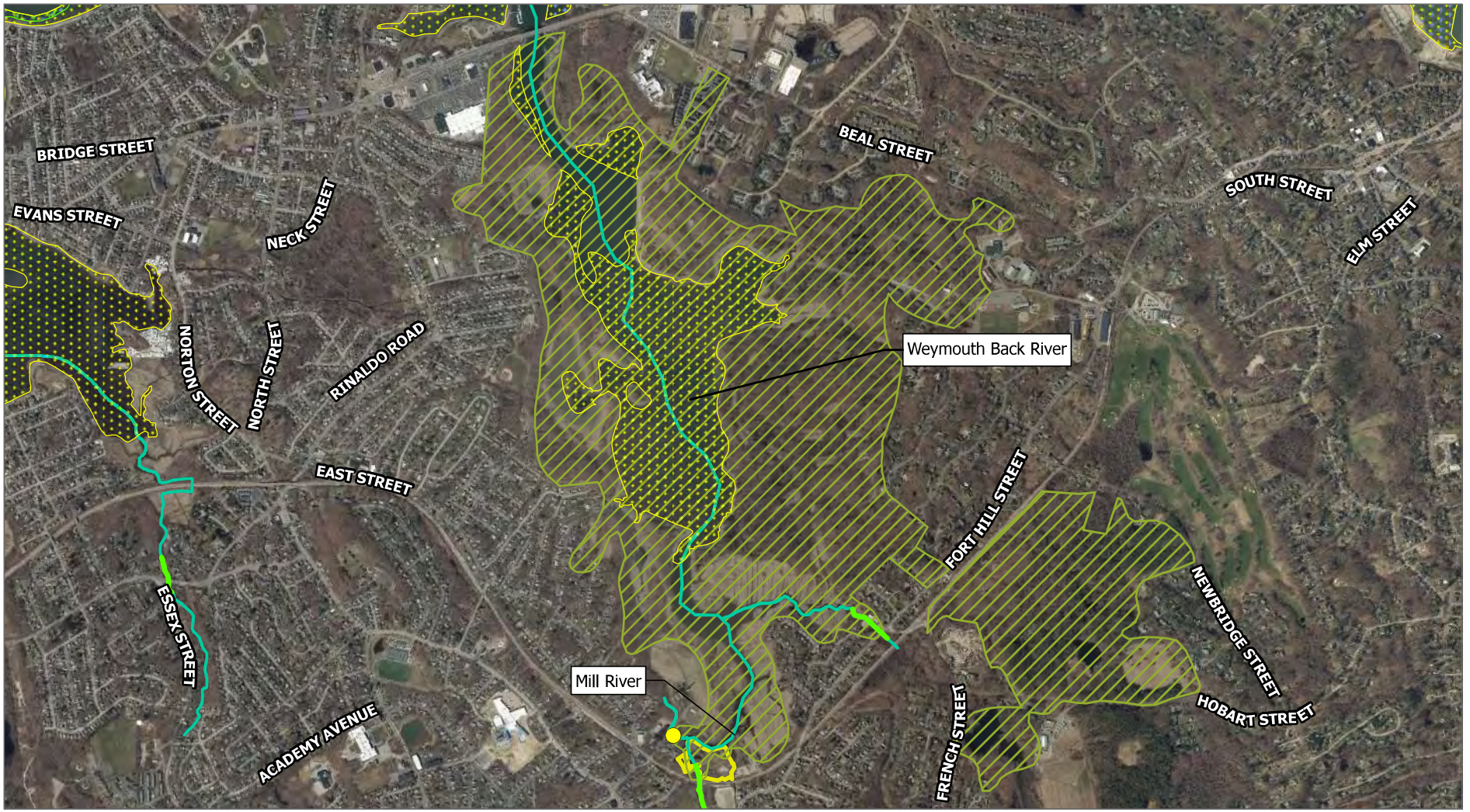
DRAWN BY:	A. KAILAS	PROJ. NO.:	459216
CHECKED BY:	M. GIAMBATTISTA		
APPROVED BY:	M. GIAMBATTISTA		FIGURE 1
DATE:	MARCH 2023		

TRC

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES

SETTS: MAINLAND FIPS 2001, MAP ROTATION: 0
\\EMPLOYEES\GIS\ARCGISPRO\1-PROJECTS\MATA\459216_DURANTE\2-APRX\DURANTE_FIGURES.APRX, LAYOUT NAME: DURANTE_FIG1_SITE LOCATION



DURANTE SITE

AREA OF CRITICAL ENVIRONMENTAL CONCERN

RESTORATION PROJECTS

FISH PASSAGE STATUS

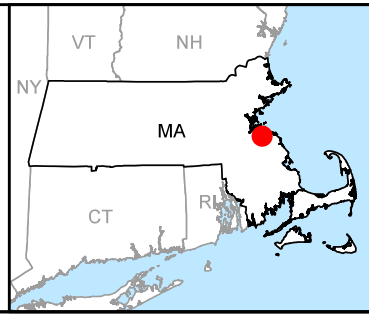
- FULLY IMPAIRED
- NO IMPAIRMENT
- PARTIALLY IMPAIRED
- RAINBOW SMELT SPAWNING HABITAT

MIGRATORY HABITAT ACCESSIBLE

- NO
- YES

SHELLFISH SUITABILITY HABITAT

- BLUE MUSSEL
- RAZOR CLAM
- SOFT-SHELLED CLAM



BASE MAP: MASSGIS ORTHO IMAGERY, 2021
DATA SOURCES: MASSGIS, TRC, ESRI

N

0 1,000 2,000 FEET

1:24,000 1" = 2,000'

PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: NATURAL RESOURCES IN PROJECT AREA

DRAWN BY:	G. STUDWELL	PROJ. NO.:	459216
CHECKED BY:	S. MOTURI		
APPROVED BY:	M. LENNON		FIGURE 2
DATE:	MAY 2023		

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
-- SAVED BY: GSTUDWELL ON 5/30/2023, 15:56:18 PM; FILE PATH: T:\1-PROJECTS\MBTA\459216_DURANTE\2-APRX\DURANTE_FIGURES_20230417.APRX; LAYOUT NAME: FIG 2 NATURAL RESOURCES IN PROJ AREA



PROJECT BOUNDARY
CULVERT
STREAM FLAG
PERENNIAL RIVER BANK/EDGE
WATERBODY
USACE PLOT
WETLAND FLAG
WETLAND BOUNDARY
WETLAND
100-FT BUFFER ZONE
200-FT RIVERFRONT AREA



PROJECT: MBTA
DURANTE - WEYMOUTH
WEYMOUTH, MASSACHUSETTS

TITLE: DELINEATED WETLANDS AND WATERWAYS

DRAWN BY:	H. BEST	PROJ. NO.:	459216
CHECKED BY:	S. MOTURI		
APPROVED BY:	M. LENNON		
DATE:	MAY 2023		

FIGURE 3

BASE MAP: MASSGIS ORTHO IMAGERY, 2021
DATA SOURCES: TRC, ESRI

N

0 60 120 FEET

1:1,440 1" = 120'

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

COORDINATE SYSTEM: NAD 1983 (2011) STATEPLANE MASSACHUSETTS MAINLAND FIPS 2001 FTUS. MAP ROTATION: 0
PROJECTS\MBTA\459216_DURANTE\2-APPX\DURANTE_FIGURES_20230417.APRX LAYOUT NAME: FIG 2 DELINEATION

Appendix B: NRCS Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Norfolk and Suffolk Counties, Massachusetts



March 17, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,490 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 18, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	0.9	15.0%
65	Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded	3.2	51.7%
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	0.0	0.1%
654	Udorthents, loamy	2.0	32.5%
655	Udorthents, wet substratum	0.0	0.7%
Totals for Area of Interest		**6.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Norfolk and Suffolk Counties, Massachusetts

1—Water

Map Unit Setting

National map unit symbol: vkyp
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 120 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

65—Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded

Map Unit Setting

National map unit symbol: 2tyqj
Elevation: 0 to 10 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Ipswich and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ipswich

Setting

Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Partially- decomposed herbaceous organic material

Typical profile

Oe - 0 to 42 inches: mucky peat
Oa - 42 to 59 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.14 to 99.90 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Very frequent

Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to strongly saline (0.7 to 111.6 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very high (about 26.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Ecological site: R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded, R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded
Hydric soil rating: Yes

Minor Components

Pawcatuck

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded, R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded
Hydric soil rating: Yes

Westbrook

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded, R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded
Hydric soil rating: Yes

104C—Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w69p
Elevation: 0 to 1,270 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis, extremely stony, and similar soils: 35 percent
Charlton, extremely stony, and similar soils: 25 percent
Rock outcrop: 25 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges, hills
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Canton, extremely stony

Percent of map unit: 7 percent
Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 6 percent

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Montauk, extremely stony

Percent of map unit: 1 percent
Landform: Hills, recessionial moraines, ground moraines, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Scituate, extremely stony

Percent of map unit: 1 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

654—Udorthents, loamy

Map Unit Setting

National map unit symbol: vkyb
Elevation: 0 to 3,000 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Riser, tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Excavated and filled coarse-loamy human transported material

Typical profile

H1 - 0 to 6 inches: variable
H2 - 6 to 60 inches: variable

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Hydric soil rating: Unranked

Minor Components

Udorthents,sandy

Percent of map unit: 8 percent
Hydric soil rating: Unranked

Udorthents,wet substr.

Percent of map unit: 8 percent
Hydric soil rating: Unranked

Urban land

Percent of map unit: 4 percent
Hydric soil rating: Unranked

655—Udorthents, wet substratum

Map Unit Setting

National map unit symbol: vkyd
Elevation: -30 to 310 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform position (two-dimensional): Shoulder, footslope
Landform position (three-dimensional): Riser, tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Excavated and filled sandy and gravelly human transported material over highly-decomposed herbaceous organic material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Minor Components

Urban land

Percent of map unit: 3 percent
Hydric soil rating: Unranked

Ipswich

Percent of map unit: 2 percent
Landform: Marshes
Hydric soil rating: Yes

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Appendix C: Project Site Photographs

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 1

Date: 8/19/2022

Direction: North

Description:

Photo from Data plot location for W-KCF-01.



Photograph: 2

Date: 8/19/2022

Direction: East

Description:

Photo facing east towards W-KCF-01.



DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 3 **Date**: 8/19/2022 **Direction**: South **Description**: Photo from Data plot location for W-KCF-01, facing south.	
Photograph: 4 **Date**: 8/19/2022 **Direction**: West **Description**: Photo facing S-KCF-1, Mill River, that borders W-KCF-01.	

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 5

Date: 8/19/2022

Direction: Northwest

Description:

Photo taken of S-KCF-1 and the existing bridge on the western edge of the Site.



Photograph: 6

Date: 8/19/2022

Direction: South

Description

Photo of wetland W-KCF-01 with Mill River shown as well.



DURANTE REMEDIATION AND WETLAND RESTORATION
WEYMOUTH, MASSACHUSETTS

Photograph: 7 **Date**: 8/19/2022 **Direction**: East **Description**: Photo of culvert that connects to S-KCF-1.	
Photograph: 8 **Date**: 8/19/2022 **Direction**: Southeast **Description:** Photo of the northern edge of stream S-KCF-1**.**	

Appendix D: USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Durante **City/County:** Weymouth, Norfolk **Sampling Date:** 2022-Aug-19
Applicant/Owner: MBTA **State:** MA **Sampling Point:** W-KCF-01_E2EM-1
Investigator(s): Kevin Ferguson, Leija Helling, Jason Ringler **Section, Township, Range:** NA
Landform (hillslope, terrace, etc.): Marsh **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): LRR R **Lat:** 42.2202114668 **Long:** -70.9218356107 **Datum:** WGS84
Soil Map Unit Name: 65 - Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	Yes ✓ No ____
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-KCF-01

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is E2EM. Area is wetland, all three wetland parameters are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	____
Water Table Present?	Yes ____ No ✓	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The criterion for wetland hydrology is met.

VEGETATION -- Use scientific names of plants.

Sampling Point: W-KCF-01_E2EM-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Iva frutescens*	50	Yes	FACW
2. *Rosa multiflora*	5	No	FACU
3. *Juniperus virginiana*	5	No	FACU
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Juncus gerardii*	90	Yes	OBL
2. *Solidago sempervirens*	5	No	FACW
3. *Iva frutescens*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1. *Toxicodendron radicans*	15	Yes	FAC
2.			
3.			
4.			
	15	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	90	x 1 =	90
FACW species	60	x 2 =	120
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	175	(A)	295 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _✓_ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-KCF-01_E2EM-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	100					Loamy Sand	
4 - 10	10YR 3/1	100					Loamy Sand	

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ✓ No ___

Remarks:

The criterion for hydric soil is met. Soil significantly disturbed due to historic land use.

Photo of Sample Plot North



Photo of Sample Plot East



Photo of Sample Plot South



Photo of Sample Plot West



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Durante **City/County:** Weymouth, Norfolk **Sampling Date:** 2022-Aug-19
Applicant/Owner: MBTA **State:** MA **Sampling Point:** W-KCF-01_UPL-1
Investigator(s): Kevin Ferguson, Leija Helling, Jason Ringler **Section, Township, Range:** NA
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): LRR R **Lat:** 42.2202570644 **Long:** -70.9218263068 **Datum:** WGS84
Soil Map Unit Name: 65 - Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded **NWI classification:** None
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓		
Hydric Soil Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?**	**Yes ____ No ✓**
Wetland Hydrology Present?	Yes ____ No ✓	**If yes, optional Wetland Site ID:**	

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is UPL. Area is upland, not all three wetland parameters are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):		
Water Table Present?	Yes ____ No ✓	Depth (inches):		**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION -- Use scientific names of plants.

Sampling Point: W-KCF-01_UPL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Elaeagnus umbellata*	15	Yes	NI
2. *Juniperus virginiana*	10	Yes	FACU
3. *Rosa multiflora*	5	No	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Desmodium paniculatum*	10	Yes	FACU
2. *Centaurea jacea*	5	Yes	FACU
3. *Solidago rugosa*	5	Yes	FAC
4. *Daucus carota*	5	Yes	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	5	x 5 =	25
Column Totals	40	(A)	160 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: W-KCF-01_UPL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 1	10YR 3/2	100					Loamy Sand	
1 - 8	2.5Y 5/4	100					Sand	

[1]Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. [2]Location: PL = Pore Lining, M = Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

The criterion for hydric soil is not met. Refusal due to coarse fragments.

Photo of Sample Plot North



Photo of Sample Plot East



Photo of Sample Plot South



Photo of Sample Plot West



Attachment J: Previously Completed Studies & Reporting

Biological Benchmark and Tidal Monitoring

Durante Site Remediation and Wetland Restoration Project

East Weymouth, Massachusetts

June 2023

Prepared For:

Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, Massachusetts 02116-3974

Prepared By:

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1.0 Introduction

On behalf of the Massachusetts Bay Transportation Authority (MBTA), TRC Environmental Corporation (TRC) presents the following Biological Benchmark and Tidal Monitoring Report for a salt marsh restoration on the Durante Site located in Weymouth, Massachusetts (Project Site). The Project Site is directly adjacent to the Mill River, a portion of the greater Weymouth Back River system.

1.1 Project Site Description

The Durante Site is located directly adjacent to the Mill River, at North Wharf Street in East Weymouth, Massachusetts (Appendix A, Figure 1). The Mill River is a portion of the greater Weymouth Back River system which also includes the Herring Run Brook. The Durante Site consists of the Mill River, associated salt marsh, and an estuarine intertidal emergent wetland. The Mill River is a tidally influenced river that flows north towards Hingham Bay under an existing bridge on the western side of the Durante Site.

The Durante Site is located north of and across the train tracks from the East Weymouth MBTA Train Station. A substation is located to the east of the Durante Site. A Reference Site (Reference Site 1) with salt marsh habitat is located adjacent to the Durante Site to the northeast (Appendix A, Figure 2).

1.2 Threats to Coastal Wetlands

Both historic and on-going anthropogenic influences have caused widespread and substantial salt marsh loss and degradation, threatening the functionality and resiliency of these important resources (Gedan et al. 2011). These changes have negatively affected salt marsh dependent species habitat and populations directly and indirectly (Hartley and Weldon 2020). Both climate-driven changes along with historic and ongoing anthropogenic impacts have resulted in the rapid transition of infrequently flooded high marsh areas to more frequently flood low marsh and expanded shallow pannes within many sites in New England. Identifying stressors within coastal wetland systems is critical to effective resource management, conservation, and restoration.

1.3 Implementation Strategies and Actions

Several implementation strategies and actions are available to coastal habitat managers to enhance, restore, and protect existing salt marsh habitat and future marsh migration corridors. It is recognized that considerable effort will be required to maintain sufficient high marsh nesting habitat to salt marsh ecosystem services. The focus of coastal wetland restoration projects over the last two decades has been on restoring tidal flow to impounded systems, controlling the spread of *Phragmites*, and fill removal (Roman and Burdick 2012). These opportunities along with several others considered in the current study are briefly discussed below.

Restoration is likely to be most effective when carried out at sites where conditions such as sediment rates, tidal amplitude, erosion, and relative sea-level rise indicate that the site is relatively resilient and likely to be around for decades to come.

Remove Tidal Restrictions: Tidal flow restoration projects have typically involved enlarging existing undersized culverts or bridges. Improving or eliminating restrictions to tidal flow can

benefit the marsh system by increasing the tidal prism to improve tidal flushing and drainage as well as increasing sediment supply. This can in turn re-establish more characteristic sedimental and vegetation patterns as well as fish and wildlife assemblages. Recovery of the marsh can be a long process with vegetation recovery lagging behind hydrologic processes (Raposa et al. 2017). Elphick et al. (2015) reported many past efforts to restore tidal flow have resulted primarily in low marsh that did not benefit species dependent on high marsh habitat.

These restoration projects typically involve the removal of fill to establish a marsh platform known to support low or high marsh based on elevations derived from nearby reference sites (biological benchmarks). Incorporating sufficient elevation to account for accelerated sea-level rise while avoiding conditions well suited for the invasion of *Phragmites* can be a significant management challenge.

Invasive Species Management or Remove Phragmites: The management of invasive species (primarily herbicide treatments to control *Phragmites*) has also been a common habitat restoration practice. This treatment requires spraying the foliage with herbicide over a two to three-year period and rarely will eliminate the species without continued maintenance and resource investments. *Phragmites* control may be a necessary action where it is likely to result in quality high marsh habitat; however, such control should be done strategically with marsh migration zones being some of the best places to conduct strategic *Phragmites* control (Hartley and Weldon 2020).

Drainage Enhancement: Widespread marsh platform ponding and waterlogged high marsh surface habitats experienced in many coastal marsh systems has led to the use of shallow drainage channels (referred to as runnels) to break the loop of flooding, ponding, plant growth suppression, soil decomposition, subsidence, further ponding, that ensues following prolonged and frequent inundation (Raposa et al. 2017, Watson et al. 2017). These small-scale drainages connecting to existing tidal creeks are excavated by hand with shovels or with low ground pressure small excavators where necessary. Runnels are intended to drain only ponded water from the surface of the marsh platform and to drain the marsh peat; however, further study of the potential benefits and detriments of this practice is needed before its large-scale implementation (Kutcher et al. 2018).

Ditch Remediation: The restoration of more natural drainage and hydrologic patterns can reverse harm caused by extensive historic ditching and improve accretion rates relative to sea-level rise (Smith and Niles 2016). A previous approach to mitigating impacts involved plugging the seaward end of the ditch; however, several researchers including Adamowicz et al. (2004) found the practice led to prolonged saturation, plant mortality, and peat collapse.

A relatively new, simple, and very low-tech remediation approach to set some of the ditch network on a self-healing trajectory involves repeatedly cutting, raking, and securing salt hay into selected ditches (Burdick et al. 2020). Restoring the localized historic tide shed can increase sheetflow of tidal water across the marsh, which in turn increases sediment capture and accretion of the marsh platform (Hartley and Weldon 2020). Burdick et al. (2020) speculate that hydraulic forcing through remaining ditches may deliver sediments to marsh surfaces more efficiently.

Elevation Enhancement: Marsh sustainability and integrity are determined, in large part, by the vertical elevation of the marsh platform relative to sea level (Raposa et al. 2020). Elevation enhancement (often referred to as thin layer deposition or placement) involves spreading a thin

layer of sand, silt, or mud onto the surface of a marsh that shows signs of subsidence, ponding, or drowning to provide elevation capital and enhance soil drainage, root growth, and marsh resilience (Kutcher et al. 2018). In the past, the term thin layer deposition or placement has been used to describe the placement of up to 20 inches (Ray 2007), with most projects reporting a range of 4 to 8 inches (Raposa et al. 2020). The beneficial reuse of uncontaminated dredged material is often a desirable source of sediment which can reduce project costs versus sourcing materials from upland locations. Many earlier projects have occurred in the Mississippi Delta and have proved effective, but further assessment is needed for other regions and plant community types (Raposa et al. 2020).

Living Shorelines: Living shorelines; including oyster reefs, rock sills, and other wave attenuating devices can lessen marsh loss or fragmentation by reducing shoreline erosion rates and providing structure for fish and other organisms. While living shorelines have been effective at reducing erosion, capturing sediment, and increasing marsh extent (Davis et al. 2015), the potential disruption to sediment dynamics should be considered (Hartley and Weldon 2020).

Facilitate Marsh Migration: To migrate landward with increasing sea levels, coastal wetlands require low-lying land without amendments such as steep adjacent topography; hardened structures; coastal development; human activities such as mowing; certain vegetation communities, such as forests and *Phragmites*-dominated landscapes (Field et al. 2016, Smith 2016); and certain boundary conditions, such as groundwater upwelling (Kutcher et al. 2018). Several strategies previously described to restore or enhance degraded salt marsh can also facilitate the landward migration of coastal wetlands. These include the removal of tidal restrictions or barriers, removal of *Phragmites*, and engagement in transportation and land use planning. Tidal restrictions or barriers that impede tidal hydrology can impact a wetland's ability to migrate landward. Marsh migration zones dominated by *Phragmites* will likely hinder the establishment of native marsh species. Engagement in transportation and land use planning is also critical to address limitations to marsh migration posed by existing transportation infrastructure and land uses as well as future development pressures.

Forest management and the protection of migration zones are additional management practices to facilitate the migration process. The removal of dead or dying trees can be undertaken to increase light penetration and growth of understory vegetation. The removal of trees and snags is likely necessary to support Saltmarsh sparrow nesting habitat as it has been reported the species avoids areas within approximately 165 feet of tall objects such as trees (Marshall et al. 2020).

The protection of suitable marsh mitigation zones is an important strategy to improve marsh resiliency in the short-term and allow marshes to migrate inland in the future (Hartley and Weldon 2020). Prioritizing mitigation corridors for conservation should consider ownership, conservation status, threat of future development, property value, and hazard risk as well as a series of land attributes such as slope, soils, aspect, land cover, and land use (Kutcher et al. 2018). Due to proximity to the coast, this land is likely to be highly valued for development and as a result expensive and challenging to conserve (Kutcher et al. 2018). To acquire land within priority areas, in full fee or via conservation easements, these efforts will need to include outreach and engagement with landowners to become willing sellers and funding sources for landowner incentives, among other factors (Hartley and Weldon 2020).

2.0 Important Habitats

2.1 Essential Fish Habitat

The National Oceanic and Atmospheric Administration (NOAA) Fisheries, New England Fishery Management Council, and Massachusetts Department of Marine Fisheries (DMF) oversee Essential Fish Habitat (EFH) for federally managed fish species as well as NOAA trust resources. The marine environments important to marine fisheries are referred to as EFH and are defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802(10)). There is EFH mapped for 24 species in the portion of the Mill River bordering the Durante Site and Reference Site 1 (NOAA Fisheries 2023a). There are no EFH Areas Protected from Fishing identified within the Mill River. There is a Habitat Area of Particular Concern for inshore juvenile cod Hingham Harbor north of the Project Site, but not near the Durante Site or Reference Site 1. Refer to Appendix B for the full EFH Report.

In addition to managed species listed in the EFH Report, NOAA Fisheries also has protections for diadromous fish which are a group of fish species that rely on both fresh and saltwater environments to survive and reproduce, classified as either anadromous or catadromous. Anadromous species spawn in fresh water and mature in marine water, while catadromous species mature in fresh water and return to marine water to spawn. Estuarine systems are commonly used as nursery, feeding, and migration pathways for diadromous fish. Anadromous species present in the Mill River, including the sections bordering the Durante Site and Reference Site 1, are alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow smelt (*Osmerus mordax*), and white perch (*Morone americana*) (Brady et al. 2005). In addition, the American eel (*Anguilla rostrata*), a catadromous species, has the potential to migrate up the Mill River past the Durante Site (Hartel et al. 2002). The anadromous finfish utilize the Mill River for spring migration while the American eel utilizes the river for both spring and fall migration (Evans et al., 2015).

2.2 Endangered Species

NOAA Fisheries and U.S. Fish and Wildlife Service (USFWS) are responsible for the administration of the Endangered Species Act (ESA). According to the NOAA Fisheries Greater Atlantic Region ESA Section 7 Mapper, there are potentially six ESA listed species that may utilize the Mill River adjacent to the Project Site. These endangered species include shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*) (NOAA Fisheries, 2023b). In addition, the USFWS Information for Planning and Consultation (IPaC) tool was consulted. According to the USFWS New England Ecological Service Field Office three species, northern long-eared bat (*Myotis septentrionlis*), roseate tern (*Sterna dougallii dougalli*), and monarch butterfly (*Danaus plexippus*) may be present in the proposed Durante Site. Despite the potential species presence, the USFWS indicated no critical habitats are within the Durante Site.

2.3 Natural Heritage and Endangered Species Program Priority and Estimated Habitats

Natural Heritage & Endangered Species Program (NHESP) Priority Habitats are identified as the known geographical extent of habitat for all state-listed rare species, including both plants and

animals in the 15th Edition Natural Heritage Atlas (effective August 1, 2021). Priority Habitats are codified under the Massachusetts Endangered Species Act (MESA). Habitat alteration within Priority Habitats may result in a "take" of a state-listed species and is therefore subject to regulatory review by NHESP (MassWildlife 2023).

A sub-set of the Priority Habitats, NHESP Estimated Habitats, are identified based on the geographical extent of habitat of state-listed rare wetlands wildlife. Estimated Habitats are codified under the Massachusetts Wetland Protection Act (WPA), therefore does not include the protection of plants. All state-listed wetland wildlife species are protected under MESA and the WPA (MassWildlife 2023).

The Durante Site does not overlap with any NHESP Priority or Estimated Habitats. There are also no NHESP certified vernal pools at or near the Durante Site.

2.4 Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are areas with high quality, unique, and significant natural and cultural resources. The ACEC Program is administered by the Massachusetts Department of Conservation and Recreation (DCR) which aims to preserve, restore, and enhance the critical resources found within ACECs. Work within ACECs may be required to undergo review with the Massachusetts Environmental Policy Act (MEPA) Office (DCR 2017).

The northern and western portions of the Durante Site fall within the Weymouth Back River ACEC which is located primarily to the north of the Durante Site. The Weymouth Back River ACEC encompasses approximately 950 acres in Weymouth and Hingham and includes habitat for, among other important resources, productive clam flats and annual passage for thousands of alewife (*Alosa pseudoharengus*) (DCR 2023).

2.5 Shellfish

According to the MassMapper (MassGIS 2023) there are no Shellfish Suitability Areas in the section of the Mill River along the Durante Site. However, there is a large Shellfish Suitability Area approximately 0.5 miles downstream to the north of the Durante Site which is suitable for the spawning and settlement of soft-shell clams (*Mya arenaria*). The portion of Mill River that flows under North Wharf Street and past the Durante Site and Reference Site 1 is identified as GBH1.15 and is classified as prohibited.

3.0 Existing Plant Communities

To determine the existing elevation range for the tidal wetland plant community adjacent to the Mill River, a series of 11 Transects were established perpendicular to the shoreline east of the Durante Site at Reference Site 1 (Appendix A, Figure 3). These biological benchmark data can used to establish idealized marsh platform elevations within the proposed marsh creation zone at the Durante Site. Each transect was surveyed by Land Planning, Inc., on November 3, 2022, and unless otherwise noted, all elevations referenced within are National Geodetic Vertical Datum of 1929 (NGVD29). Along most transects which extended from the top-of-bank to the wetland/upland interface, a range of elevations within distinct plant communities (low marsh, high marsh, high-tide bush (*Iva frutescens*), and common reed (*Phragmites australis*) including the break between

low and high marsh was surveyed. Transects 2, 3 were established in small pannes while Transect 8 was established in a pool within the marsh platform. Transects 5, 7, and 10 extended from the top-of-bank of the Mill River to various areas within the wetland to capture the less frequent low marsh vegetation community. This effort resulted in 135 distinct survey elevations within the plant communities in Reference Site 1. A total of four plant communities were identified which include: saltmarsh cordgrass (*Spartina alterniflora*), salt-meadow cordgrass (*Spartina patens*), high-tide bush, and common reed. Photographs of Reference Site 1 are provided in Appendix C.

Multiple cover types at Reference Site 1, consisting of low marsh, saltmarsh cord grass, salt-meadow cord grass, common reed, pannes, pools, and high-tide bush were surveyed (Table 1). Marsh areas dominated by common reed, an invasive non-native species, can be indicators of reduced salinity conditions associated with tidal restrictions. Large stands of common reed as well as other areas of brackish and freshwater wetlands appear to be tied to areas of substantial groundwater discharge and the restricted tidal flow. However, the field reconnaissance identified a dense stand of invasive common reed in the southern area of Reference Site 1. The presence of this species is likely due to the restrictions to tidal flow as well as groundwater discharge. Vegetation and wildlife observed during the field reconnaissance are listed in Tables 1 and 2, respectively. No state-listed species were observed while at the Durante Site or at Reference Site 1 on November 3, 2022.

Based on the tidal data collected at the NOAA Boston, Massachusetts – Tidal Station (ID: 8443970) found approximately 11.5 miles north of the Project Site in the Boston Inner Harbor, the approximate tidal datum elevations for Mean High Water (MHW), Mean Tide Level (MTL), and Mean Low Water (MLW) are 5.2 feet, 0.43 feet and –4.3 feet, respectively.

Table 1. Vegetative Species Observed in Dominate Cover Types

Wetland Vegetation (*salt marsh*)
Saltmarsh rush (*Juncus gerardii*)
Common glasswort (*Salicornia europaea*)
*High-tide bush *(Iva frutescens)*
*Common reed *(Phragmites australis)*
*Saltmarsh cordgrass (Spartina alterniflora)
*Salt-meadow cordgrass *(Spartina patens)*
Seaside goldenrod *(Solidago sempervirens)*

** Denotes dominant species*

Table 2. Wildlife Observed at Reference Site 1

Species	**MA Status**
Mammals	
Raccoon (*Procyon lotor)*	N/A
Eastern chipmunk *(Tamias striatus)*	N/A
Birds	
American goldfinch (*Spinus tristis*)	N/A

Table 2. Wildlife Observed at Reference Site 1

Species	MA Status
Song sparrow *(Melospiza melodia)*	N/A
Osprey (*Pandion haliaetus*)	N/A
Belted kingfisher (*Megaceryle alcyon*)	N/A
Rock pigeon (*Columba livia*)	N/A
Semipalmated sandpiper *(Calidris pusilla)*	N/A
Great blue heron (*Ardea Herodias*)	N/A
Barn swallow (*Hirundo rustica*)	N/A

3.1 Low Marsh

Lower limits of plant zonation are usually set by environmental tolerances, while upper limits are mainly the result of interspecific competition (Pennings and Bertness 2001). Each of these zones has a characteristic set of plant species adapted to conditions resulting from specific tidal flooding regimes. In a semi-diurnal tidal pattern, the lower elevations of the salt marsh (or low marsh) are subject to daily inundation by tidal waters and are typically colonized by saltmarsh cordgrass (BBNEP 2017). There was variability in the lower elevation limits that supported cordgrasses (2.95 to 4.77 feet). This variability is presumed to be a function of other factors such as erosion along the leading edge of the marsh peat rather than physiological stress from submergence. The average low elevation from the dataset was 3.85 feet, or slightly above the MTL of 0.7 feet. The corresponding high elevation for the cordgrass community was 5.52 feet, equal to the elevation of MHW (Table 3).

Table 3. Range of Observed Low Marsh Elevations

Transect	Elevation (feet NGVD 29)		
	Maximum	Minimum	Mean
Reference Site 1			
T1	6.08	4.02	5.05
T4	5.66	4.60	5.13
T5	5.34	4.13	4.74
T6	5.99	3.52	4.76
T7	5.66	4.77	5.22
T9	5.32	3.62	4.47
T10	5.05	3.18	4.12
T11	5.03	2.95	3.99
Mean	**5.52**	**3.85**	**4.68**

3.2 High Marsh

Higher salt marsh elevations (or high marsh) are subject to tidal inundation only during spring high tides and storm events and typically starts around the MHW line (BBNEP 2017). High marsh is typically colonized by salt-meadow cordgrass, saltmarsh rush, and high-tide bush (Niering and Warren 1980). In Reference Site 1, high marsh was found growing between elevations of 5.03 and 6.19 feet (Table 4).

Table 4. Range of Observed High Marsh Elevations

Transect	Elevation (feet NGVD 29)		
	Maximum	Minimum	Mean
Reference Site 1			
T1	6.19	5.61	5.90
T4	6.02	5.51	5.77
T5	5.62	5.11	5.37
T6	5.83	5.55	5.69
T7	5.72	5.23	5.48
T9	5.75	5.32	5.54
T11	5.74	5.03	5.39
Mean	**5.84**	**5.34**	**5.59**

3.3 High-tide Bush

High-tide bush typically grows in high marsh areas on the edge of the upland where its roots are subject to less flooding than lower elevations (Miller and Skaradek 2002). High-tide bush can tolerate some salt water, but does better in fresh water, so it tends to stay in the higher elevations of high marsh but will occasionally be found lower in high marsh zones (Thursby and Abdelrhman 2004). In Reference Site 1, high-tide bush was found growing between elevations of 5.51 and 6.88 feet (Table 5).

Table 5. Range of Observed High-tide Bush Elevations

Transect	Elevation (feet NGVD 29)		
	Maximum	Minimum	Mean
Reference Site 1			
T9	6.34	5.63	5.99
T11	6.88	5.51	6.20
Mean	**6.61**	**5.57**	**6.10**

3.4 Common Reed

Because common reed thrives in disturbed tidal wetlands, the control of this invasive plant is a common goal of many salt marsh restoration projects and should be a component of the Durante

Project. Accordingly, the range of elevations where common reed is currently growing and was collected in Reference Site 1 ranged between elevation 5.86 and 6.86 feet (Table 6). Within tidal wetlands with unimpeded water flow, expansion of common reed is restricted to the high marsh/upland fringe with salinity typically below 18 parts per thousand (Marks et al. 1994). This distribution is influenced by several environmental stressors such as depth of flooding, salinity, and sulfide effects (Hellings and Gallagher 1992; Chambers et al. 1998). Common reed through clonal integration, can initially establish itself in the high marsh and then expand via the spread of rhizomes into lower, less favorable habitats, invading marshes exposed to full-strength seawater (Bertness et al. 2002). As with most restoration efforts, complete removal of this invasive may require herbicide treatments as an additional measure. The non-native genotype of *Phragmites*, a common invasive species in coastal marshes typically forms dense stands which lowers plant diversity and reduces habitat value for some salt marsh dependent species. This species may impact the ability for marshes to migrate landward; therefore, management of this invasive species should be included in onsite wetland restoration.

Table 6. Range of Observed Common Reed Elevations

Transect	Elevation (feet NGVD 29)		
	Maximum	Minimum	Mean
Reference Site 1			
T1	6.81	6.18	6.50
T4	6.86	5.90	6.38
T6	6.25	5.86	6.06
Mean	**6.64**	**5.98**	**6.31**

3.5 Pannes and Pools

Pools are depressions within a salt marsh that retain water throughout the tidal cycle while pannes are depressions which drain each cycle. Pannes and pools provide important habitat for shorebirds as they often contain fish, crustaceans, and other food sources (Adamowicz and Charles 2005). Pannes and pools were found in Reference Site 1. Two pannes were found between elevations of 5.71 and 6.04 feet and one pool was found between 3.78 and 3.97 feet (Table 7).

Table 7. Range of Observed Panne and Pool Elevations at Reference Site 1

Transect	Elevation (feet NGVD 29)		
	Maximum	Minimum	Mean
Pannes			
T2	6.04	5.37	5.71
T3	5.71	5.56	5.64
Mean	**5.88**	**5.47**	**5.67**
Pools			
T8	3.97	3.78	3.88
Mean	**3.97**	**3.78**	**3.88**

3.6 Biological Benchmark Results

In a review of the relationship of saltmarsh cordgrass to tidal datums, McKee and Patrick (1988) reported the lower limit of the saltmarsh cordgrass zone did not correspond to any consistent elevation. However, a lower limit of saltmarsh cordgrass occurring slightly below the mean tide line (midpoint between mean high water and mean low water) has been reported in several New England studies (Redfield 1972; Bertness and Ellision, 1987). The transition from low to high marsh has been reported near the MHW datum (BBNEP 2017; Niering and Warren 1980; Bertness and Ellision 1987; McKee and Patrick 1988). Observations by Bertness and Ellision (1987) and Warren et al. (2001) link the mean spring tide level as the transition from salt-meadow cordgrass to saltmarsh rush. The maximum extent of regular tidal flooding or annual high water is considered the upper extent of salt marsh vegetation (Boumans et al. 2002; USACE New England District undated). Under existing conditions, heathy tidal marsh conditions adjacent to the Durante Site were found, on average, between elevations 2.95 to 6.88 feet based on the biological benchmark data. One should expect the Durante Site to follow a similar pattern of plant zonation and transition to an estuarine system with comparable elevations to the marsh found at Reference Site 1 after any restoration efforts.

4.0 Tidal Monitoring

Three Solinst M5-series pressure transducer type water depth instruments were deployed at the Durante Site Remediation and Wetland Restoration Project (Durante Site) on August 19, 2022. The instruments were designated as Logger #1, Logger #2, and Logger #3 (Table 8). Logger #1 was installed roughly 16 miles down the western most dock of the Hingham Shipyard Marinas in the Weymouth Black River. Logger #2 was installed roughly 500 feet downstream of the Lincoln Street Bridge (Route 3A) on the eastern bank of the Mill River. Logger #3 was deployed roughly 10,000 feet downstream of Logger 2 in the Mill River (Appendix A, Figure 1). A fourth barometric pressure logging instrument required for data correction for changes in atmospheric pressure was installed in the upland area of the Durante Site adjacent to the wetland flag WF 1-33. The locations of the instruments were surveyed by Land Planning, Inc., on October 26, 2022.

Table 8. Instrument Designation, Serial Number, and Surveyed Elevation

Instrument	Serial Number	Instrument Elevation (NGVD1929)
Logger #1	2131737	-5.84
Logger #2	2134988	-6.79
Logger #3	2132375	-3.19
Barologger	2135076	N/A

4.1 Tidal Logger Deployment

All instruments were installed in two-inch diameter stilling wells of perforated Polyvinyl Chloride (PVC) pipe. Stilling wells were anchored in the substrate using a seven-foot galvanized steel “T” post. A tamper resistant cover was provided for the stilling wells. No disturbance to the

instruments or to the vertical or horizontal position of the stilling wells was noted during deployment.

Prior to deployment, the instruments were electronically calibrated to a sea level of 0.00 feet and set to record at 6-minute intervals. Data recording for all four instruments commenced simultaneously at 18:00 local time on August 19, 2022. The instruments were recovered, and related appurtenances were removed from the Durante Site on November 3, 2022.

Recorded depth and barometric data was retrieved from the instruments using the manufacturers' proprietary software on November 3, 2022. Logger #2 malfunctioned due to a factory issue and data was unable to be recovered. For Logger #1 and #3, the correction for barometric pressure was applied using the manufacturers' software, and the data was electronically transferred to Microsoft (MS) Excel format. Correction for the instrument elevations were subsequently applied in MS Excel (Appendix A, Figure 4).

4.2 Tidal Logger Results

Loggers #1 and #3 were deployed for 77 days and recorded two high and two low asymmetrical semi-diurnal tides. During the monitoring period a large tidal event occurred on September 11, 2022 where a high tide elevation of 7.33 feet was recorded at Logger #1 and 7.96 feet was recorded at Logger #3. A more typical spring tide was captured earlier in the monitoring period, between August 27 and September 2, where a maximum tidal elevation of 5.92 feet and 6.62 feet was recorded at Logger #1 and Logger #3 (Appendix A, Figure 5), respectively.

During low tide events, Logger #1 and Logger #3 demonstrate differing patterns. Logger #1 tappers to a valley, like peaks observed during high tide events, while Logger #3 levels out generally around elevation -2.5 and -2.6 feet (Figure 5). The pattern observed at Logger #3 can likely be explained by the presence of baseflow from the Mill River and the inability for the channel to completely drain prior to the subsequent flood tide. The baseflow is attributed to surface water influence from the Herring Run Brook. The maximum tidal range observed during the spring tide was 10.66 feet and 9.29 feet at Logger #1 and Logger #3, respectively.

The influence of precipitation on the tidal cycle is observed at Logger #3. When precipitation events occur, the baseflow from the Mill River increases, resulting in higher elevations of water during low tide events. For example, on October 13 and 14, the region received about 2.23 inches of rainfall over 48 hours. In the days following this rain event, the low tide water elevations increased at Logger #3 (Appendix A, Figure 4). During precipitation events at high tide, the water elevation does not increase at the same rate because the tide floods the banks of the Mill River, allowing the tide to span out over a larger area. Logger #3 consistently records higher water elevations (0.72 feet) during high tide than Logger #1. This may be due to the flood tide encountering freshwater inputs from the Herring Run Brook creating a mounding effect. This pattern is also observed by the Buzzards Bay National Estuary Program Tidal Datum Viewer.

The BBNEP developed and maintains (last updated October 2020) an interactive map showing tidal datums along the entire Massachusetts coast including Nantucket and Marthas Vineyard. At over 3,600 along the coast, the interactive tool provides estimated tidal elevations for each of the 3,600 locations. The closest interactive point (2883) to the Durante Site was found approximately 2,500 feet northeast of Logger #1 in Hewitt's Cove. Tidal datum elevations reported at this location include mean high water (MHW), mean low water (MLW), local mean sea level (LMSL), MTL,

mean higher high water (MHHW), mean lower low water (MLLW), mean tidal range (MN), salt marsh range (MARSH RNG), high tide line (HTL), and lowest marsh elevation (LMSL). Given the limited size of the data set (77 days) when compared to typical tidal datum epoch (19 years), the Buzzards Bay NEP interactive tool was used for comparative purposes to validate collected data. Specifically, data collected at Logger #1 was compared to the closest Buzzards Bay NEP interactive point 2883 given its proximity to the coast.

This analysis found symmetry between Logger #1 and the BBNEP interactive tool. The maximum tidal range at Logger #1 and Logger #3 was 1.18 and 0.19 feet higher and lower than the tidal range reported by the BBNEP, respectively. In addition, Logger #1 was 0.24 feet higher than MHW (5.09 feet) as reported by the BBNEP. The minor deviations between data sets are likely a result of the small sample period and would be expected to decrease if more tidal cycles (years) were monitored.

Typically divided into two habitats based on vegetative species composition and tidal inundation, salt marshes are characterized as low and high marsh. Low marsh habitat is dominated by smooth cordgrass (*Spartina alternflora*) and ranges from MSL to MHW. High marsh habitat is dominated by salt meadow cordgrass (*Spartina patens*) beginning at MHW and extending landward to approximately the HTL. Utilizing the established tidal datums from the BBNEP, the observed tidal range adjacent to Logger #3 would support the creation of salt marsh habitat, with low marsh expected to be found between 0.44 to 5.09 feet, and high marsh ranging from 5.09 to 7.6 feet.

5.0 Conclusions

The existing delineated wetland is found approximately at elevation 7.0 feet, slightly below the HTL (7.6 feet). An analysis of biological benchmark data collected at Reference Site 1, tidal monitoring data and topographic survey indicate salt marsh could be restored at the Durante Site with minor grading/excavation. Furthermore, the flat nature of the site, and limited human activity will allow the onsite wetland to migrate landward in increasing sea levels.

6.0 References

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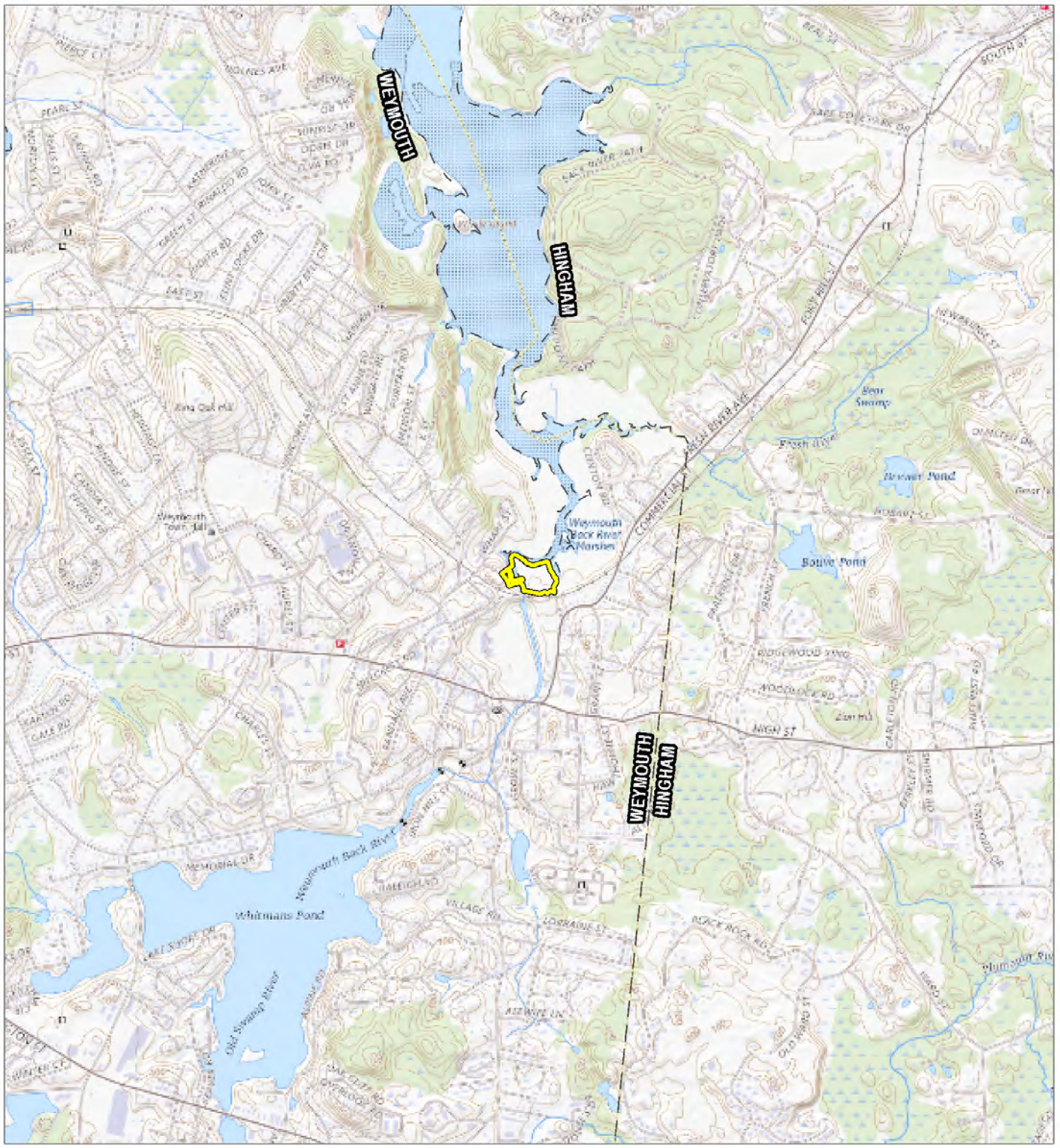
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Appendix A: Figures



PROJECT BOUNDARY

MUNICIPAL BOUNDARY

N

0 1,000 2,000

FEET

1:24,000 1" = 2,000'



BASE MAP: USGS TOPO (THE NATIONAL MAP)
DATA SOURCES: USGS, ESRI, TRC

PROJECT: **MBTA**

DURANTE - WEYMOUTH
WEYMOUTH, MASSACHUSETTS

TITLE:

SITE LOCATION MAP (TOPOGRAPHIC)

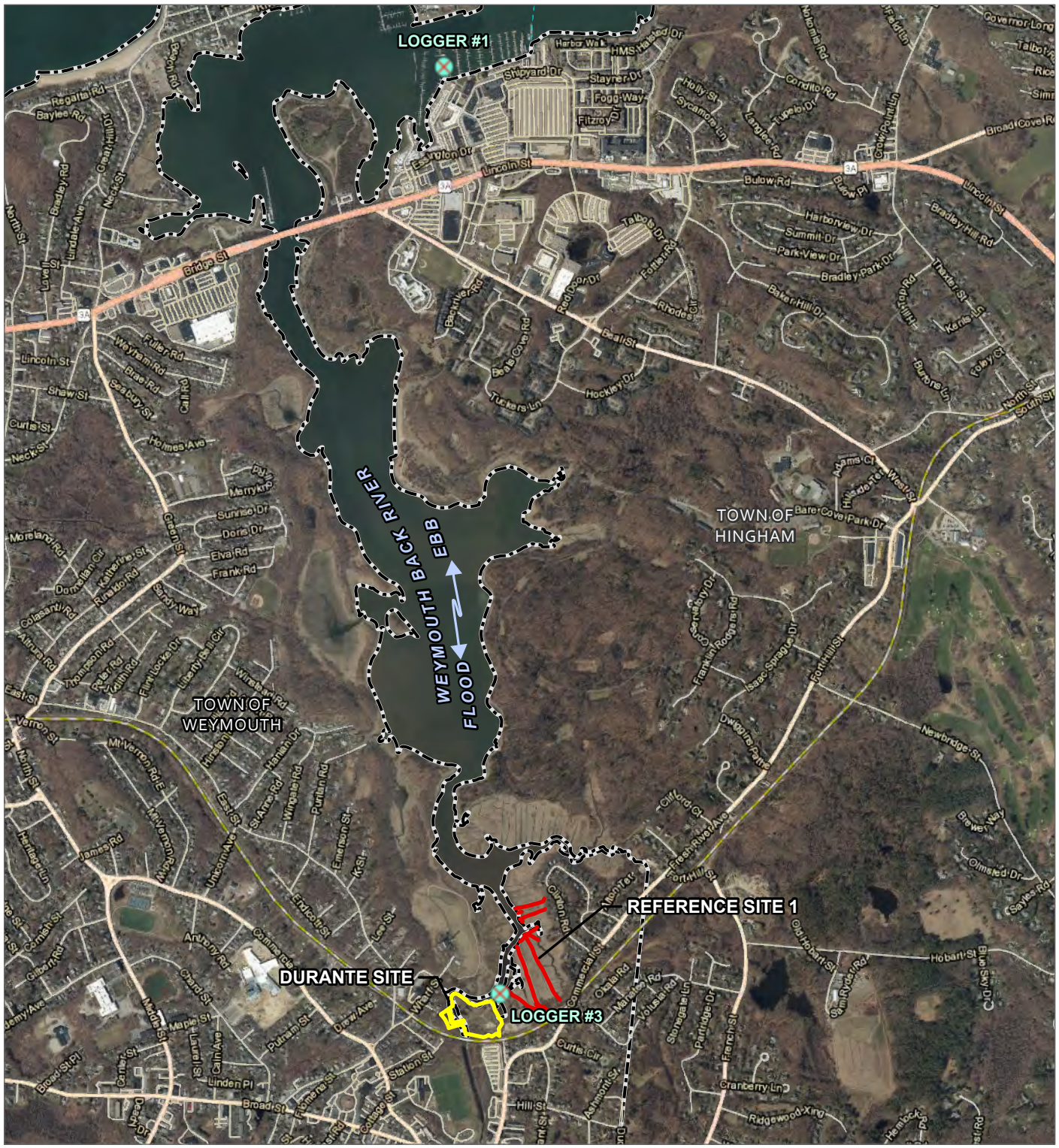
DRAWN BY:	A. KAILAS	PROJ. NO.:	459216
CHECKED BY:	M. GIAMBATTISTA		
APPROVED BY:	M. GIAMBATTISTA		FIGURE 1
DATE:	MARCH 2023		

TRC

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES

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DURANTE SITE

REFERENCE SITE 1 TRANSECTS

DATA LOGGER

MUNICIPAL BOUNDARY

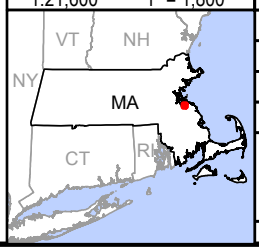
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PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: BIOLOGICAL BENCHMARK REFERENCE SITE AND TIDAL MONITORING LOCATIONS

DRAWN BY:	S. MOTURI	PROJ. NO.:	459216
CHECKED BY:	M. LENNON		
APPROVED BY:	C. MARTIN		FIGURE 2
DATE:	MAY 2023		

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

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TOWN OF WEYMOUTH

CLINTON RD

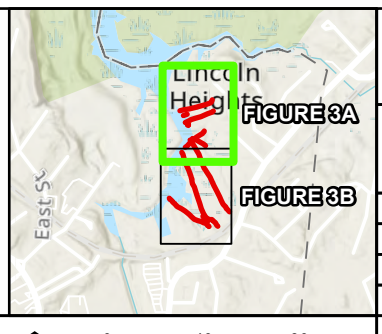
WEYMOUTH BACK RIVER

TOWN OF WEYMOUTH

IF/UPLAND 6.88
SP/IF 5.51
IF 5.3
SP 5.74
SP 5.66
SA/SP 5.03
SA 4.57
SA 4.8
SA 4.58
SP 5.58
SP 5.63
11
SP 5.69
UPLAND/IF 6.34
IF/SP 5.63
SP 5.73
TB/SA 2.95
SA 4.78
SA/SP 5.05
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SP/SA 5.32
SP 5.58
SP 5.73
9
SP 5.75
SA 5.05
SA 4.77
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POOL 3.97
POOL 3.78
POOL 3.94
POOL 3.92
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SP/SA 5.02
SA 4.79
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SA 4.88
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SA 4.89
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SA 4.74
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TB/SA 4.07
SP/SA 4.95
SA 4.61
SA/TB 4.6
6
SA 5.08
SP 5.61
SA 4.84
4
SP/SA 5.36
SP/SA 5.66
SP 5.69

TRANSECT POINT
TRANSECT
MUNICIPAL BOUNDARY
SP/SA 5.36 DATA POINT WITH ELEVATION

IF	HIGH-TIDE BUSH *(Iva frutescens)*
PA	COMMON REED *(Phragmites australis)*
SA	SALTMARSH CORDGRASS *(Spartina alterniflora)*
SP	SALT-MEADOW CORDGRASS *(Spartina patens)*
TB	TOP OF BANK
POOL	POOL
UPLAND	UPLAND
PAN	PANNE



PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: BIOLOGICAL BENCHMARK REFERENCE SITE 1

DRAWN BY:	S. MOTURI	PROJ. NO.:	459216
CHECKED BY:	M. LENNON		
APPROVED BY:	C. MARTIN		
DATE:	MAY 2023		

FIGURE 3A

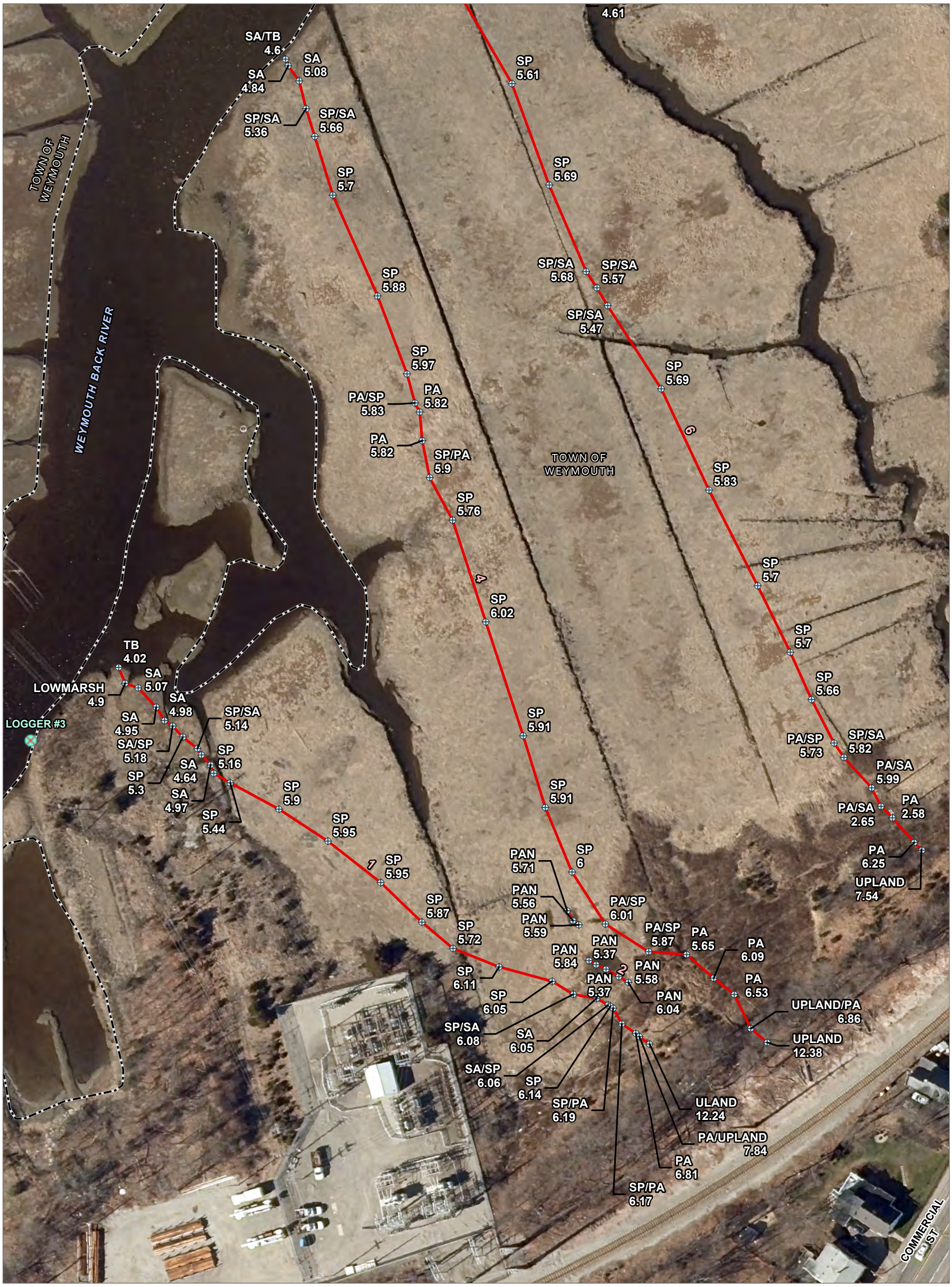
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DATA SOURCES: TRC, LAND PLANNING, INC.

0 40 80 FEET
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650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

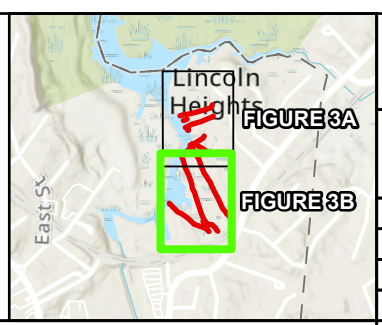
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TRANSECT POINT
TRANSECT
MUNICIPAL BOUNDARY
SP/SA 5.36 DATA LOGGER ELEVATION

IF	HIGH-TIDE BUSH *(Iva frutescens)*
PA	COMMON REED *(Phragmites australis)*
SA	SALTMARSH CORDGRASS *(Spartina alterniflora)*
SP	SALT-MEADOW CORDGRASS *(Spartina patens)*
TB	TOP OF BANK
POOL	POOL
UPLAND	UPLAND
PAN	PANNE



BASE MAP: MASSGIS COLOR ORTHO IMAGERY, 2021
DATA SOURCES: TRC, LAND PLANNING, INC.

0 40 80 FEET
1:960 1" = 80'

PROJECT: DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT
WEYMOUTH, MASSACHUSETTS

TITLE: BIOLOGICAL BENCHMARK REFERENCE SITE 1

DRAWN BY:	S. MOTURI	PROJ. NO.:	459216
CHECKED BY:	M. LENNON		
APPROVED BY:	C. MARTIN		
DATE:	MAY 2023		

FIGURE 3B

TRC
650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

Figure 4. Tidal Data from August 19 to November 3, 2022

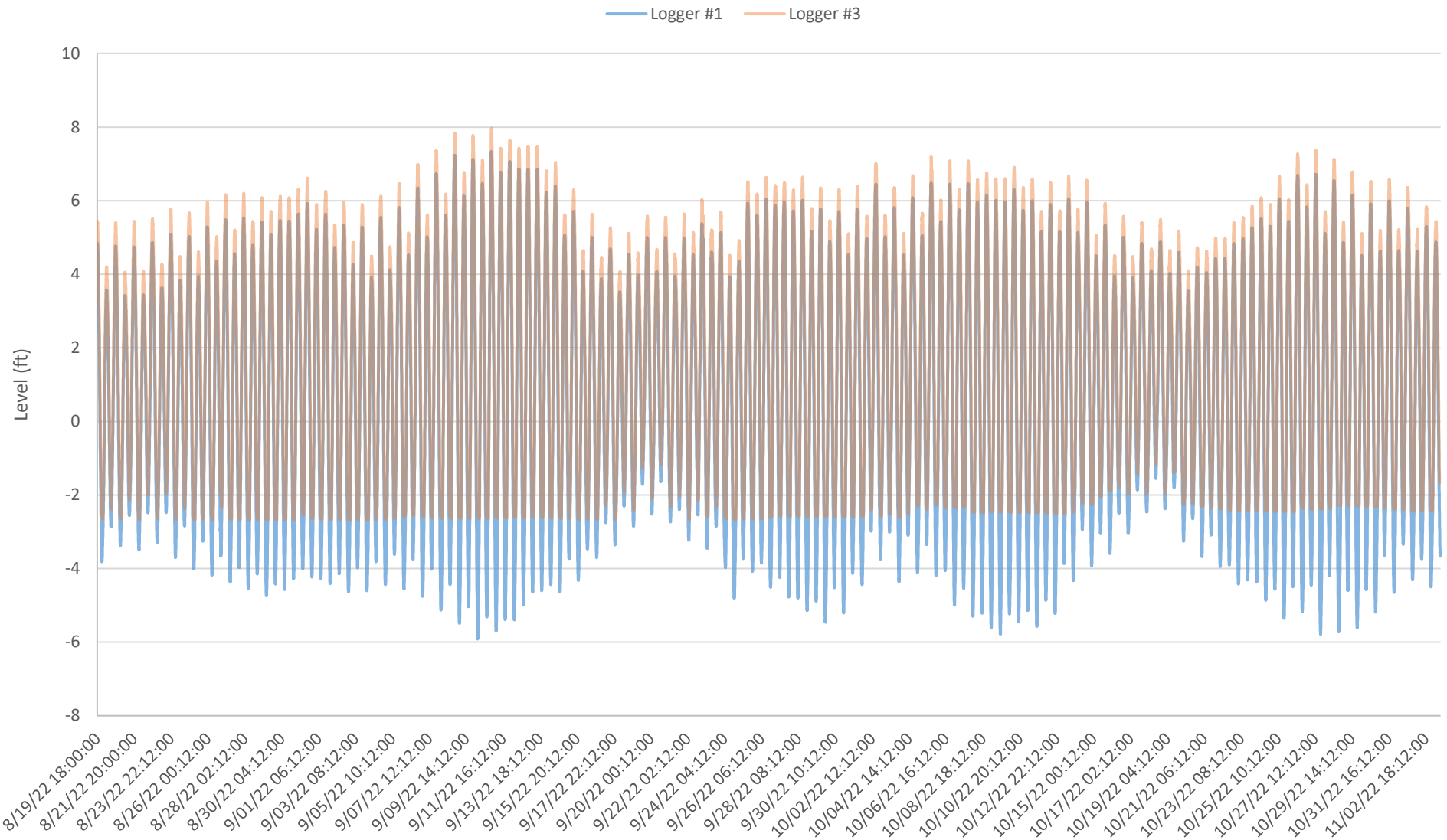
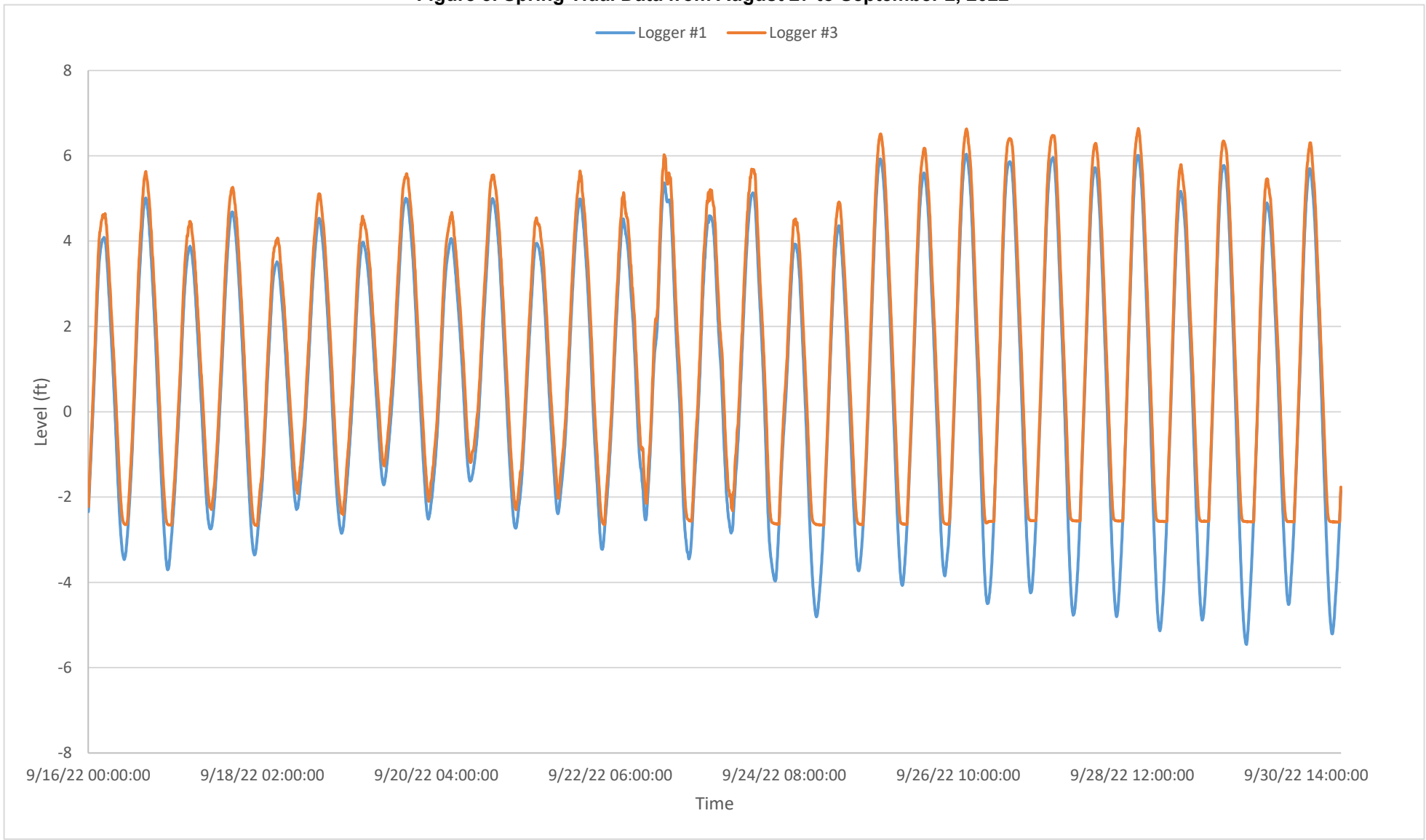


Figure 5. Spring Tidal Data from August 27 to September 2, 2022



Appendix B: EFH Report

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 42º 13' 15" N, Longitude = 71º 4' 40" W
Decimal Degrees: Latitude = 42.221, Longitude = -70.922

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

***** W A R N I N G *****

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Wolffish	ALL	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
		Ocean Pout	Adult Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Atlantic Cod	Larvae Adult	New England	Amendment 14 to the Northeast Multispecies

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Juvenile Eggs		FMP
		Pollock	Juvenile Eggs Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Silver Hake	Eggs/Larvae Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Yellowtail Flounder	Adult Juvenile Larvae Eggs	New England	Amendment 14 to the Northeast Multispecies FMP
		White Hake	Larvae Adult Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		American Plaice	Adult Juvenile Larvae Eggs	New England	Amendment 14 to the Northeast Multispecies FMP
		Thorny Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Northern Shortfin Squid	Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Longfin Inshore Squid	Juvenile Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Atlantic Mackerel	Eggs Larvae Juvenile Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Butterfish	Eggs Larvae Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Spiny Dogfish	Sub-Adult Female Adult Male Adult Female	Mid-Atlantic	Amendment 3 to the Spiny Dogfish FMP
		Atlantic Surfclam	Juvenile Adult	Mid-Atlantic	Surfclam and Ocean Quahog
		Scup	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Black Sea Bass	Juvenile Adult	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

All spatial data is currently available for the Mid-Atlantic and New England councils,
Secretarial EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark

Appendix C: Reference Site 1 and 2 Photographs

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 1

Date: 11/03/2022

Direction: Northeast

Description:

Photo located northwest of the Substation; facing towards a transect at Reference Site 1. Located east of the Project Area.



Photograph: 2

Date: 11/03/2022

Direction: West

Description:

Photo located northwest of the Substation; facing the Project Area.



DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 3

Date: 11/03/2022

Direction: Southwest

Description:

Photo facing the Project Area, located northwest of the Substation.



Photograph: 4

Date: 11/03/2022

Direction: South

Description:

Photo taken along the southern transect at Reference Point 1; elevation approximately 5.18.



DURANTE REMEDIATION AND WETLAND RESTORATION
WEYMOUTH, MASSACHUSETTS

Photograph: 5 **Date**: 11/03/2022 **Direction**: Southeast **Description**: Photo taken along the southern transect at Reference Point 1; elevation approximately 5.72.	
Photograph: 6 **Date**: 11/03/2022 **Direction**: West **Description** Photo taken just east of the middle transect at Reference Point 1; facing west	

DURANTE REMEDIATION AND WETLAND RESTORATION

WEYMOUTH, MASSACHUSETTS

Photograph: 7 **Date**: 11/03/2022 **Direction**: Southwest **Description**: Photo taken just east of the middle transect at Reference Point 1; facing southwest	
Photograph: 8 **Date**: 11/03/2022 **Direction**: South **Description:** Photo taken just east of the middle transect at Reference Point 1; facing down the transect.	

Invasive Species Memorandum

Durante Site Remediation and Wetland Restoration Project

East Weymouth, Massachusetts

November 2023

Prepared For:

Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, Massachusetts 02116-3974

Prepared By:

TRC Environmental Corporation
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854



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1.0 Introduction

On behalf of the Massachusetts Bay Transportation Authority (MBTA), TRC Environmental Corporation (TRC) presents the following Invasive Species Memorandum for a proposed salt marsh wetland restoration on the Durante Site located at North Wharf Street in East Weymouth, Massachusetts (Project Site). The control of invasive species is a common goal of many salt marsh restoration projects and should be a component of the Durante Project.

Invasive species can quickly out-compete native species and take over wetlands reducing biodiversity, changing soil composition and hydrology, and harming the health of the local ecosystem (Weidlich et al. 2020). Controlling invasive species and re-establishing native species to a wetland can greatly benefit the local ecosystem (Weidlich et al. 2020). By surveying the primary invasive species at the Durante Project Site, we can gain a better understanding of the extent of the invasive species and work to develop a plan to control the invasive species within the Durante Project Site.

1.1 Project Site Description

The Durante Project Site is located north of the East Weymouth MBTA Train Station, adjacent to the Mill River which borders the north and west portion of the Project Site (**Appendix A, Figure 1**). The Mill River is a portion of the greater Weymouth Back River system. An electric substation is located to the east of the Project Site.

2.0 Survey Methodology

On June 20, 2023, TRC conducted a Project Site visit which included the delineation of common reed (*Phragmites australis*), species identification and recording, as well as wildlife observations at the Project Site. Stands of common reed were delineated along the edges of transitions between common reed to other vegetation. Vegetation boundaries were located with a sub-meter handheld Global Positioning System (GPS) unit and data was post-processed to achieve sub-meter accuracy.

3.0 Survey Results

3.1 Common Reed

The Durante Project Site has multiple stands of common reed located primarily within the delineated wetland which occupies the northern portion of the site (**Appendix A, Figure 2**). Seven separate stands of common reed are located within the Project Site. Six of the seven stands are located within wetland W-KCF-01 and one stand is located on a pile of fill in the middle of the Project Site. The stands of common reed range from less than 0.1-acre to 0.4 acres. Common reed covers approximately 0.7 acres of the 6.2-acre Project Site or approximately 11 percent of the Project Site.

The management of invasive species (primarily herbicide treatments to control common reed) has been a common habitat restoration practice. Treatment typically requires spraying the foliage with herbicide over a two to three-year period and rarely will eliminate the species without

continued maintenance and resource investments. Managing some of these plants can prove to be quite involved, as their means of spreading is difficult to stop.

Salt marshes can typically be broken down into two ecological zones: the low marsh, which is the part closest to the sea, and the high marsh, which is the part at the "back" of the marsh that ultimately borders the upland. Common reed control may be a necessary action to achieve quality high marsh habitat; however, such control should be done strategically with marsh migration zones being some of the optimum areas to control common reed control (Hartley and Weldon 2020).

Marsh migration zones involve looking at the land elevation and slope, salt concentrations in the water and the general hydrology of an area to predict or direct where marsh zones can occur or be directed. Increasing the tidal inundation and saline waters in the proximity of common reed can help create a less favorable environment for growth (Karberg et al. 2018). Common reed is considered a facultative wetland plant under the 2020 National Wetland Plant List for the North Central/New England (NCNE) Region; therefore, common reed is found in many habitats ranging from wetland to upland areas.

3.2 Other Invasive Vegetation Observations

TRC observed a total of 12 plant species considered invasive throughout the Project Site, including common reed. The vegetation species observed which are considered invasive are listed in **Table 1** below. These species were less common throughout the Project Site than common reed and were located throughout the Project Site. Invasive species were found in both the wetland as well as the upland areas.

In addition to common reed, Japanese knotweed (*Reynoutria japonica*) is another difficult invasive plant to completely remove as the plant can spread by underground rhizomes (Cygan 2018). Some of the invasive plants found at the Project Site are more easily removed such as Norway maples (*Acer platanoides)* which require removing mature trees and pulling or mowing saplings.

Table 1: Invasive Vegetation Observed

Common Name	Scientific Name	Indicator Status – NCNE*
Common reed	*Phragmites australis*	FACW
Norway maple	*Acer platanoides*	UPL
Tree-of-heaven	*Ailanthus altissima*	UPL
Oriental bittersweet	*Celastrus orbiculatus*	FACU
Spotted knapweed	*Centaurea stoebe*	No status
Chicory	*Cichorium intybus*	FACU
Autumn olive	*Elaeagnus umbellata*	No status
Japanese knotweed	*Reynoutria japonica*	FACU
Buckthorn	*Rhamnus cathartica*	FAC
Black locust	*Robinia pseudoacacia*	FACU

Multiflora rose	*Rosa multiflora*	FACU
Black swallow-wort	*Vincetoxicum louiseae*	No status

* 2020 National Wetland Plant List - NCNE Region
OBL – Obligate
FACW – Facultative wetland
FAC – Facultative
FACU – Facultative upland
UPL – Upland

3.3 Non-Invasive Vegetation Observations

During field surveys, on June 20, 2023, TRC also observed 24 native and non-native, but non-invasive, vegetation species found at the Project Site (**Table 2**). Based on the 2020 National Wetland Plant List for the NCNE Region, the other plants found at the Project Site range in wetland indicator status from upland to wetland plants. Because these plants are already found at the Project Site, the current conditions are suitable for growth and some of the plants can be considered for future landscaping and plantings.

Table 2: Non-Invasive Vegetation Observed

Common Name	Scientific Name	Indicator Status – NCNE*
Giant ragweed	*Ambrosia trifida*	FAC
Desert false indigo	*Amorpha fruticosa*	FACW
Common daisy	*Bellis perennis*	No status
Gray birch	*Betula populifolia*	FAC
Alternate-leaf dogwood	*Cornus alternifolia*	FACU
Orchard grass	*Dactylis glomerata*	FACU
High-tide bush	*Iva frutescens*	FACW
Saltmarsh rush	*Juncus gerardii*	OBL
Eastern red cedar	*Juniperus virginiana*	FACU
Sea lavender	*Limonium platyphyllum*	No status
Garden bird's-foot-trefoil	*Lotus corniculatus*	FACU
Yellow sweet clover	*Melilotus officinalis*	FACU
Northern bayberry	*Morella pensylvanica*	FAC
Virginia-creeper	*Parthenocissus quinquefolia*	FACU
Quaking aspen	*Populus tremuloides*	FACU
Red oak	*Quercus rubra*	FACU
Staghorn sumac	*Rhus typhina*	No status
Curly dock	*Rumex crispus*	FAC
Pussy willow	*Salix discolor*	FACW
Little false bluestem	*Schizachyrium scoparium*	FACU

Seaside goldenrod	*Solidago sempervirens*	FACW
Eastern poison ivy	*Toxicodendron radicans*	FAC
Stinging nettle	*Urtica dioica*	FAC
Great mullein	*Verbascum thapsus*	UPL

* 2020 National Wetland Plant List - NCNE Region
OBL – Obligate
FACW – Facultative wetland
FAC – Facultative
FACU – Facultative upland
UPL - Upland

3.4 Wildlife Observations

The Project Site and surrounding area contain well-used habitat for many avian species. During field surveys, on June 20, 2023, TRC observed and recorded a total of 20 incidental avian species (**Table 3**). Most, if not all, of the avian species observed at the site nest at or near the site and use the marsh and Mill River to feed. In addition, although not observed, evidence of two mammal species' tracks were found in several areas of the Project Site.

Table 3: Avian and Mammal Species Observed/Identified

Common Name	Scientific Name
Birds	
Spotted sandpiper	*Actitis macularius*
Red-winged blackbird	*Agelaius phoeniceus*
Mallard	*Anas platyrhynchos*
Great egret	*Ardea alba*
Red-tailed hawk	*Buteo jamaicensis*
Rock pigeon	*Columba livia*
American crow	*Corvus brachyrhynchos*
Gray catbird	*Dumetella carolinensis*
Snowy egret	*Egretta thula*
Peregrine falcon	*Falco peregrinus*
Barn swallow	*Hirundo rustica*
Baltimore oriole	*Icterus galbula*
Song sparrow	*Melospiza melodia*
Double-crested cormorant	*Nannopterum auritum*
Osprey	*Pandion haliaetus*
Yellow warbler	*Setophaga petechia*
American goldfinch	*Spinus tristis*
European starling	*Sturnus vulgaris*

Tree swallow	*Tachycineta bicolor*
Mourning dove	*Zenaida macroura*
Mammals	
White-tailed deer	*Odocoileus virginianus*
Eastern raccoon	*Procyon lotor*

4.0 Conclusions

The existing delineated wetland (W-KCF-01) is found approximately at elevation 7.0 feet, slightly below the High Tide Line (HTL) (7.6 feet). Common reed at the Project Site is primarily found within the delineated wetland and is mostly found ranging in elevation from 5.0 to 7.0 feet North American Vertical Datum of 1988 (NADV 88).

Within tidal wetlands with unimpeded water flow, expansion of common reed is typically restricted to the high marsh/upland fringe with salinity typically below 18 parts per thousand (ppt) (Marks et al. 1994). This distribution is influenced by several environmental stressors such as depth of flooding, salinity, and sulfide effects (Hellings and Gallagher 1992; Chambers et al. 1998). Common reed can initially establish itself through clonal integration in the high marsh areas and then expand via the spread of rhizomes into lower, less favorable habitats, invading marshes exposed to full-strength seawater (Bertness et al. 2002).

Therefore, an approach to providing a less favorable environment for growth of common reed can be aimed toward lowering the elevation of certain areas of the wetland, thus improving tidal flow and higher salinity water levels and inundation within the wetland. By greatly increasing the salinity and tidal hydrology of an area, a population of common reed can have a significant decrease in health and robustness allowing nearby salt marsh species or planted salt marsh species to take over the area previously dominated by common reed (Karberg et al. 2018). In some instances of marsh restoration in New England, quickly and significantly increasing tidal hydrology and salinity in an area dominated by common reed has been the sole restoration method needed to successfully restore salt marsh vegetation and functionality (Karberg et al. 2018).

As with most restoration efforts, complete removal of this invasive may require herbicide treatments as an additional measure.

5.0 References

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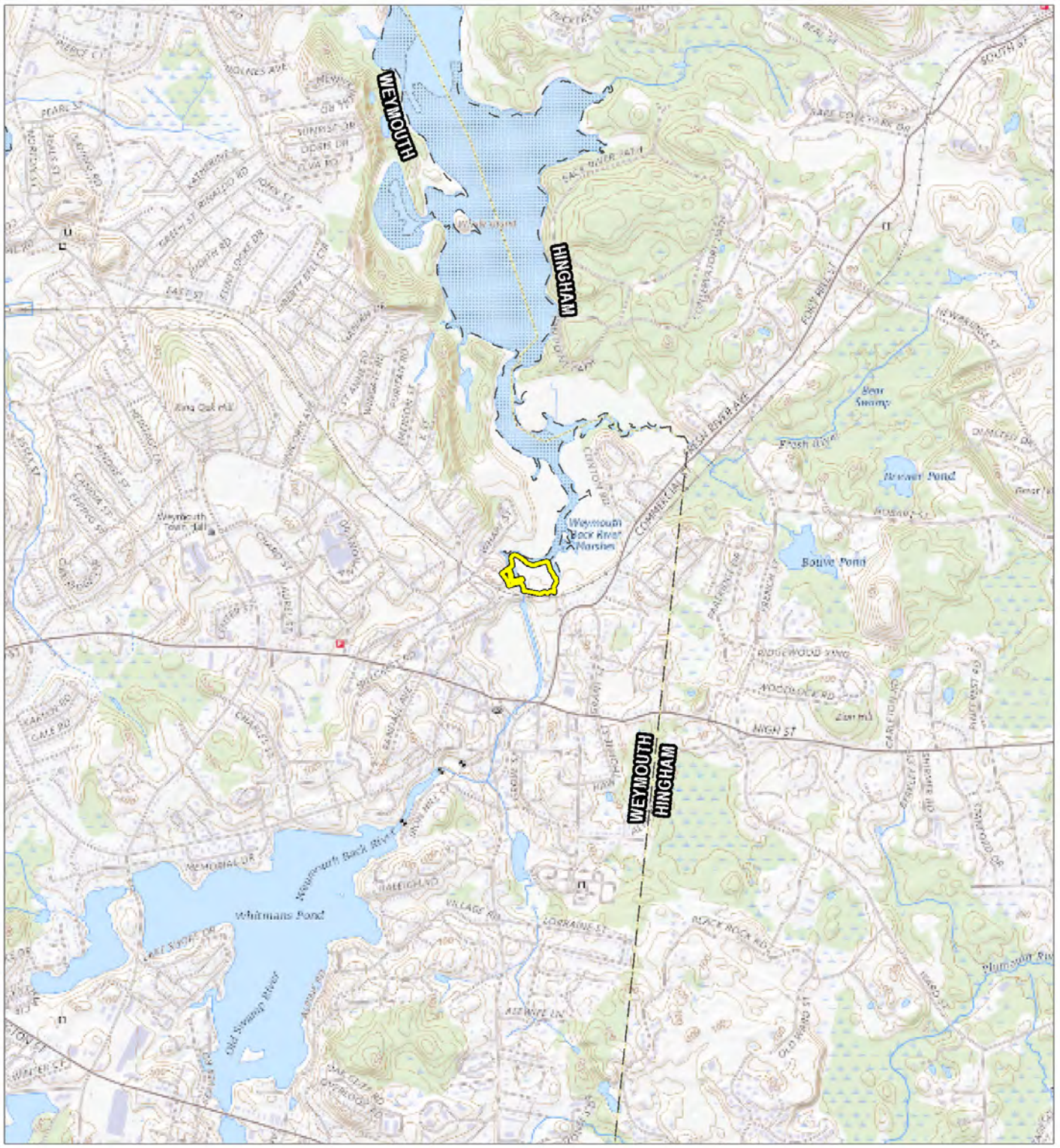
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Appendix A: Figures



PROJECT BOUNDARY

MUNICIPAL BOUNDARY

N

0 1,000 2,000

FEET

1:24,000 1" = 2,000'



BASE MAP: USGS TOPO (THE NATIONAL MAP)
DATA SOURCES: USGS, ESRI, TRC

PROJECT: **MBTA**

DURANTE - WEYMOUTH
WEYMOUTH, MASSACHUSETTS

TITLE:

SITE LOCATION MAP (TOPOGRAPHIC)

DRAWN BY:	A. KAILAS	PROJ. NO.:	459216
CHECKED BY:	M. GIAMBATTISTA		
APPROVED BY:	M. GIAMBATTISTA		FIGURE 1
DATE:	MARCH 2023		

TRC

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES

COORDINATE SYSTEM: NAD 1983 STATEPLANE MASSACHUSETTS MAINLAND FIPS 2001, MAP ROTATION: 0
SAVED BY: HREST ON 3/30/2023, 11:53:06 AM, FILE PATH: \\EMPLOYEES\GIS\ARCGISPRO\1-PROJECTS\MBTA\459216_DURANTE\2-APRX\DURANTE_FIGURES.APRX, LAYOUT NAME: DURANTE_FIG1_SITE_LOCATION

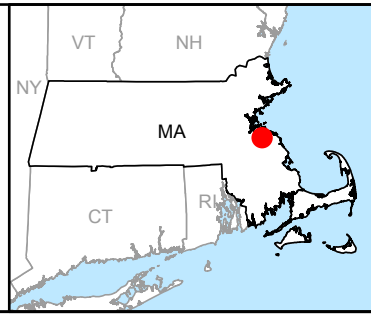


DURANTE SITE

PHRAGMITES AUSTRALIS AREAS (0.7 AC.)

WETLAND

WATERBODY



PROJECT: **DURANTE SITE REMEDIATION AND WETLAND RESTORATION PROJECT**
WEYMOUTH, MASSACHUSETTS

TITLE: **PHRAGMITES AUSTRALIS AREAS**

DRAWN BY:	G. STUDWELL	PROJ. NO.:	459216
CHECKED BY:	S. MOTURI		
APPROVED BY:	M. LENNON		**FIGURE 2**
DATE:	AUGUST 2023		

BASE MAP: MASSGIS ORTHO IMAGERY, 2021
DATA SOURCES: TRC, ESRI

0 60 120 FEET

1:1,440 1" = 120'

650 SUFFOLK STREET
SUITE 200
LOWELL, MA 01854
PHONE: 978.970.5600

FILE: DURANTE_FIGURES_20230417

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS: MAP ROTATION: 0
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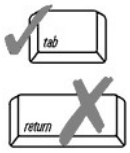
Massachusetts Department of Environmental Protection
Bureau of Resource Protection – Wetlands program

Wildlife Habitat Protection Guidance

Appendix A: Simplified Wildlife Habitat Evaluation

Project Information

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



"0" North Wharf Street, Weymouth, MA
Project Location (from NOI)

Ryan Clapp
Name of Person Completing Form

3/4/2025
Date

Important Habitat Features

Direct alterations to the following important habitat features in resource areas may be permitted only if they will have no adverse effect (refer to Section V).

- ☐ Habitat for state-listed animal species (receipt of a positive opinion or permit from MNHESP shall be presumed to be correct. Do not refer to Section V).
- ☐ Sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders
- ☐ Trees with large cavities (≥18" tree diameter at cavity entrance)
- ☐ Existing beaver, mink or otter dens
- ☐ Areas within 100 feet of existing beaver, mink or otter dens (if significant disturbance)
- ☐ Existing nest trees for birds that traditionally reuse nests (bald eagle, osprey, great blue heron)
- ☐ Land containing freshwater mussel beds
- ☒ Wetlands and waterbodies known to contain open water in winter with the capacity to serve as waterfowl winter habitat
- ☒ Turtle nesting areas
- ☐ Vertical sandy banks (bank swallows, rough-winged swallows or kingfishers)

The following habitat characteristics when not commonly encountered in the surrounding area:

- ☐ Stream bed riffle zones (e.g. in eastern MA)
- ☐ Springs
- ☒ Gravel stream bottoms (trout and salmon nesting substrate)
- ☐ Plunge pools (deep holes) in rivers or streams
- ☒ Medium to large, flat rock substrates in streams

Wildlife Habitat Protection Guidance

Appendix A: Simplified Wildlife Habitat Evaluation

Activities

When any one of the following activities is proposed within resource areas, applicants should complete a Detailed Wildlife Habitat Evaluation (refer to Appendix B).

- ☐ Activities located in mapped "Habitat of Potential Regional or Statewide Importance"
- ☐ Activities affecting certified or documented vernal pool habitat, including habitat within 100' of a certified or documented vernal pool when within a resource area
- ☐ Activities in bank, land under water, bordering land subject to flooding (presumed significant) where alterations are more than twice the size of thresholds
- ☐ Activities affecting vegetated wetlands >5000 sq. ft. occurring in resource areas other than Bordering Vegetated Wetland
- ☐ Activities affecting the sole connector between habitats >50 acres in size
- ☐ Installation of structures that prevent animal movement
- ☐ Activities for the purpose of bank stabilization using hard structure solutions that significantly affect ability of stream channel to shift and meander, or disrupt continuity in cover that would inhibit animal passage
- ☐ Dredging (greater than 5,000 sf)

PHOTOGRAPHIC LOG
Durante
"0" North Wharf Street

Client Name:	Site Location:	Project No.
Massachusetts Bay Transportation Authority	"0" North Wharf Street, Weymouth, Massachusetts	459216.0000.0000

Photo No. 1.

Date:
08/19/2022

Description:

Open water habitat (Mill River)

Mill River contains open water in winter. On June 20, 2022, an osprey and peregrine falcon were observed in this general location.

This area likely remains suitable as habitat for waterfowl in winter.

While a peregrine falcon (Special Concern) was observed on site, this area is not suitable habitat, with no tall buildings or rocky cliffs.



Photo No. 2.

Date:
08/19/2022

Description:

Potential turtle nesting habitat along stream S-KCF-1.

Note open canopy and well-drained soils.



PHOTOGRAPHIC LOG
Durante
"0" North Wharf Street

Client Name:	Site Location:	Project No.
Massachusetts Bay Transportation Authority	"0" North Wharf Street, Weymouth, Massachusetts	459216.0000.0000

Photo No. 3.

Date:
08/19/2022

Description:
Stream S-KCF-1, facing northwest.

Gravel stream bottom is an indicator of trout and salmon nesting substrate. However, this area is unlikely to be used as a nesting area due to low-flow conditions.

Essential Fish Habitat Viewer supports this assessment, as there are no mapped trout or salmon nesting areas.

Flat rocks may support reptile and amphibian habitat.



Photo No. 4.

Date:
08/19/2022

Description:

Culvert connecting to stream S-KCF-1.

No evidence of beaver, mink or otter dens.

Note water turbidity, which degrades and reduces likelihood of fish nesting habitat.

Note lack of vertical sandy banks.



PHOTOGRAPHIC LOG
Durante
"0" North Wharf Street

Client Name:	Site Location:	Project No.
Massachusetts Bay Transportation Authority	"0" North Wharf Street, Weymouth, Massachusetts	459216.0000.0000

Photo No. 5.

Date:
11/03/2022

Description:

Stream S-KCF-1.

Osprey nest observed on top of pole.

No nesting trees or other nests observed in this area.

Lack of vertical sandy banks.



Photo No. 6.

Date:
11/03/2022

Description:

Potential turtle nesting habitat along stream S-KCF-1.

Note open canopy and well-drained soils.

Note absence of trees in this area that could be used for bird nesting habitat.

Lack of vertical sandy banks.



PHOTOGRAPHIC LOG
Durante
"0" North Wharf Street

Client Name:	Site Location:	Project No.
Massachusetts Bay Transportation Authority	"0" North Wharf Street, Weymouth, Massachusetts	459216.0000.0000

Photo No. 7.

Date:
11/01/2024

Description:

Stream S-KCF-1.

Work area is on the right.

Few trees are within this area, and none with cavities or nests.

Trees on the right may be more suitable for bird species observed on site but are outside of the work area.



Attachment K: Historical and Archaeological Information

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Total Postage and Fees $9.64
Sent To
DAVID ROBINSON, DIRECTOR
BOARD OF UNDERWARTER
ARCHAEOLOGICAL RESOURCES
100 CAMBRIDGE STREET, SUITE 900
Boston, MA 02114

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- ☐ Adult Signature Restricted Delivery $

Postage $1.09
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Sent To
DAVID WEEDEN, THPO
MASHPEE WAMPANOAG TRIBE
483 GREAT NECK ROAD SOUTH
MASHPEE, MA 02649

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- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage $1.09
Total Postage and Fees $9.64
Sent To
MS. BRONA SIMON, EXEC. DIRECTOR
MASS. HISTORICAL COMMISSION
220 MORRISSEY BLVD
BOSTON, MA 02125

LOWELL MA 01854 JUN 09 2025 Postmark Here

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage $1.09
Total Postage and Fees $9.64
Sent To
BETTINA WASHINGTON, THPO
WAMPANOAG TRIBE OF AQUINNAH
20 BLACK BROOK ROAD
AQUINNAH, MA 02535-1546

LOWELL MA 01854 JUN 09 2025 Postmark Here

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

June 5, 2025

Ms. Brona Simon
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: Durante Site Remediation and Wetland Restoration Project, Town of Weymouth, Norfolk County, MA – Project Notification Form

Dear Ms. Simon:

The Massachusetts Bay Transportation Authority (MBTA) is pleased to submit the enclosed Project Notification Form for the Durante Site Remediation and Wetland Restoration Project (the Project or Project Site). The Project is located at 0 Wharf Street in the town of Weymouth, Massachusetts. The location of the Project is shown on United States Geological Survey (USGS) topographical map (Figure 1). The Project will include 2.09 acres of potential ground disturbance which is considered the current Project area of potential effect (APE). The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36CFR §800.16(d)). For this Project, we consider the APE as the area where the Project will cause ground disturbance or may potentially cause ground disturbance. Therefore, if a portion of an archaeologically sensitive area is not impacted by ground disturbing activities associated with the Project, it is not considered part of the APE.

The MBTA is proposing to conduct site remediation and wetland restoration at 0 Wharf Street. The Project Site is located at the north end of North Wharf Street and is approximately 6.17 acres in size. The Project Site is vacant, and no utilities currently service the Site. Additionally, there are currently no buildings or structures located on the Project Site (Photo 1 and 2).

The Project will include site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen. After the Project is completed, the property will be turned over to the City of Weymouth.

This letter presents the findings of a cultural resources due diligence review conducted to identify known archaeological sites and historic architectural properties within the vicinity of the Project. Properties were identified using the Massachusetts Historical Commission's (MHC) Inventory of the Historic and Archaeological Assets of the Commonwealth (MHC Inventory), MHC Town Reconnaissance Reports, local historical references, and the Massachusetts Cultural Resource Information System (MACRIS) database.

For the review of historic structures, National Register of Historic Places (NR), and State Register of Historic Places (SR) properties, TRC defined a study area that extends 0.5 miles surrounding the Project area (study area). Within this study area, the previously identified precontact archaeological and historical archaeological sites that are listed in the MHC Inventory, as well as all historic structures, areas/districts, buildings, burial grounds and objects listed in MACRIS and in the NR have been identified. The figures and a Project Notification Form are attached.

Environmental Setting

The Project is located along the eastern side of the Weymouth Black River, connected to the Weymouth Black River Marshes. The Project is located north of the railroad. The Natural Resources Conservation Service (NRCS) has mapped the soils in the Project as mostly 65 (55.9%), Ipswich mucky peat, 0 to 2% slopes, very frequently flooded, and 654 (31.6%) loamy Udorthents.

Results of the Cultural Resources Review

According to data available from MACRIS, six previously completed archaeological survey areas exist within 0.5 miles of the Project Site (Table 1), and one completed archaeological survey within the Project Site itself: the Monitoring for the Town Brook Culvert, Greenbush Line Restoration Project, Braintree, Cohasset, Hingham, Scituate, and Weymouth, MA (2686). Two known archaeological sites are recorded within 0.5 miles of the Project (Table 2), both of which are of unknown periods and undermined significance. No historic districts or structures are located within the Project.

A review of historic maps dating from 1876 to the present and historic aerial images dating from 1957 to the present showed that the Durante Site had buildings covering the majority of the area from 1957 to 1978 (Photo 3). The area has been cleared and lightly wooded from 1985 to present. (Photo 4; https://www.historicaerials.com). Historic USGS Topographic maps show the railroad located south of the Project is in place by 1885 and buildings within the Project from 1936 to 1947 (Figures 2 and 3). The 1876 Map of Norfolk County shows one building the Weymouth Company Nail Factory within the Project Site (Figure 2).

Table 1: Cultural Resource Management (CRM) Reports within 0.5 mile of the Project Area

Report No.	Project	Authors	Date
Within the Project Area			
2686	Archaeological Survey for Additional Work Areas and Monitoring for the Town Brook Culvert, Greenbush Line Restoration Project, Braintree, Cohasset, Hingham, Scituate, and Weymouth, MA	Medina, Anthony, Timothy Binzen, F. Timothy Barker, Jennifer Wendt, and Mitchell T. Mulholland	2006
Within 0.5 miles of the Project Area			
97	Phase I/Reconnaissance Cultural Resource Survey: WPC Project: Weymouth, MA	Ross, Steven	1977
2248	Archaeological Reconnaissance Survey for the Greenbush Line of the Old Colony Railroad Rehabilitation Project, Cohasset, Hingham, Hull, Scituate, Weymouth, MA	Boire, Kerrylynn, Suzanne G. Cherau, and William Begley	1994
2250	Additional Archaeological Reconnaissance and Intensive Surveys and Archaeological Site Examination of the Litchfield Site (HIN-HA-07), Woodside Site (19-NF-416), and Marshview Site (19-PL-823), Greenbush Line Rail Restoration Project, Braintree, Weymouth, Cohasset, Hingham, and Scituate, MA	Cherau, Suzanne G., and Patricia Fragola	2000
2354	Archaeological Reconnaissance, Greenbush Line Rail Restoration Project, 60 and 90 Percent Design Completion, Braintree, Weymouth, Cohasset, Hingham, and Scituate, MA.	Cherau, Suzanne	2004
3787	Results of a Phase I Archaeological Survey (Intensive Survey) for the Hull #1 and #2 23kV Sub-transmission	Mack, Karen E., and James Clark	2015

Table 1: Cultural Resource Management (CRM) Reports within 0.5 mile of the Project Area			
Report No.	**Project**	**Authors**	**Date**
	Line Clearance, Arm, Pole, Review and Refurbishment Project, Norfolk–Plymouth Counties, MA		

Table 2: Archaeological Sites within 0.5 mile of the Project Site				
Town	**Site Number**	**Site Name**	**Period(s)**	**Significance**
Weymouth	19-NF-092	Herring Run	Unknown	Undetermined
Weymouth	19-NF-110	Great Esker Park	Unknown	Undetermined

Summary

One previously completed CRM study covers the study area, and no archaeological sites or historic structures are identified within the study area. The study area is composed of hydric soils and udorthents. Two precontact period archaeological sites are located within 0.5 miles of the study area and no historic archaeological sites fall within 0.5 miles of the study area. Based on the area being composed primarily of udorthents and hydric soils and the history of disturbance, we conclude that the area has low sensitivity for intact archaeological resources.

Additional References

Natural Resources Conservation Service. 2025. http://websoilsurvey.sc.egov.usda.gov.

Sherman, W. A.
1876 *Atlas of Norfolk County, Massachusetts*, published by Comstock & Cline, New York.

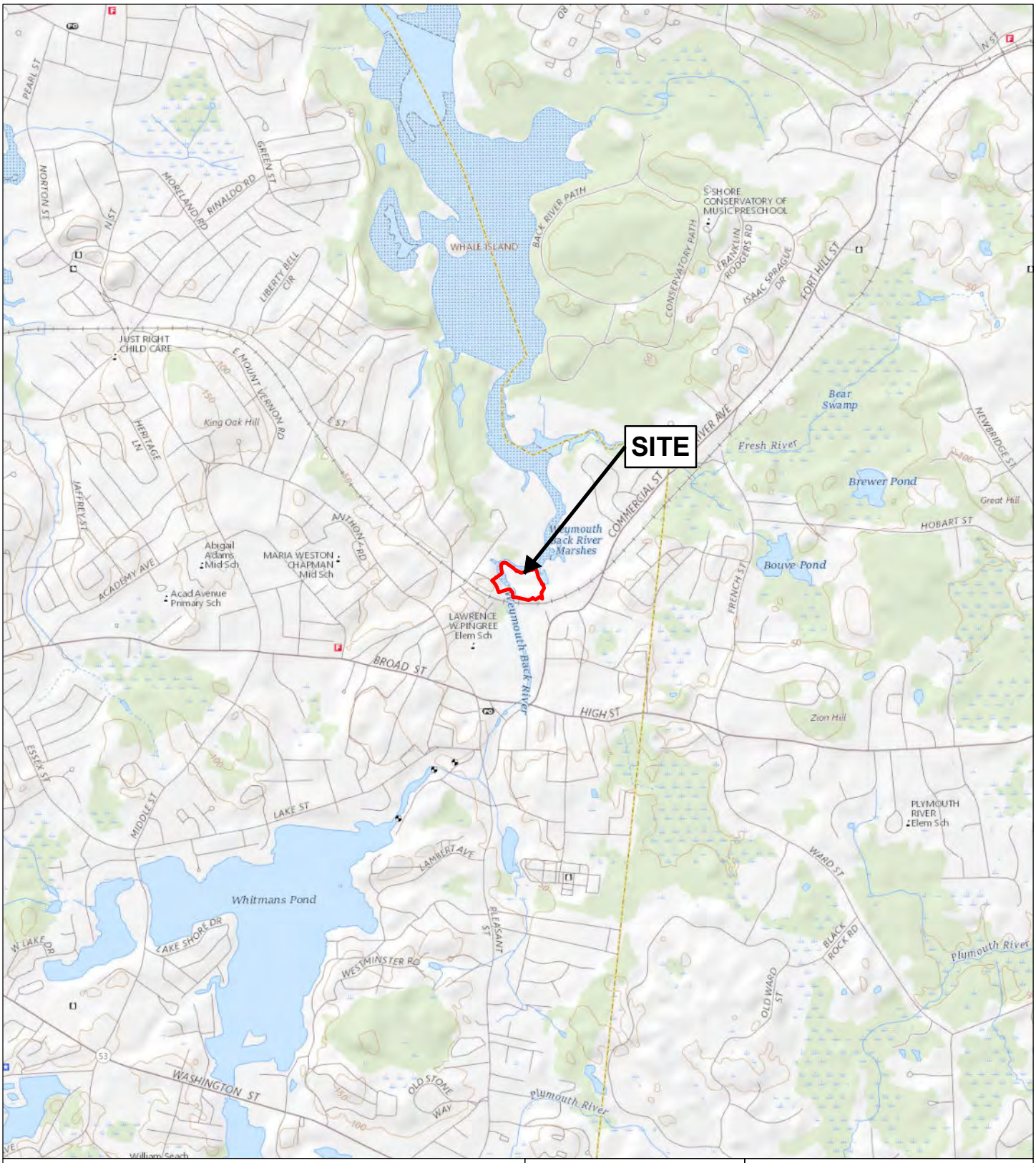
US Geologic Survey
1885 Abington MA Topographic Quadrangle.
1936 Weymouth MA Topographic Quadrangle.
1947 Weymouth MA Topographic Quadrangle.

We appreciate your review of the enclosed Project Notification Form. If you have any questions or would like any additional information, please feel free to contact me at (207) 461-9615 or ayoung@trcsolutions.com or N. Scott Buchanan at SBuchanan@trccompanies.com. We understand that if we do not receive a response from MHC within 30 days, the MHC has no concerns that historic properties will be impacted by the proposed Project.

Sincerely,

Abbie L. Young
Principal Archaeologist

N. Scott Buchanan
Senior Project Manager



Approximate Site Boundary

N

0 2,000 Feet

Massachusetts

Map Location

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

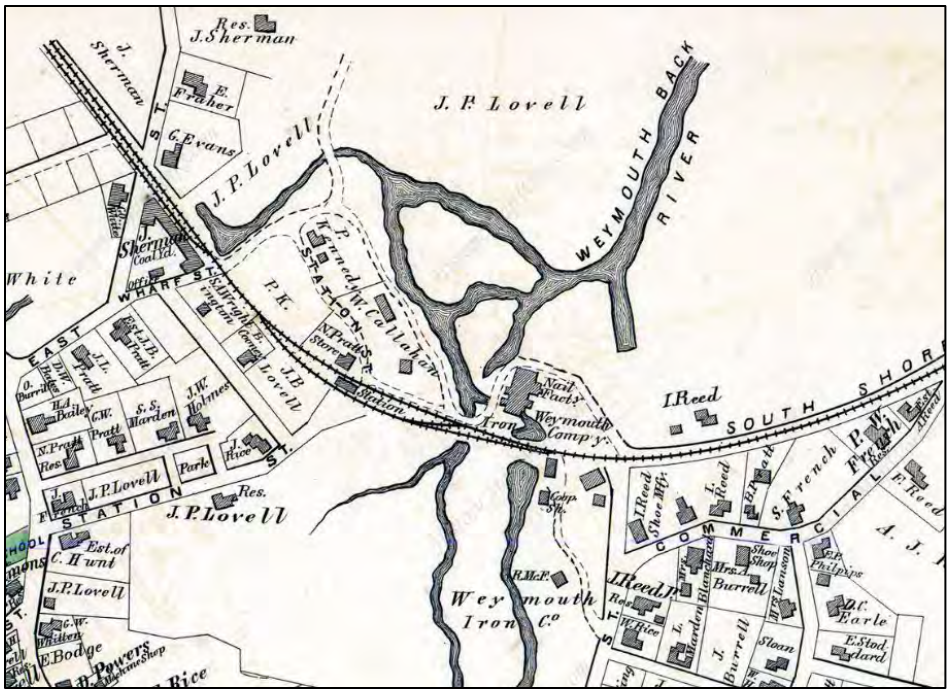
SITE LOCATION MAP
FORMER DURANTE PROPERTY
WHARF STREET NORTH

WEYMOUTH, MA

FIGURE 1 | JAN 2024

Base Map: USGS/The National Map

S:\1-PROJECTS\MBTA\FormerDurante\mxd\Fig1_Fmr Durante_weymouth_2019-05-30.mxd





MBTA **Durante Site Remediation and Wetland Restoration Project**	Figure 2. 1876 Map of Norfolk County, MA. Figure 3. 1947 USGS Topographic Quadrangle, Weymouth MA.
P.O. Box 1068 **Bath, Maine 04530**	





MBTA **Durante Site Remediation and Wetland Restoration Project**	Photo 1. Disturbance in Project site. Photo 2. Project site.
TRC **P.O. Box 1068** **Bath, Maine 04530**	



MBTA **Durante Site Remediation and Wetland Restoration Project**	Photo 3. 1957 historic aerial image.
TRC **P.O. Box 1068** **Bath, Maine 04530**	



MBTA **Durante Site Remediation and Wetland Restoration Project**	Photo 4. 1985 historic aerial image.
TRC **P.O. Box 1068** **Bath, Maine 04530**	

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH
APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Durante Site Remediation and Wetland Restoration Project

Location / Address: 0 Wharf Street

City / Town: Weymouth

Project Proponent Name: Massachusetts Bay Transportation Authority (MBTA), Bryan Cordeiro, Deputy Director of Environmental Review and Permitting

Address: 10 Park Plaza, Suite 5720

City/Town/Zip/Telephone: Boston, MA 02116, (617) 872-5648

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

Agency Name	Type of License or funding (specify)
Weymouth Conservation Commission	Notice of Intent
Massachusetts Environmental Policy Act (MEPA) Office	Expanded Environmental Notification Form (EENF) and Environmental Impact Report (EIR)
Massachusetts Department of Environmental Protection (MassDEP)	401 Individual Water Quality Certification, Chapter 91 License
Massachusetts Office of Coastal Zone Management (CZM)	Federal Consistency Review
MBTA	State Bond Funds
United States Army Corps of Engineers (USACE)	Section 404 Pre-Construction Notification (PCN)
US Environmental Protection Agency (EPA)	National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Dewatering and Remediation General Permit

Project Description (narrative):

The MBTA is proposing to conduct site remediation and wetland restoration at 0 Wharf Street in Weymouth, Massachusetts (the Project; the Project Site). The Project Site is located at the north end of North Wharf Street and is approximately 6.17 acres in size. The Project Site is vacant, and no utilities currently service the Site. Additionally, there are currently no buildings or structures located on the Project Site.

The Project will include Site cleanup activities (e.g. soil reuse and offsite disposal, and installation of an exposure barrier for residual contamination remaining in-place) and restoration of the wetland. The goal of the wetland restoration effort is to optimize the function of the wetland areas by removing invasive species and performing selective excavation/dredging to optimize surface water infiltration and connection between the open water areas and the river. By nature of the abatement, soil and sediment will be excavated to help achieve the remedy chosen. After the Project is completed, the Project Site will be turned over to the City of Weymouth.

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

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

Does the project include new construction? If so, describe (attach plans and elevations if necessary). No.

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify. No.

What is the total acreage of the project area?

Woodland 0 acres Productive Resources:

Wetland 0.92 acres Agriculture 0 acres

Floodplain 1.59 acres Forestry 0 acres

Open space 0.78 acres Mining/Extraction 0 acres

Developed 1.31 acres Water 0 Total Project Acreage 2.09

What is the acreage of the proposed new construction? 0 acres

What is the present land use of the project area? Undeveloped brook.

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

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

Signature of Person submitting this form: Bryan Cordeiro Date: 06/05/2025

Name: Bryan Cordeiro – MBTA
Address: 10 Park Plaza, Suite 5720
City/Town/Zip: Boston, MA 02116
Telephone: (617) 872-5648

REGULATORY AUTHORITY

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

June 5, 2025

David S. Robinson, Director
Board of Underwater Archaeological Resources
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Durante Site Remediation and Wetland Restoration Project, Town of Weymouth, Norfolk County, MA – Project Notification Form

Dear Mr. Robinson:

The Massachusetts Bay Transportation Authority (MBTA) is pleased to submit the enclosed Project Notification Form for the Durante Site Remediation and Wetland Restoration Project (the Project or Project Site). The Project is located at 0 Wharf Street in the town of Weymouth, Massachusetts. The location of the Project is shown on United States Geological Survey (USGS) topographical map (Figure 1). The Project will include 2.09 acres of potential ground disturbance which is considered the current Project area of potential effect (APE). The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36CFR §800.16(d)). For this Project, we consider the APE as the area where the Project will cause ground disturbance or may potentially cause ground disturbance. Therefore, if a portion of an archaeologically sensitive area is not impacted by ground disturbing activities associated with the Project, it is not considered part of the APE.

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Weymouth	19-NF-110	Great Esker Park	Unknown	Undetermined

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Additional References

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Sherman, W. A.
1876 *Atlas of Norfolk County, Massachusetts*, published by Comstock & Cline, New York.

US Geologic Survey
1885 Abington MA Topographic Quadrangle.
1936 Weymouth MA Topographic Quadrangle.
1947 Weymouth MA Topographic Quadrangle.

We appreciate your review of the enclosed Project Notification Form. If you have any questions or would like any additional information, please feel free to contact me at (207) 461-9615 or ayoung@trcsolutions.com or N. Scott Buchanan at SBuchanan@trccompanies.com. We understand that if we do not receive a response within 30 days, the BUAR has no concerns that historic properties will be impacted by the proposed Project.

Sincerely,

Abbie L. Young
Principal Archaeologist

N. Scott Buchanan
Senior Project Manager