Walk Bridge Replacement Project
Bridge No. 04288R, Norwalk Connecticut
State Project No. 0301-0176

Structures, Dredging & Fill, and Tidal Wetlands and 401 Water Quality Certificate Application
Permit No. 201909990-TWSDF

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Walk Bridge Replacement Project Bridge Number 04288R
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Part III: Project Information
(continued)
Question 1

1. Describe the proposed regulated work and activities in a detailed narrative, including the number and dimensions of structures. Refer to both the instructions and Appendix A of the instructions (Activity Specific Instructions).

In cooperation with the Federal Transit Administration (FTA), the Connecticut Department of Transportation (CTDOT) proposes to replace the New Haven Line Railroad Bridge (Walk Bridge, Bridge No. 04288R) crossing the Norwalk River in Norwalk, Connecticut. The existing Walk Bridge over the Norwalk River, constructed in 1896, is a four-track movable railroad bridge consisting of a 200-foot swing span, supported by a center pivot pier, and two fixed approach spans to the west of the swing span and one fixed approach span to the east of the swing span. The structure carries four tracks of Metro-North Railroad (MNR) commuter rail, Amtrak, and two freight carriers. The fixed spans consist of eight 15-feet deep Warren trusses, two per track; and the swing span consists of three planes of double intersection Warren trusses with stringers and floorbeams.

The project consists of the removal of the existing bridge, including the superstructure, substructure elements (abutments and piers), timber pier protection system, and deactivated electrical and railroad submarine cables; and construction of the replacement bridge. The four-span replacement bridge includes two side-by-side, 240-foot vertical lift spans across the Norwalk River, each with independently operated mechanical and electrical equipment. The pair of 240-foot vertical lift spans provides a horizontal clearance of approximately 220 feet between the pier-mounted fenders; however, the project does not alter the 170-foot federal navigation channel. The lift spans provide 60.73 feet vertical clearance above mean high water (MHW) when the span is fully raised, and 25.73 feet vertical clearance above MHW when the span is closed. There are two western approach spans and one eastern approach span. The approach spans are side-by-side, two-track structures; the north structure carries Tracks 1 and 3 and the south structure carries Tracks 2 and 4. Each structure is comprised of a precast concrete composite ballasted deck supported on four simply supported built-up welded plate girders. The lift spans are 40-foot deep through trusses, each with a double-intersection Warren truss configuration without verticals. Each lift span is an open-deck two-track structure made up of trusses with floor beams supporting track stringers. Tower structures at the end of the lift spans support the lifting mechanisms and counterweights for both lift spans. Short deck-girder spans through the towers at each end provide continuity from the approach spans to the movable spans.

The following provides a summary of the overall project construction approach, construction restrictions, construction methodology, existing bridge removal and disassembly, and channel dredging and earthwork.

Overall Construction Approach: A primary goal of the Walk Bridge design and construction is to minimize disruptions to rail and river traffic. As such, the lift span was designed and configured to allow for four-track service to continue well into the construction period and for the swing span to remain operational for boat traffic until the first of the two lift spans is ready to be installed. For most of the project duration, it is anticipated that the river will remain open to traffic by restricting construction activity to one existing channel and keeping the other channel open to marine traffic. There will be certain construction activities that will require either a vertical restriction or a complete channel closure. Coordination with the United States Coast Guard (USCG) Sector Long Island Sound and the Norwalk Harbormaster of channel restrictions and closures will be required for overall staging of barges and equipment during the following construction activities:

- removal of the existing pivot pier and rest piers;
- removal of the existing swing span;
- removal of the existing submarine cables;
- dredging of the navigation channel;
- installation of the south lift span;
- installation of the north lift span;
- installation and removal of the slide rail assemblies;
- Installation of the independent fender system to protect the control house;
- Installation of the pier-mounted fendering system.

Initial construction activities include installation of construction work platforms in the four quadrants of the bridge site, installation of mooring piles and temporary fender systems, and demolition of the existing control house. Cranes and other construction equipment placed on the temporary work platforms will be used to build the new lift span piers and lift span towers. The replacement bridge lift spans will be assembled at the Manresa Island Staging and Storage Yard (Parcel 5/86/1), located approximately 2 nautical miles south of the bridge, and transported upstream along the Norwalk River via barge to the bridge site where they will be prepared for final installation. A temporary slide rail system supported on the southwest and southeast construction work platforms will be used to install the south lift span into its final position. The north lift span will be floated into its final position on a barge.

The swing span will be operational for river traffic during the initial bridge construction activities. These activities include removal of the south half of the existing bridge approach spans, construction of the south half of the approach spans, and assembly of the south lift span. Upon assembly of the south lift span and reconstruction of the south portion of the west approach, east approach, approach spans, and overhead contact system (OCS) structures, the navigation channel will be closed. The existing swing span will be slid to the north and will be replaced by the first (south) lift span being slid in from the south via the slide rail system. The horizontal channel restriction will be lifted once the swing span and the swing span slide rails have been removed. The channel will be fully restored to navigation once the south lift span is made operational. Upon assembly of the north lift span and reconstruction of the north portion of the west approach, east approach, approach spans, and OCS the navigation channel will be closed. At this time, the north lift span will be floated under the new south lift span (in the raised position) for final installation. During this phase, the channel will be vertically restricted prior to the north lift span becoming fully

operational, but otherwise it will open for river traffic. The barges used for the installation of the pier-mounted fender system will encroach into the navigation channel but will not restrict river traffic.

Environmental Protection Measures: CTDOT has coordinated with the National Oceanic and Atmospheric Administration/National Marine Fisheries Service/Greater Atlantic Regional Fisheries Office (NOAA/NMFS/GARFO), CTDEEP Division of Wildlife, CTDEEP Division of Fisheries -Marine Fisheries Program, CTDEEP Natural Diversity Data Base (NDDB), Norwalk Shellfish Commission (NSC), and the U.S. Army Corps of Engineers (USACE) in developing environmental protection measures for the project (**Attachments C and M**). Through coordination with NOAA/NMFS/GARFO, CTDEEP Wildlife, CTDEEP Marine Fisheries, CTDEEP NDDB, NSC, and USACE, CTDOT has agreed to implement the following environmental protection measures:

***Time of Year Restrictions*:**

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset. (Per coordination with CTDEEP Marine Fisheries, shaft drilling and micro pile drilling conducted within a caisson and marine enclosure are not subject to this TOY.)
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. A soft start is defined as follows:
    - For impact pile driving: pile driving will commence with an initial set of three strikes by the hammer at 40% energy, followed by a one-minute wait period, then two subsequent three-strike sets at 40% energy, with one-minute waiting periods, before initiating continuous impact driving.
    - For vibratory pile installation: pile driving will be initiated for 15 seconds at reduced energy followed by a one-minute waiting period. This sequence of 15 seconds of reduced energy driving, one-minute waiting period will be repeated two additional times, followed immediately by pile-driving at full rate and energy.
- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.
- No construction and/or inspection activities which are within 400 feet of an identified peregrine falcon (*Falco peregrinus*) nest will be permitted during nesting season, between April 1st and July 31st.
- Use of the Manresa Island Staging and Storage Yard will be started before April 15th or after August 1st to allow for the nesting ospreys (*Pandion haliaetus*), to acclimate to this new activity within their nesting areas.
- Slow speeds along all access roads at Manresa Island will be enforced during the Northern diamondback terrapin (*Malaclemys t. terrapin*), active season from April 1st through October 31st.

Resource Protection Measures:

- Pile driving/extraction and drilled shaft and micropile drilling activities will be coordinated to ensure that the navigation channel is available for marine traffic and fish passage; activities will occupy less than 50% when working in the middle of the navigation channel.

- Barge movements will take place such that there will be no impact to the river bottom or increase in turbidity.
- Marine enclosures/temporary fenders will be installed prior to the start of certain construction activities as indicated in the response to **Question 2a** and shown in **Attachment I.** Marine enclosures are steel sheet pile structures that are not to be considered as being watertight. The sheeting allows low velocity flow between the enclosure and the outer tidal waters; the elevation of water inside the enclosure is isolated from tidal waters and therefore lags the tide. The marine enclosure will be installed so that the top of the enclosure is at, or above, Elevation 6.2 (NAVD88), one foot above the high tide line. Where needed, the marine enclosure will be protected from navigation impacts with a temporary fender system consisting of mooring piles and temporary floating fenders between the mooring piles. To further prevent siltation outside of the marine enclosure, a turbidity curtain will be deployed around its exterior perimeter.
- All pile driving and extraction (including sheet piles) activity will be enclosed within turbidity curtains.
- Type III Department of Transportation (DOT) heavyweight turbidity control curtains will be used (CTDOT Specification Item #0210306A, Turbidity Control Curtains). If needed, pin piles will be used to hold the turbidity curtains in place. Turbidity curtains will be installed prior to the start of the following activities:
    - Marine enclosure installation,
    - Pier construction (with marine enclosure),
    - Pier removal (with marine enclosure),
    - Existing submarine cable removal,
    - Slide rail installation and removal for swing span removal,
    - Control house independent fender system installation and existing fender removal,
    - Navigational/maintenance dredging,
    - Construction platform pile driving,
    - Pile installation and removal at the temporary vessel dock relocation site,
    - New dredging (with marine enclosure if outside the dredging work window) at the temporary vessel dock relocation site [waterward of 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33)] and at the permanent vessel dock location site [waterward of 4 North Water Street (Parcel 2/19/1)],
    - Bulkhead installation at 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33),
    - Sheet pile installation and outfall reconstruction at the IMAX,
    - IMAX Theater removal (with marine enclosure),
    - Wetland restoration.
- The marine enclosures and turbidity curtains will be installed and maintained by the contractor. Prior to removal of the marine enclosure following each activity, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed. The turbidity curtains will remain in place until that portion of the project is complete and the turbidity has settled to no more than pre-construction conditions.
- Water quality monitoring for turbidity, specific conductivity, salinity, dissolved oxygen, pH, temperature and water level (at one location) will be conducted during the duration of in-water construction activities, as further described in **Part III, Question 2c** (CTDOT Section 1.10 Environmental Compliance Number 14, included in **Attachment M6**).

Construction Methodology: Construction of the in-water portions of the project will be primarily completed with cranes and other equipment placed on construction work platforms in the four quadrants of the bridge site. Crawler-type cranes positioned on the work platforms will facilitate the following: removal of the existing approach superstructure; erection of new approach superstructure and substructure; installation of the pier-mounted fender system; and erection of new lift span foundations, towers, counterweights and bridge mechanical and electrical components. The cranes will be accompanied by material barges and a collection of helper boats and work shuttle vessels. The placement of the floating marine construction equipment will be such that either the east or west channel of the existing swing span will remain accessible for navigation prior to the installation of the first vertical lift span truss. (Refer to "Dredging and Earthwork" for a description of impacts to the existing channel during dredging operations). Once the first lift span truss is in service, barge placement will be predicated on accessing the existing substructure units during their removal while maintaining at least half of the channel for navigation.

Barges will also be used for the installation of the new vertical lift spans and the removal of the existing swing span. The new lift spans will be transported by barges from the Manresa Island Staging and Storage Yard for final placement at the Walk Bridge location. These activities are further described in **Part III, Question 2a.** CTDOT has prepared a Marine Use Plan in coordination with the USCG, to coordinate the use of construction barges with existing commercial and recreational traffic in the Norwalk River.

Existing Bridge Removal and Disassembly: Removal and disassembly of existing Walk Bridge includes the bridge superstructure and substructure. The existing bridge superstructure consists of the bridge approach spans, swing span, open deck track, control house, and seven overhead contact systems (OCS) structures (Structures 529A, 529B, 529C, 529D, 529E, 529F, and 529G). These elements will be removed in their entirety; details of their removal are described in **Part III, Question 2a, Sections 1.5, 2.3, 2.4, 3.5, and 9.3**. The existing bridge substructure consists of the east and west abutments, Pier 1 (east of North Water Street), Pier 2 (west swing span rest pier), the pivot pier, and Pier 3 (east swing span rest pier). The east and west abutments and Pier 1 are landward of the Coastal Jurisdiction Line (CJL); Piers 2 and 3 and the pivot pier are below the CJL. The piers in the river consist of stone masonry founded on timber piles and timber matting. The pier masonry and timber matting will be removed to the bottom of the timber mat, Elevation -20.0 (NAVD88). Pier 1 will be removed to approximately Elevation 4.0 to 6.0 (NAVD88), which is 2 feet below ground elevation, which varies between Elevation 6.0 and 8.0 (NAVD88). The existing bridge foundations in the river (Piers 2 and 3 and the pivot pier) will be removed to Elevation -14.98 (NAVD88), which is 1 foot below the authorized dredge Elevation of -13.98 (NAVD88), to accommodate an allowance for over-dredging.

Existing bridge part substructure and superstructure, as well as other components previously cited, will be loaded onto a barge and hauled off-site. Initially, the eastern construction work platforms will be used for initial loading of the material from the barges. The Manresa Island Staging and Storage Yard (Parcel 5/86/1) and the construction yard at the bridge site (1 Goldstein Place; Parcel 3/1/25) will be used for off-loading of materials from the construction barges. Additional potential off-site locations for material transfer are being considered along the Norwalk River.

Transmission towers (Structures 529 and 530) on the east and west sides of the bridge will be removed in their entirety, along with the overhead lines that cross the navigation channel. All open deck track on the

existing bridge will be removed with the structure. Three existing submarine cables will be deactivated and removed in their entirety; these include the cable providing electrical power and control to the existing swing span, a temporary railroad signal and communication cable installed as part of the CP-243 Interlocking Project (an advance construction project), and the signal express cable.

The existing timber fender protection system includes timber protection for Piers 2 and 3 and the pivot pier. At each pier, the protection system, including the timber piles, will be completely removed.

Dredging and Earthwork: The areas immediately north and south of the pivot pier and the surface around the piers will be dredged to the final channel depth to match the existing federal navigational channel as approved by the USACE. The dredging activity will include a crane with a clamshell bucket and/or excavator working from the crane barge and loading the material barge to one of the platforms for off-loading. During channel/maintenance dredging operations, the existing east channel will be closed, and with the exception of a partial restriction of the existing west channel for a period of time, the west channel will otherwise remain open during the dredging. Dredged material will be loaded onto a modified, contained barge and moved off-site, as further described in **Part III, Question 2a, Sections 2.6, 3.7; and Appendix A.** The construction yard at the bridge site (1 Goldstein Place; Parcel 3/1/25) will be used for material off-loading. Additional potential off-site locations for material transfer are being considered along the Norwalk River. Any sediment removed from the Norwalk River will be transported to the project waste stockpile area (WSA) for testing and disposal. The excavated material and dewatered wastewaters will be managed in accordance with the CTDEEP General Permit for the Discharge of Groundwater Remediation Wastewater (General Permit).

Drawing SUM-2 provides Walk Bridge Replacement Project summaries of temporary and permanent impacts to coastal resources and dredging volumes. **Appendix A** provides additional descriptions of specific activities required for the Walk Bridge Replacement Project regarding 1) dredging and disposal of dredged material and 2) shoreline erosion or stabilization structure. Construction activity details, including impacts, are described and quantified in response to **Question 2a**.

Walk Bridge Replacement Project Bridge Number 04288R
Norwalk CT
State Project Number 0301-0176

Part III: Project Information
Question 2
(continued from application form)

2a. Describe the construction activities involved for the project in detail, including methods, sequencing, equipment, and any alternative construction methods that might be employed.

The Walk Bridge Replacement Project will involve project construction and related activities at Sites 1 through 10, including compensatory wetland mitigation at Site 6 (consisting of multiple areas). Detailed permit plates are provided in **Attachment I**. Attachment I includes general plans showing existing conditions (EP), proposed conditions (PP), and details of project construction activities (CAs).

Figures 1 and 2 present the ten project sites. Sections 1 through 8 describe project construction and related activities at each site, referencing the permit plates and identifying time of year (TOY) restrictions applicable to each activity.

For each activity within a site, resource impacts are identified according to temporary impacts and permanent impacts. Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration. Resource impacts are shown for vegetated tidal wetlands, intertidal flats, the intertidal zone, and below the Coastal Jurisdiction Line (CJL). Intertidal zone impacts represent areas that are in the intertidal zone but are not defined as either a vegetated tidal wetland or intertidal flat. Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

The impacts reported in **Question 2a** are for each individual activity only; they are not additive and do not account for multiple activities occurring at the same location. In some instances, the same impacts are reported for two separate activities. For example, impacts reported for the submarine cable removal (CA-12), which is reported as a Site 1 activity (Section 1.7), a Site 2 activity (Section 2.2), and a Site 3 activity (Section 3.4), also are reported in dredging operations (CA-17) at Site 2 (Section 2.6) and Site 3 (Section 3.7). **Drawing SUM-2 in Attachment I** reports the aggregate of project impacts to resources by area (square footage) and volume (cubic yards). Impacts reported in **Drawing SUM-2** are additive and account for multiple activities occurring at the same location.

Section 9 describes project construction activities within the 100-year floodplain, including temporary and permanent impacts below the 100-year floodplain. The total for impacts below the 100-year floodplain also identifies impacts below the CJL elevation. **Drawing FP-1 in Attachment I** reports the impacts to the 100-year floodplain by volume (cubic yards), identifying the total fill, cut, and net volumes.

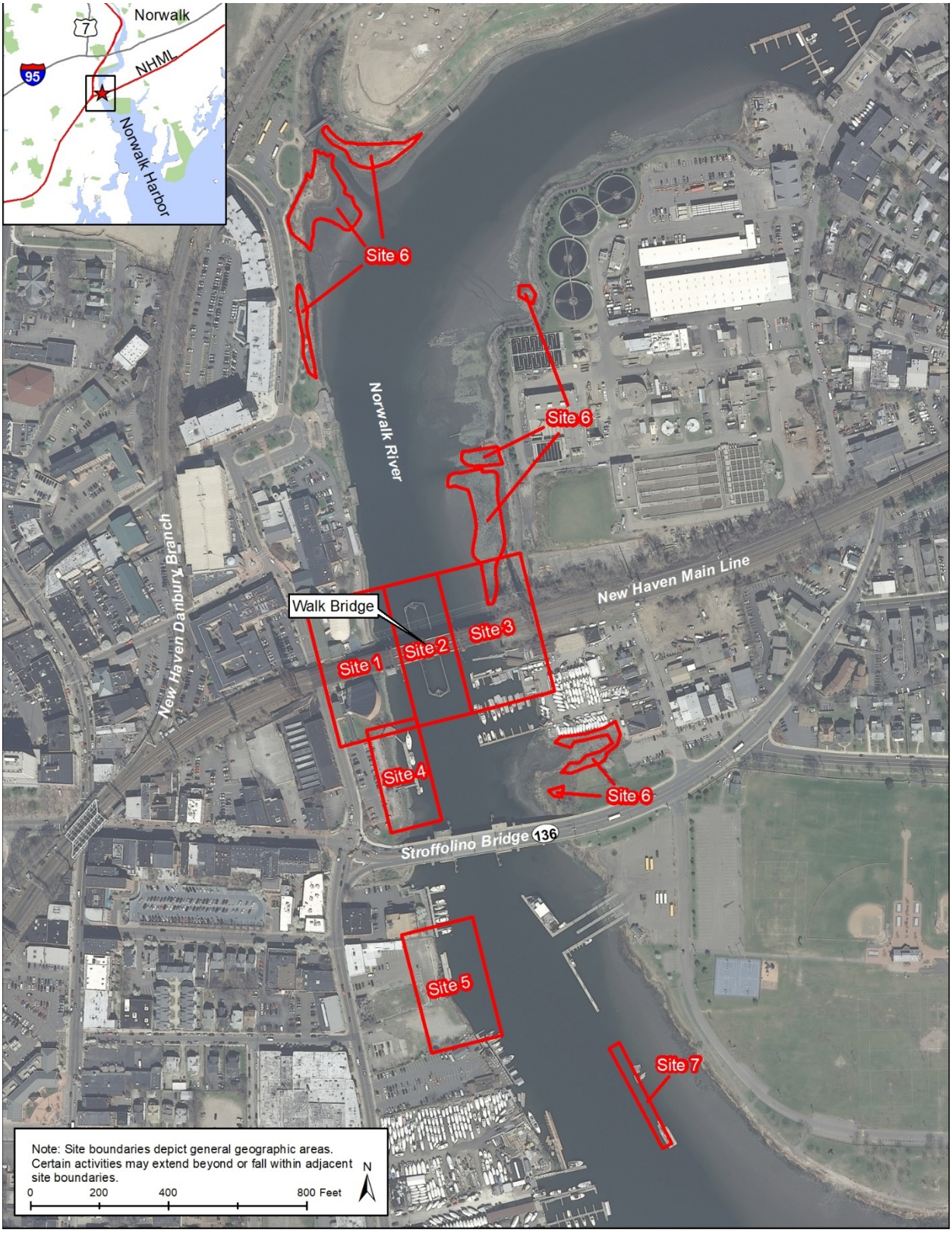

Figure 1 – Project Sites 1 through 7

Figure 2 – Project Sites 8 through 10

1. Site 1 Construction Activities - West of the Navigation Channel

Site 1 is at the bridge site west (outside) of the navigation channel (Figure 1). Site 1 includes two parcels at 10 North Water Street (Parcel 2/19/3, the Maritime Aquarium; and Parcel 2/19/2, the IMAX Theater), encompassing the 100-year floodplain and extending waterward to include the Mean Low Water (MLW), but landward of (outside) the navigation channel. Table 1 lists the eight construction activities (CAs) that will occur at Site 1.

Table 1 –Site 1 Construction Activities

Construction Activity	Description	Construction Activity (CA) # / Permit Plates
IMAX Removal	Removal of the existing IMAX Theater, site improvements for construction staging, and site restoration upon project completion. Also includes the realignment of the existing stormwater outfall.	CA1 / CA1-1 through CA1-7
Duct Bank Installation	Installation of the Metro-North Railroad (MNR) traction power and signal power, communication and signal, and bridge power and control cabling, crossing beneath the river via micro-tunneling. Also includes installation of the micro-tunneling pit for the receiving shaft on the west bank of the Norwalk River.	CA2 / CA2-1 through CA2-4
Northwest Trestle	Installation and removal of construction work platforms on the west side of the Norwalk River at the bridge site to be used for primary access to the bridge throughout construction.	CA5 / CA5-1 through CA5-5
Southwest Trestle		CA6 / CA6-1 through CA6-5
Pier 2 Construction	Construction of Pier 2 lift span tower foundation.	CA9 / CA9-1 through CA9-7
Existing Pier Removal	Removal of existing Pier 2 in the river after removal of the swing span, including removal of existing fender and excavation around the pier.	CA14 / CA14-4 through CA14-6, CA14-8
Pier 2 Fender System Installation	Installation of the fender system after removal of the existing fenders and rest Pier 2.	CA15 / CA15-1, CA15-3 through CA15-4
Existing Submarine Cable Removal	Removal of three existing submarine cables that will no longer be used upon completion of the replacement bridge.	CA12 / CA12-1, CA12-3, CA12-4

1.1 CONSTRUCTION ACTIVITY: IMAX Removal and Relocation of Stormwater Outfall

*Permit Plates***:** EP-4, PP-4, CA1, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Demolition of the IMAX Theater will be from land and the river and will require excavators, front-end loaders, and disposal trucks. The existing IMAX Theater is adjacent to the Norwalk River. Its easterly wall is on the riverbank bordering tidal wetlands and its removal will require containment. Before starting demolition activities, a turbidity curtain (all turbidity curtains will be Type III and conform to Item # 0210306A-Turbididty Control Curtains found in Attachment M 6) will be installed around the eastern edge, landward of mean low water (MLW). During low tides and as needed, the existing stone riprap will be adjusted in place along the bank to allow the installation of a sheet pile marine enclosure and temporary fender (marine enclosure/temporary fender) to contain the outer wall demolition. The marine enclosure will involve the installation of steel templates, steel sheet piles, and bracing, driven with a vibratory hammer. East wall demolition will follow the installation of this sheet pile containment and be scheduled to coincide with periods of low tide; at elevations other than low tide, the wall is below the water elevation. The entire structure foundation will then be removed, the stormwater outfall at the northern end of the parcel will be realigned to avoid conflict with the proposed bridge foundation, and the site will be graded to Elevation 8.0 (NAVD88). Following the duct bank installation (CA2) and southwest trestle construction (CA6), crane mats will be installed on the IMAX parcel at Elevation 9.0 (NAVD88) to facilitate construction staging.

Prior to the realignment of the existing stormwater outfall, a turbidity curtain and marine enclosure/ temporary fender will be installed. To install the marine enclosure, a vibratory hammer will be used to drive temporary sheet piles around the proposed outfall location in a U configuration from Elevation 0.0 (NAVD88) to Elevation 6.5 (NAVD88). Within the marine enclosure, steel wales and struts will be installed followed by the end wall and modified riprap. A 24-inch reinforced concrete pipe (RCP) and manhole will then be installed and backfilled, with a modified riprap apron installed for slope stabilization. The temporary sheeting will then be removed.

Activities to create permanent conditions at the IMAX site will begin following removal of the southwest work trestle (CA6). The crane mats and fill material will be removed to final elevation and grade. Riprap will be placed to match existing materials and the slope will be treated with fertilizer, seed and mulch for erosion control.

Table 2 – Resource Impacts: IMAX Removal and Relocation of Outfall

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	2,300	0	2,600	100

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

1.2 CONSTRUCTION ACTIVITY: Duct Bank Installation

Permit Plates: PP-4, CA2, SUM-3
Time of Year Restrictions: None

Metro-North Railroad (MNR) traction power and signal power, communication and signal, and bridge power and control cabling will be routed on the south side of the bridge. The cables for the north half of the bridge and the south half of the bridge will be separated into two pipes which will meet MNR's separation requirements for the north and south circuits. Each fully grouted high-density polyethylene (HDPE) pipe will be filled with an inner bundle of smaller, individual fusible polyvinyl chloride (PVC) pipes. The pipes making up the inner bundle will carry the various cables.

A slurry-type Micro-Tunnel Boring Machine (MTBM) will install the HDPE pipes through the medium to dense sand/gravel layer. The micro-tunnel will be approximately 5-feet in diameter and approximately 490 feet long, running entirely beneath the Norwalk River in which the top of the pipes will be placed no higher than 13-feet below the authorized dredge elevation. There will be a pit constructed on each side of the channel (launching shaft and receiving shaft) excavated down to the level of the crossing pipe. The pits will be located landward of the CJL but within the 100-year floodplain. They will be dewatered and will contain the MTBM during the boring operation. The excavated material and dewatered wastewaters discharged to surface water will be managed in accordance with the CTDEEP General Permit for the Discharge of Groundwater Remediation Wastewater (General Permit). The duct bank installation will not impact existing resources below the CJL.

1.3 CONSTRUCTION ACTIVITY: Installation and Removal of Northwest and Southwest Trestles (Construction Work Platforms)

*Permit Plates***:** CA5, CA6, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1.**

To facilitate access to the bridge site and support construction of Pier 2 and other construction operations, while presenting the least impact to rail or marine traffic, two construction work platforms, one north and one south of the bridge, will be constructed on the west side of the river and completely outside the limits of the navigation channel. The platforms will consist of pipe piles driven to bearing on rock and capped with steel beams and timber decking. The top decks of the work platforms are anticipated to be at Elevation 10.5 (NAVD88). The structural depth of the work platforms will be approximately 7 feet. For Pier 2 lift span installation (CA9), the temporary slide rail system will be incorporated into the southwest construction work platform. A temporary fender system and navigational lighting will be installed at each platform. Equipment will include cranes, excavators, vibratory and impact hammers, manlifts, push/work boats, and various barges. Prior to work start, turbidity curtains will be installed around the work area. The pile driving activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

When construction of the replacement bridge is complete, the platform decks, bulkheads, and materials will be removed using similar construction means and methods as required for installation. The turbidity curtains will be removed once the river bottom is no longer being impacted. The impacted shoreline will be restored to preconstruction conditions. Platforms will remain in place for the duration of construction and then removed. While the platforms will be in Site 1 and outside the navigation channel, at times, material barges used for their construction and removal will be situated in the existing west navigation channel (Site 2).

Table 3 – Resource Impacts: Installation and Removal of Northwest and Southwest Trestles (Construction Work Platforms)

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	2,200	0	200	400

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

1.4 CONSTRUCTION ACTIVITY: Pier 2 Construction

Permit Plates: PP-4, CA9, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Pier 2 construction will require the west channel to be closed at times to navigation. Prior to work start, a marine enclosure/temporary fender and turbidity curtain will be installed around the work area. Equipment will include cranes, hydraulic oscillator, sedimentation tanks, backhoe, and excavator. The pile driving and drilled shaft and micropile drilling activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

Pier 2 will be supported by four drilled shafts and two micropile clusters constructed within marine enclosures. The Pier 2 foundations will be constructed in the tidal zone between low and high tide elevations. The four drilled shafts are each 12 feet in diameter and consist of a minimum 1-inch thick permanent steel round casing that extends from above the high-water line at the top to a bottom seated and sealed into rock at the bottom. The casing is seated a few feet into rock and has a watertight seal keeping the water inside the casing separate from any outside water. This is a crucial step in being able to maintain a head of water higher inside the casing than outside. Since the drilled shaft casing is sealed into bedrock, the water within the drilled shaft rock socket and casing will be separate and independent of any river water. Water will be pumped in and out of the drilled shaft in a closed system that facilitates removal of drill cuttings. The fluid in the closed system will be contained and disposed of properly in compliance with requirements of the CTDEEP General Permit. After drilling of the rock socket, the shaft is cleaned by circulating clean water to remove the debris on the bottom and the suspended solids in the fluid contained in the sealed casing. A reinforcing cage is assembled and lowered to the bottom of the shaft. A watertight tremie pipe is inserted to the bottom of the shaft and concrete is continuously placed from the bottom while displacing water to the top. The water is pumped out of the drilled shaft casing and returned to the holding tanks.

At the two micropile cluster locations, a 10-foot diameter steel casing will be installed within the marine enclosure, with the casing extending from Elevation -7.0 (NAVD88) to the bottom of the lift span pier. Inside the steel casing, ten 13-inch diameter micropiles will be installed using a low-headroom micropile rig. Micropile installation will include steel casing installation, drilling into rock, and placement of reinforcing steel and cementitious grout. Once the ten micropiles have been installed, the area within the 10-foot diameter casing will be filled with reinforcing steel and concrete to the top of the casing.

The four drilled shafts and two micropile clusters comprising the Pier 2 foundation will be surrounded by a sheet pile marine enclosure/temporary fender during installation. Each steel sheet is interlocked with the adjacent sheet and forms an almost watertight barrier. Water levels within the marine enclosure will lag the rising and falling tidal water in the river, producing a minor flow, or seepage, through the walls of the enclosure. This seepage will transmit little to no sediment and will not create a turbid condition. As added protection to the drilled shaft casing and marine enclosure, a turbidity curtain will surround all sides of the enclosure and rise and fall with the outside water levels.

Once the group of Pier 2 foundation elements within the marine enclosure is complete, there may be excavation within the marine enclosure to construct the concrete caps which span between the tops of the drilled shafts and micropile clusters. Prior to removal of the marine enclosure, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed. Any excavation within the marine enclosure will be backfilled with organic/backfill material to the original ground surfaces.

Prior to installing the drilled shafts at the south side of Pier 2, demolition of the existing control house will be required. Activities will begin by relocating swing span controls to the motor control center at the swing

span, followed by removal of all furnishings and equipment from the existing control house. Debris shields will be used to catch and contain debris from control house removal. Working from the IMAX pad/southwest work platform, the control house will be detached and removed from the existing truss supporting Track 4.

Table 4 – Resource Impacts: Pier 2 Construction

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	700	0	4,200	3,900

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

1.5 CONSTRUCTION ACTIVITY: Existing Pier 2 - Pier and Fender Removal

Permit Plates: EP-9, CA14, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Prior to pier removal, a marine enclosure and turbidity curtain will be installed around the work area.[1] Existing Pier 2 and its timber mat will be removed to an elevation no higher than the authorized over dredge limit. Pier removal work is anticipated to be performed using an excavator with a thumb; hydraulic breakers (e.g., jackhammers and hoe rams) will not be used below the high tide line (HTL). Prior to removal of the marine enclosure, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside the turbidity curtain, then the marine enclosure can be removed. Removal of Pier 2 will be conducted so that one channel remains open to marine traffic.

Once the blocks and rubble stone are dismantled from Pier 2, they will be loaded onto a barge and hauled off-site. Initially, the eastern construction work platforms will be used for loading of the material from the barges. The Manresa Island Staging and Storage Yard (Parcel 5/86/1) and the construction yard at the bridge site (1 Goldstein Place; Parcel 3/1/25) will be used for off-loading of materials from the construction barges. Additional potential off-site locations for material transfer are being considered along the Norwalk River.

[1] Because the marine enclosure is behind the existing fender system, installation of a separate temporary fender system with the marine enclosure is not required.

Prior to fender removal, a turbidity curtain will be installed around the work area. The fender system around existing Pier 2 consists of vertical piles and walers (horizontal members). It will be removed via a crane or an excavator situated on a crane barge stabilized by spuds. The walers extend below the waterline, depending on the tide. The walers will be cut into sections with a chainsaw, removed, and loaded on a material barge. A debris shield will be deployed below the cuts to help prevent wood chips and saw dust from entering the water. The timber piles will be fully removed with an excavator and/or crane using a vibratory pile extractor. The pile extraction activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

Removal of existing Pier 2 and fender will involve pile driving and removal, and pier demolition and removal using cranes, excavators, vibratory and impact hammers, clamshell and digging buckets, push/work boats, and various barges. When demolition is complete, and the pier has been removed, the marine enclosure will be removed using similar construction means and methods as required for installation.

Table 5 – Resource Impacts: Existing Pier 2 - Pier and Fender Removal

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	2,200

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.
Impacts shown for this activity are also reported in CA-17 (Dredging)

1.6 CONSTRUCTION ACTIVITY: Pier 2 Fender Installation

Permit Plates: PP-4, CA15, SUM-3
Time of Year Restrictions:

- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.

The permanent fender for Pier 2 will be a pier-mounted fendering system. A Super Cone/panel unit fender system, which provides a high energy absorption capacity, will be installed to the Pier 2 pile cap with grouting/concrete. The bottom of the pier-mounted fenders will be located underwater and may require underwater drilling into concrete to secure the fender system to the pier. Equipment will include a work barge with a crane, man-lift, compressor, and hand tools. Installation of the pier-mounted fendering system at Pier 2 will not impact existing resources.

1.7 CONSTRUCTION ACTIVITY: Submarine Cable Removals

Permit Plates: PP-4, CA12, SUM-3
Time of Year Restrictions:

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.

Three existing submarine cables will be deactivated and removed in their entirety; these include the cable providing electrical power and control to the existing swing span, a temporary railroad signal and communication cable installed as part of the CP-243 Interlocking Project, and the signal express cable. The removal of the existing submarine cables will be completed by hoisting the cables through the existing soil layers using a crane or an excavator. If this method is not successful for fully removing one or more of the cables, then a trench for the cable will be dredged, working during the winter excavation window (December and January) using a crane on a crane barge, excavating with a clamshell bucket and loading the material barge. The material barge will be contained; it will be modified to include side boards and containment fabric as a holding area. This work will be completed within a turbidity curtain. Dredging will only continue until enough soil is removed to allow pulling the cables. The excavated sediment along the submarine cable routes will be loaded onto the material barge, transported to the WSA, tested and disposed at an off-site location per the specifications and permits.[2]

The construction yard at the bridge site will be used for off-loading of dredged material. Additional potential off-site locations for material transfer are being considered along the Norwalk River. The remaining trenches will then be backfilled with soils of similar structural and organic characteristics as the material removed. During removal of the submarine cables, work will progress from one channel to another, with one channel remaining open for marine traffic. The removal of the submarine cables extends into Sites 1, 2, and 3; Table 6 identifies resource impacts to Site 1 only.

Table 6 – Resource Impacts: Submarine Cable Removals (Site 1)

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	200	0	600	4,600

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.
Impacts shown for this activity are also reported in CA-17 (Dredging).

2. Site 2 Construction Activities - Navigation Channel

Site 2 is at the bridge within the navigation channel (Figure 1). Site 2 resources include the 100-year floodplain and subtidal area. Table 79 lists the six construction activities that will occur at Site 2.

[2] Per CTDOT Office of Environmental Compliance (OEC), sediment removed from the site will not be reused.

Table 7 – Site 2 Construction Activities

Construction Activity	Description	Construction Activity (CA) # / Permit Plates
Duct Bank Installation	Installation of the MNR traction power and signal power, communication and signal, and bridge power and control cabling, crossing beneath the river via micro-tunneling.	CA2/ CA2-2 through CA2-4
Existing Submarine Cable Removal	Removal of three existing submarine cables that will no longer be used upon completion of the replacement bridge.	CA12/CA12-1 through CA12-4
Existing Swing Span Removal	Installation of the slide rail system, and removal and disassembly of the existing swing span.	CA13/CA13-1 through CA13-7
Existing Pier Removal	Removal of the existing pivot pier in the river after removal of the swing span, including removal of existing fender and excavation around the pier.	CA14/CA14-1 through CA14-3, CA14-7
Dredging Operations	Maintenance dredging at the bridge site to match the existing federal navigation channel depths, including removal of existing fender system and installation of temporary fender system at the pivot pier.	CA17/CA17-1 through CA17-3, CA17-6
Lift Span Installation	Slide-in and float-in operations for installation of the proposed lift spans.	CA18/CA18-1 through CA18-6

2.1 CONSTRUCTION ACTIVITY: Duct Bank Installation

Permit Plates: PP-4, CA2, SUM-3
Time of Year Restrictions: None

The installation of the MNR traction power and signal power, communication and signal, and bridge power and control cabling cables is described in Section 1.2. This activity extends into Sites 1, 2 and 3. As previously cited, the duct bank installation will not impact existing resources below the CJL.

2.2 CONSTRUCTION ACTIVITY: Submarine Cable Removals

Permit Plates: EP-4, PP-4, CA12, SUM-3
Time of Year Restrictions:

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.

Removal of the three existing submarine cables is described in Section 1.7. These activities extend to include Sites 1, 2, and 3; Table 8 identifies resource impacts to Site 2 only.

Table 8 – Resource Impacts: Submarine Cable Removals (Site 2)

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	16,500

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.
Impacts shown for this activity are also reported in CA-17 (Dredging).

2.3 CONSTRUCTION ACTIVITY: Swing Span Removal

Permit Plates: EP-4, CA13, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles), activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Prior to work start, a turbidity curtain will be placed around the work area. Removal of the swing span will require a full navigation channel closure and vertical and horizontal channel restriction and will be coordinated with the installation of the lift spans and other construction activities. Equipment for the removal of the swing span will include an excavator, hydraulic sheer, crane, loader, and barges. Equipment for the installation of the slide rail system will include a crane, vibratory and impact hammers, and barges.

Removal of the existing swing span will be conducted using a slide rail system that will require the swing span to be in the open position at times for installation of certain piles. The slide rail system will be supported by piles in the navigation channel. Barges will be positioned beneath the existing swing span in the navigation channel on both sides of the pivot pier for working and catching demolition debris. The existing swing span will be raised from its existing supports at the pivot pier and will be moved to the north along the slide rail system. Before sliding the existing swing span to the north, the steel end sections of the approach span will be removed and loaded on the northeast and northwest platforms for later disposal via truck. Once the swing span is supported on the slide rails north of the bridge, the east and west ends will be disassembled. Smaller structural components will be removed with an excavator and hydraulic sheer; larger sections will be detached with a crane. Debris will be loaded onto the northeast and northwest work platforms. The remaining center portion of the swing span will be floated upstream on a barge where it will be transported off-site for disposal.

The eastern construction work platforms will be used for initial loading of existing bridge components from the barges. The Manresa Island Staging and Storage Yard and the construction yard at the bridge site will

be used for off-loading of materials from the construction barges. Additional potential off-site locations for material transfer are being considered along the Norwalk River.

Table 9 – Resource Impacts: Swing Span Removal

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	200
Permanent	0	0	0	0

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

2.4 CONSTRUCTION ACTIVITY: Pivot Pier Removal

Permit Plates: EP-4, CA14, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Prior to work start, a marine enclosure/temporary fender, and turbidity curtain and will be installed around the pivot pier. Removal of the pivot pier will involve pile driving and removal, and pier demolition and removal using cranes, excavators, vibratory and impact hammers, clamshell and digging buckets, push/work boats, and various barges. When demolition is complete, and the pier has been removed, the marine enclosure will be removed using similar construction means and methods as required for installation.

The existing pivot pier and timber mat will be removed to an elevation no higher than the authorized over dredge limit. Pier removal work is anticipated to be performed using an excavator with a thumb; hydraulic breakers (e.g., jackhammers and hoe rams) will not be used below HTL. Prior to removal of the marine enclosure, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed.

Following excavation, the area will be backfilled with organic/backfill material to the authorized dredge elevation [Elevation -14.98 (NAVD88)]. Demolition and removal of the pivot pier will involve an excavator working from a crane barge, accompanied by a material barge outfitted with a corral for containing the stone and concrete demolition debris.

Once the blocks and rubble stone are dismantled from the pivot pier, they will be loaded onto a barge and hauled off-site. Initially, the eastern construction work platforms will be used for loading of the material from the barges. The Manresa Island Staging and Storage Yard (Parcel 5/86/1) and the construction yard at the bridge site (1 Goldstein Place; Parcel 3/1/25) will be used for off-loading of materials from the construction barges. Additional potential off-site locations for material transfer are being considered along the Norwalk River.

Table 10 – Resource Impacts: Pivot Pier Removal

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	100
Permanent	0	0	0	6,100

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.
Impacts shown for this activity are also reported in CA-17 (Dredging)

2.5 CONSTRUCTION ACTIVITY: Removal of Existing Fender and Installation of Temporary Fender at Pivot Pier

Permit Plates: EP-4, CA14, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Prior to work start, a turbidity curtain will be installed around the work area. The fender around the existing pivot pier consists of vertical piles and walers and will be removed via a crane or an excavator situated on a crane barge stabilized by spuds. The fender system walers extend below the waterline, depending on the tide. The walers will be cut into sections with a chainsaw, removed, and loaded on a material barge. A debris shield will be deployed below the cuts to help prevent wood chips and saw dust from entering the water. The timber piles will be completely removed with an excavator and/or crane using a vibratory pile extractor. The pile extraction activities will be coordinated to ensure they occupy only 50 percent of the navigation channel at a time. Following total removal of the existing fender system, a temporary fender system will be installed around the existing pivot pier, consisting of floating bumpers secured to the center pier using chains and mounting plates at the pier. The temporary fender system will be installed using a crane and a work barge.

Table 11 – Resource Impacts: Removal of Existing Fender and Installation of Temporary Fender at Pivot Pier

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	500

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

2.6 CONSTRUCTION ACTIVITY: Channel (Maintenance) Dredging

Permit Plates: CA17, SUM-3
Time of Year Restrictions:

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

The areas immediately north and south of the pivot pier will be dredged using a crane on a spudded crane barge, excavating with a clamshell bucket, and loading onto material barges. The material barges will be contained; they will be modified to include side boards and containment fabric as a holding area. Sediment spoils will be dewatered/decanted on barges or work platforms and the dewatered wastewater will be treated as necessary prior to being discharged back into the river. When the barge is fully loaded it will be moved off-site, where it will be off-loaded with an onshore crane or excavator. The construction yard at the bridge site will be used for off-loading of dredged material. Additional potential off-site locations for material transfer are being considered along the Norwalk River. The excavated material and dewatered wastewater will be managed per CTDEEP General Permit guidelines, including placement into watertight trucks for shipping to the CTDOT-designated waste stockpile area (WSA). The work will be scheduled so that one existing channel will remain open to navigation. Channel dredging primarily occurs within Sites 2 and 3; Table 12 identifies resource impacts in Site 2 only.

Table 12 – Resource Impacts: Channel Dredging (Site 2)

Impact	Removal		Fill (cy)	Net (cy)
	(sf)	(cy)		
Maintenance Dredging	40,800	4,210	0	4,210

Impacts shown for this activity are also reported in CA2, CA12, and CA14

2.7 CONSTRUCTION ACTIVITY: Lift Span Installations

Permit Plates: CA18, PP-4, SUM-3
Time of Year Restrictions: None

The lift span installations will require a full navigation channel closure and channel restrictions. This activity will be coordinated with removal of the existing swing span and other construction activities. The south lift span will be supported by a slide rail system which is built in place on the southwest and southeast construction work platforms. The north lift span will be floated into place.

The new lift spans will be fully assembled, one at a time, at the Manresa Island Staging and Storage Yard and transported by barge to the Walk Bridge location for their final installation. Once the existing swing span has been moved to the north (described in Section 2.3), it will be replaced by the first (south) lift span being slid in from the south. Once the south lift span is in place, the channel will reopen to river traffic with a vertical restriction of 25 feet until the span can be operated. The second, north lift span will then be floated under the new south lift for float-in installation from the north. During this phase, the channel may be vertically restricted for a brief period prior to the north lift span becoming fully operational, but otherwise it will open for river traffic. The installation of the lift spans will not impact existing resources.

3. Site 3 Construction Activities – East of the Navigation Channel

Site 3 is at the bridge site east of the navigation channel (Figure 1). Site 3 includes two parcels at 21 Goldstein Place (Parcel 3/2/6) and 11 Goldstein Place (Parcel 3/1/15), both of which are designated for construction staging. From the east, Site 3 encompasses the 100-year floodplain and extends waterward to include the Mean Low Water (MLW), but landward of (outside) the navigation channel. Table 13 lists the eight construction activities that will occur at Site 3.

Table 13 –Site 3 Construction Activities

Construction Activity	Description	Construction Activity (CA) # / Permit Plates
Site 3		
Duct Bank Installation	Installation of the MNR traction power and signal power, communication and signal, and bridge power and control cabling, crossing beneath the river via micro-tunneling. Also includes installation of micro-tunneling pit for the launching shaft on the east bank of the Norwalk River.	CA2/ CA2-1 through CA2-4
Northeast Trestle	Installation and removal of work platforms on the east side of the river at the bridge site to be used for primary access to the bridge throughout construction.	CA7/CA7-1 through CA7-6
Southeast Trestle		CA8/CA8-1 through CA8-5
Pier 3 Construction	Construction of Pier 3 lift span tower foundation.	CA10 /

Construction Activity	Description	Construction Activity (CA) # / Permit Plates
		CA10-1 through CA10-7
Existing Submarine Cable Removal	Removal of three existing submarine cables that will no longer be used upon completion of the replacement bridge – east bank of the river.	CA12 / CA12-2, CA12-4
Existing Pier Removal	Removal of existing Pier 3 in the river after removal of the swing span, including removal of existing fender and excavation around the pier.	CA14/ CA14-4 through CA14-6, CA14-8
Pier 3 Fender System Installation	Installation of the fender system after removal of the existing fenders.	CA15/CA15-1 through CA15-6
Dredging Operations	Maintenance dredging at the bridge site to match the existing federal navigation channel depths.	CA17/CA17-2, CA17-3, CA17-6

3.1 CONSTRUCTION ACTIVITY: Duct Bank Installation

Permit Plates: PP-4, CA2, SUM-3
Time of Year Restrictions: None

The installation of the MNR traction power cables and communication and signal cables and the bridge power and controls cables is described in Section 1.2. This activity extends to include Sites 1, 2 and 3. As previously cited, the duct bank installation will not impact existing resources below the CJL.

3.2 CONSTRUCTION ACTIVITY: Installation and Removal of Northeast and Southeast Trestles (Construction Work Platforms)

Permit Plates: CA7, CA8, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

To facilitate access to the bridge site and support construction of Pier 3 and other construction operations, while minimizing impacts to rail or marine traffic, two construction work platforms, one north and one south of the bridge, will be constructed on the east side of the river. The platforms will consist of pipe piles driven to bearing on rock and capped with steel beams and timber decking. The top decks of the work

platforms are anticipated to be at Elevation 10.5 (NAVD88). The structural depth of the work platforms will be approximately 7 feet. Prior to work start, a marine enclosure/temporary fender and turbidity curtain will be installed around each work area. For Pier 3 lift span installation (CA10), the temporary slide rail system will be incorporated into the southeast construction work platform. A temporary fender system and navigational lighting will be installed at each platform. Equipment will include cranes, excavators, vibratory and impact hammers, manlifts, push/work boats, and various barges. The pile driving activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

When construction of the replacement bridge is complete, the platform decks, bulkheads, and materials will be removed using similar construction means and methods as required for installation. The turbidity curtains will be removed once the river bottom is no longer being impacted. The impacted shoreline will be restored to preconstruction conditions. Platforms will remain in place for the duration of project construction. While the platforms will be in Site 3 and outside the navigation channel, at times, material barges used for their construction will be situated in the existing east navigation channel (Site 2).

Table 14 – Resource Impacts: Installation and Removal of Northeast and Southeast Trestles (Construction Work Platforms)

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	2,500	100	700	800

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

3.3 CONSTRUCTION ACTIVITY: Pier 3 Construction

Permit Plates: PP-4, CA10, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Pier 3 construction will require the east channel to be closed at times to navigation. Prior to work start, a marine enclosure/temporary fender within a turbidity curtain will be installed. Equipment will include cranes, hydraulic oscillator, sedimentation tanks, backhoe, and excavator. The pile driving and drilled shaft and micropile drilling activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

Pier 3 will be supported by four drilled shafts and two micropile clusters constructed within marine enclosures. The Pier 3 foundations will be constructed in the tidal zone between low and high tide elevations. The four drilled shafts are each 12 feet in diameter and consist of a minimum 1-inch thick permanent steel casing that extends from above the high-water line at the top to a seated and sealed into rock at the bottom. The casing is seated a few feet into rock and has a watertight seal keeping the water inside the casing separate from any outside water. This is a crucial step in being able to maintain a head of water higher inside the casing than outside. Since the drilled shaft casing is sealed into bedrock, the water within the drilled shaft rock socket and casing will be separate and independent of any river water. Water will be pumped in and out of the drilled shaft in a closed system that facilitates removal of drill cuttings. The fluid in the closed system will be contained and disposed of properly in compliance with CTDEEP General Permit requirements. After drilling of the rock socket, the shaft is cleaned by circulating clean water to remove the debris on the bottom and the suspended solids in the fluid contained in the sealed casing. A reinforcing cage is assembled and lowered to the bottom of the shaft. A watertight tremie pipe is inserted to the bottom of the shaft and concrete is continuously placed from the bottom while displacing water to the top. The water is pumped out of the drilled shaft casing and returned to the holding tanks.

At the two micropile cluster locations, a 10-foot diameter steel casing will be installed within the marine enclosure, with the casing extending from Elevation -7.0 (NAVD88) to the bottom of the lift span pier. Inside the steel casing, ten 13-inch diameter micropiles will be installed using a low-headroom micropile rig. Micropile installation will include steel casing installation, drilling into rock, and placement of reinforcing steel and cementitious grout. Once the ten micropiles have been installed, the area within the 10-foot diameter casing will be filled with reinforcing steel and concrete to the top of the casing.

The four drilled shafts and two micropile clusters comprising the Pier 3 foundation are surrounded by a sheet pile marine enclosure during installation. Each steel sheet is interlocked with the adjacent sheet and forms an almost watertight barrier. Water levels within the marine enclosure will lag the rising and falling tidal water in the river, producing a minor flow, or seepage, through the walls of the enclosure. This seepage will transmit little to no sediment and will not create a turbid condition. As added protection to the drilled shaft casing and marine enclosure, a turbidity curtain will surround all sides of the enclosure and rise and fall with the outside water levels.

Once the group of Pier 3 foundation elements within the marine enclosure is complete, there may be excavation within the marine enclosure to construct the concrete caps which span the tops of the drilled shafts and micropile clusters. Prior to removal of the marine enclosure, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed. Any excavation within the marine enclosure will be backfilled with organic/backfill material to the original ground surfaces.

Table 15 – Resource Impacts: Pier 3 Construction

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	7,600	7,700

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.
Impacts shown for this activity are also reported in CA-17 (Dredging)

3.4 CONSTRUCTION ACTIVITY: Submarine Cable Removals

Permit Plates: EP-4, PP-4, CA12, SUM-3
Time of Year Restrictions:

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.

Removal of the three existing submarine cables is described in Section 1.7. These activities extend to include Sites 1, 2, and 3; Table 16 identifies resource impacts in Site 3 only.

Table 16 – Resource Impacts: Submarine Cable Removals (Site 3)

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	1,200	100	2,000	4,700

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

3.5 CONSTRUCTION ACTIVITY: Existing Pier 3 - Pier and Fender Removal

Permit Plates: EP-4, PP-4, CA14, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles activities, as well

as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

Prior to pier removal, a marine enclosure and turbidity curtain will be installed around the work area.[3] Existing Pier 3 and its timber mat will be removed to an elevation no higher than the authorized over dredge limit. Pier removal work is anticipated to be performed using an excavator with a thumb; hydraulic breakers (e.g., jackhammers and hoe rams) will not be used below HTL. Prior to removal of the marine enclosure, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed. Removal of Pier 3 will be conducted so that one channel remains open to marine traffic.

Once the blocks and rubble stone are dismantled from Pier 3, they will be loaded onto a barge and hauled off-site. Initially, the eastern construction work platforms will be used for loading of the material from the barges. The Manresa Island Staging and Storage Yard (Parcel 5/86/1) and the construction yard at the bridge site (1 Goldstein Place; Parcel 3/1/25) will be used for off-loading of materials from the construction barges. Additional potential off-site locations for material transfer are being considered along the Norwalk River.

Prior to fender removal, a marine enclosure/temporary fender and a turbidity curtain will be installed around the work area. The fender around existing Pier 3 will be removed via a crane or an excavator situated on a crane barge stabilized by spuds. The fender system will be cut into sections with a chainsaw, removed, and loaded on a material barge. A debris shield will be deployed below the cuts to help prevent wood chips and saw dust from entering the water. The timber piles will be fully removed with an excavator and/or crane using a vibratory pile extractor. The pile extraction activities will be coordinated to ensure activities are only taking place on one half of the navigation channel at a time.

Removal of existing Pier 3 and fender will involve pile driving and removal, and pier demolition and removal using cranes, excavators, vibratory and impact hammers, clamshell and digging buckets, push/work boats, and various barges. When demolition is complete, and the pier has been removed, the marine enclosure will be removed using similar construction means and methods as required for installation.

Table 17 – Resource Impacts: Existing Pier 3 – Pier and Fender Removal

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	2,200

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

[3] Because the marine enclosure is behind the existing fender system, installation of a separate temporary fender system with the marine enclosure is not required.

3.6 CONSTRUCTION ACTIVITY: Pier 3 Fender Installation

Permit Plates: PP-4, CA15, SUM-3
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.

The permanent fender for Pier 3 will be a pier-mounted fendering system. A Super Cone/panel unit fender system, which provides a high energy absorption capacity, will be installed to the Pier 3 pile cap with grouting/concrete. The bottom of the pier-mounted fenders will be located underwater and may require underwater drilling into concrete to secure the fender system to the pier. Equipment will include a work barge with a crane, man-lift, compressor, and hand tools. Installation of the pier-mounted fendering system at Pier 3 will not impact existing resources.

In addition to the pier-mounted fendering system for Pier 3, a pile-supported fender system will be installed to protect the control house, situated on the northern end of Pier 3. Prior to work start, a turbidity curtain will be installed around the work area. The fender system for the control house will be comprised of hollow Fiberglass Reinforced Polymer (FRP) pipe piles and dolphin clusters. Equipment will include a crane and vibratory and impact hammers. A work barge with a man-lift, compressor, and hand tools will be utilized for access to the work.

Table 18 – Resource Impacts: Pile-Supported Fender Installation

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	300

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

3.7 CONSTRUCTION ACTIVITY: Channel (Maintenance) Dredging

Permit Plates: CA17, SUM-3
Time of Year Restrictions:

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

Channel dredging is described in Section 2.3. This activity primarily occurs in Sites 2 and 3; Table 19 identifies resource impacts in Site 3 only.

Table 19 – Resource Impacts: Channel Dredging (Site 3)

Impact	Removal		Fill	Net
	(sf)	(cy)	(cy)	(cy)
Maintenance Dredging	7,500	770	0	770

Impacts shown for this activity are also reported in CA2, CA12, and CA14.

4. Site 4 Construction Activities - Vessel Dock Relocation

Site 4 is located approximately 100 yards south of the bridge site, to the west of the navigation channel (Figure 1). Site 4 is waterward of 4 North Water Street (Parcel 2/19/1) and includes activities waterward of the Coastal Jurisdiction Line (CJL) but landward of (outside) the navigation channel. Table 20 lists the two construction activities that will occur at Site 4.

Table 20 –Site 4 Construction Activities

Construction Activity	Description	Construction Activity (CA) # /Permit Plates
Vessel Dock Relocation	Permanent reconfiguration of the Maritime Aquarium and Sheffield Island Lighthouse Ferry vessel docks.	CA3/ CA3-1 through CA3-4
Dredging Operations	New dredging to facilitate vessel access.	CA17/CA17-4, CA17-7

4.1 CONSTRUCTION ACTIVITY: Vessel Dock Relocation

Permit Plates: EP-6, PP-6, CA3, CA17, SUM-4
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.
- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

The existing docks of the Sheffield Island Lighthouse Ferry and Maritime Aquarium's research vessel, Spirit of the Sound, will remain in their general current location (waterward of Parcel 2/19/1) during project construction. To minimize the project's effect on vessel operations, the passenger loading and unloading location will not change, but the existing docks will be realigned and a new dock will be added to the

existing configuration (between the realigned docks) to provide operational flexibility as needed. When not in use, the vessels will be stored at a temporary location elsewhere in Norwalk Harbor, requiring new temporary docks. New temporary docks are proposed at Site 5, presented in CA-04 and described in Section 5.1. Following bridge construction, the temporary storage docks will be removed and all operations of the Sheffield Island Ferry and the Maritime Aquarium vessels will resume waterward of Parcel 2/19/1.

To realign the existing docks, existing pile and dock removal, new pile driving, new gangway abutment construction, and gangway and dock installation will be required. Equipment will include cranes, excavators, vibratory and impact hammers, push/work boats, and various barges. This activity is primarily in Site 4, with a small portion of the activity overlapping with Site 1.

The removal of the existing dock sections for the Maritime Aquarium and Sheffield Island Ferry vessels will take place on the west bank (waterward of Parcel 2/19/1) and will involve a crane or an excavator situated on the crane barge. The docks and gangways will be hoisted onto a material barge and off-loaded at Site 5, the Marine Staging Yard (68, to and 90 Water Street; Parcels 2/84/19, 2/84/63, and 2/84/33), which is 700 feet south of the work area. Following the removal of the dock and gangway sections at Site 4, a turbidity curtain will be installed around the work area. Existing timber piles will be removed.

Dredging will be required to facilitate access to the reconfigured docks by the Maritime Aquarium and Sheffield Island Ferry vessels. Depending upon the time of year, dredging will be conducted either within a turbidity curtain (December and January) or within a marine enclosure/temporary fender surrounded by a turbidity curtain (February through November). Dredging will be completed using a crane on a crane barge excavating with a clamshell bucket and loading the modified material barge. The material barges will be contained; they will be modified to include side boards and containment fabric as a holding area. Sediment spoils will be dewatered/decanted on barges or work platforms and the dewatered wastewater will be treated as necessary prior to being discharged back into the river. When the barge is fully loaded, it will be moved off-site where it will be off-loaded with an onshore crane or excavator. The construction yard at the bridge site will be used for off-loading of dredged material. Additional potential off-site locations for material transfer are being considered along the Norwalk River. The excavated material and dewatered wastewater will be managed per CTDEEP General Permit requirements, including placement into watertight trucks for shipping to the CTDOT-designated WSA.

The permanent docking facility will consist of the realigned Maritime Aquarium and Sheffield Island Ferry docks and the additional dock section. The reconfigured docking facility will require installation of new piles. The new piles will be installed using a crane and vibratory and impact hammers working from a crane barge.

Table 21– Resource Impacts: Vessel Dock Relocation

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	200	2,400
Permanent	100	0	0	1,900

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

Table 22– Resource Impacts: New Dredging

Impact	Removal		Fill (cy)	Net (cy)
	(sf)	(cy)		
New Dredging	1,700	300	0	300

5. Site 5 Construction Activities - Marine Staging Yard

Site 5 is south of the Route 136/Stroffolino Bridge, directly waterward of 68 and 90 Water Street [Parcel 2/84/19 (portion) and Parcel 2/84/33], and west of the navigation channel (Figure 1). Site 5 also includes 70 Water Street (Parcel 2/84/63). Site 5 is less than 0.2 mile from the bridge location. Work at Site 5 includes activities waterward of the Coastal Jurisdiction Line (CJL) but landward of (outside) the navigation channel. Table 23 lists the three construction activities that will occur at Site 5.

Table 23 –Site 5 Construction Activities

Construction Activity	Description	Construction Activity (CA) # /Permit Plates
Marine Staging Yard Improvements	Construction of permanent improvements (bulkhead) to properties on the west bank of the river south of the Stroffolino Bridge (68 and 90 Water Street).	CA4/CA4-1 through CA4-4
Dredging Operations	New dredging for bulkhead construction at the Marine Staging Yard.	CA17/CA17-5, CA17-7
Temporary Storage Dock Construction and Removal	Construction of a temporary storage dock for the Maritime Aquarium rand Sheffield Island Lighthouse Ferry vessels when not in use, including removal of temporary facilities following project completion.	

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5.1 CONSTRUCTION ACTIVITY: Marine Staging Yard Improvements

Permit Plates: EP-8, PP-8, CA4, CA17, SUM-5
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.

- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.
- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

A staging and storage yard will be developed at 68, 70, and 90 Water Street to provide a project staging location close to the existing bridge for storage of materials and equipment. A bulkhead will be constructed to provide permanent property improvement and an additional water-dependent use for the City of Norwalk.

The existing bulkhead and timber piles along the shoreline will be removed, and a permanent sheet pile bulkhead will be installed along 68 and 90 Water Street. Landward of the sheet pile bulkhead, ground improvements at 90 Water Street (Parcel 2/84/33) will consist of 12-inches of crushed stone overlaying geotextile fabric. **Appendix A** includes an assessment of the Marine Staging Yard bulkhead as a shoreline erosion or stabilization structure.

Marine Staging Yard improvements will involve pile removal, pile driving (including sheet piles), bulkhead excavation and construction, and dredging using cranes, excavators, vibratory and impact hammers, clamshell and digging buckets, manlifts, push/work boats, and various barges. Prior to work start, a turbidity curtain will be installed to minimize impacts to existing resources during the removal of existing material and construction of the new bulkhead. Depending upon the time of year, dredging will be conducted either within a turbidity curtain (December and January) or within a marine enclosure/temporary fender surrounded by a turbidity curtain (February through November). Dredging will be completed using a crane on a crane barge excavating with a clamshell bucket and loading the modified material barge.

Dredging will be conducted to Elevation -8.0 (NAVD88) between the bulkhead and the marine enclosure, using a crane on a spudded crane barge, excavating with a clamshell bucket, and loading onto a modified material barge. The material barge will be contained; it will be modified to include side boards and containment fabric as a holding area. Sediment spoils will be dewatered/decanted on barges or work platforms and the dewatered wastewater will be treated as necessary prior to being discharged back into the river. When the barge is fully loaded it will be moved off-site, where it will be off-loaded with an onshore crane or excavator. The construction yard at the bridge site will be used for off-loading of dredged material. Additional potential off-site locations for material transfer are being considered along the Norwalk River. The excavated material and dewatered wastewater will be managed per CTDEEP General Permit requirements, including placement into watertight trucks for shipping to the CTDOT-designated WSA.

Table 24 – Resource Impacts: Marine Staging Yard Improvements

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	100	200
Permanent	1,900	0	8,100	9,900

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

Table 25– Resource Impacts: New Dredging

Impact	Removal		Fill	Net
	(sf)	(cy)	(cy)	(cy)
New Dredging	20,900	4,930	0	4,930

5.2 CONSTRUCTION ACTIVITY: Temporary Storage Dock Construction and Removal

Permit Plates: EP-8, PP-8, CA4, CA17, SUM-5
Time of Year Restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.
- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.
- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles), as well as following cessation of activity for a period of 30 minutes or longer. Soft starts for impact pile driving and vibratory pile installation are defined in **Question 1**.
- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.
- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

Site 5 is proposed as a location for the temporary storage of the Maritime Aquarium and Sheffield Island Lighthouse Ferry vessels when not in use for passenger pickup and drop-off at Site 4.

Following the dredging and installation of the bulkhead (Section 5.1), temporary pipe piles, dock and two gangways will be installed. At the completion of the project, the temporary facilities will be removed within a turbidity curtain and the site will be restored. Pervious surfaces will be treated with fertilizers and mulch in accordance with CTDEEP guidelines for soil erosion and sediment control. Impacts due to the installation of the temporary pilings are included in Table 24.

6. Site 6 Construction Activities – Compensatory Wetland Mitigation Areas

Site 6 consists of six individual wetland mitigation sites in various locations along both riverbanks near the bridge. A portion of Site 6 will overlap with Site 3. Table 27 lists the construction activity that will occur at Site 6.

Table 26 –Site 6 Construction Activities

Construction Activity	Description	Construction Activity (CA) # /Permit Plates
Compensatory Wetland Mitigation	Wetland restoration at six areas in the vicinity of Walk Bridge, consisting of treatment and removal of invasive species, restoration of shoreline and salt marsh; including access requirements	CA16/ CA16-1 through CA16-20

6.1 CONSTRUCTION ACTIVITY: Wetland Mitigation

Permit Plates: EP-1 – EP-7, PP-1 – PP-7, CA16

Compensation for permanent impacts to the vegetated tidal wetlands and intertidal mudflats due to construction of the Walk Bridge replacement project will be in the form of mitigating tidal wetland areas within the intertidal zone. The loss of vegetated tidal wetlands and intertidal mudflats will be mitigated through treatment and removal of invasive common reed (*Phragmites australis*) in existing tidal wetlands, the restoration of degraded vegetated tidal wetlands dominated by *Phragmites*, and by restoration of a low-functioning intertidal flat previously impacted by riprap placement. All tidal wetland mitigation areas are within the intertidal zone of the Norwalk River or adjacent to the high tide line.

Prior to work start, a turbidity curtain will be installed around the work area. Work will be timed to occur during periods of low tide to avoid increasing turbidity in the river. Vegetated tidal wetland mitigation activities will include the following, shown on Figure 3:

- Invasive *Phragmites* treatment (Mitigation Areas 1, 3, 6B)
- Invasive *Phragmites* treatment with subsequent shrub planting (Mitigation Areas 4 & 5)
- Tidal salt marsh restoration through invasive *Phragmites* removal, living shoreline riprap sill installation, grading and topsoil placement, salt marsh restoration through vegetation planting, and establishment of a northern diamondback terrapin (*Malaclemys terrapin terrapin*) habitat area in the buffer above the high tide line (Mitigation Area 2)
- Excavation and removal of in-water rock riprap, living shoreline riprap sill installation from reused existing riprap, regrading and topsoil placement, and salt marsh restoration through vegetation planting (Mitigation Area 6). A portion of Area 6A will be replanted vegetation as mitigation for shading under a construction trestle.

At Mitigation Area 2 and Mitigation Area 6, the proposed mitigation will consist of developing "Living Shorelines," the components of which are a rock riprap sill/berm, with establishment of low salt marsh

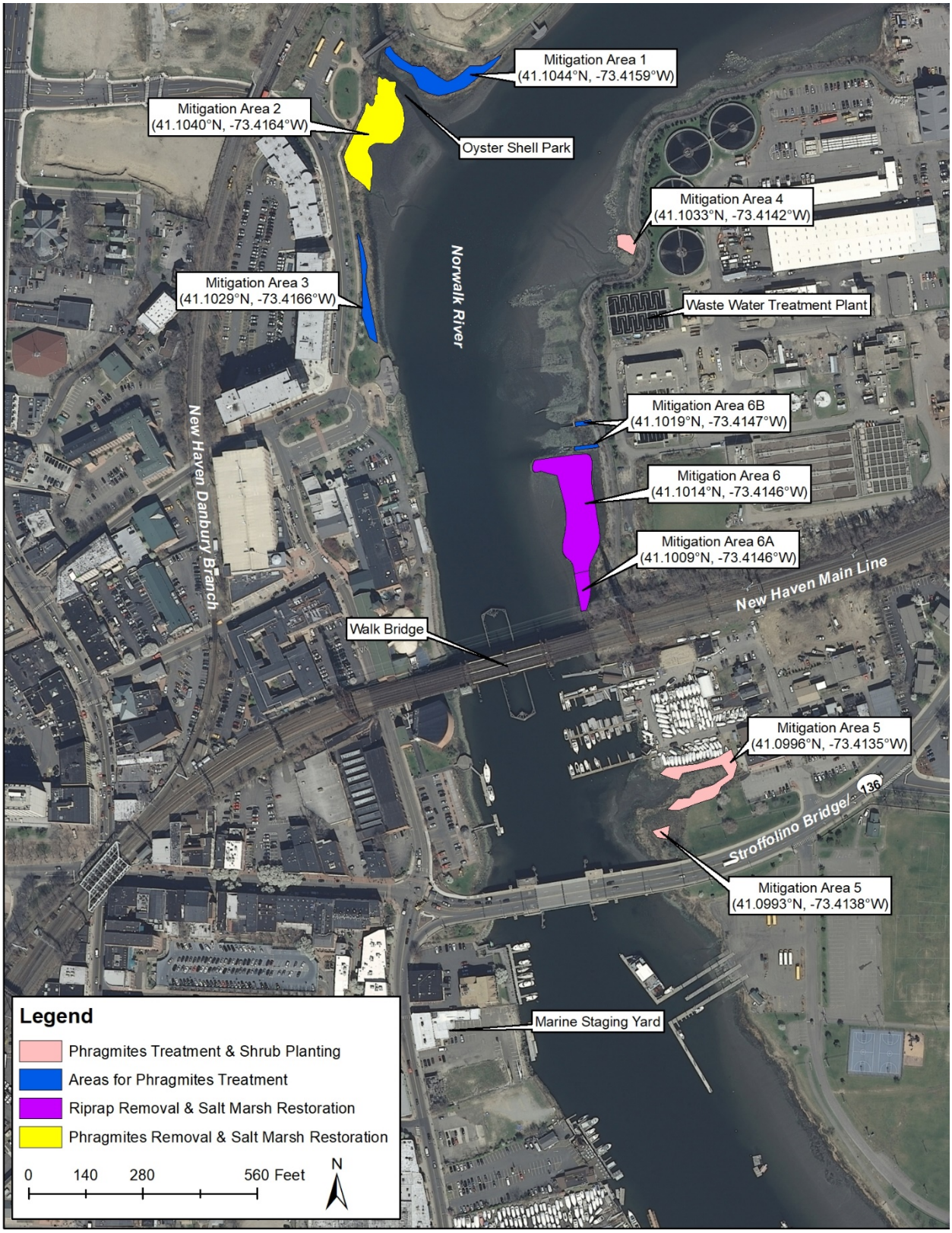

Figure 3 – Compensatory Wetland Mitigation Sites

vegetation on the landward side of the sill. In addition, oyster cultch will be placed among the exposed rocks on the waterward side of the riprap sill, in accordance with CTDOT's Specification Item # 0948013A, located in **Attachment M6**. **Appendix A** contains additional information about the Living Shoreline development.

The restored vegetated tidal wetland areas will be dominated by smooth cordgrass (*Spartina alterniflora*). This type of salt marsh is one of the most valuable habitat types in the estuarine environment and performs many functions including fish and shellfish habitat, wildlife habitat, sediment/toxicant retention, nutrient removal, shoreline stabilization and production export. The root system and structure of the vegetation in the tidal wetlands can help to stabilize the shoreline, as well as to retain sediments and toxicants. The City of Norwalk's Wastewater Treatment Plant and local runoff are potential sources of nutrients in the river and the salt marsh vegetation can locally aid in nutrient removal, thereby improving water quality.

The wetland mitigation areas will be monitored in accordance with CTDEEP and USACE requirements. The monitoring effort will include assessments of planting success, presence of invasive species, natural establishment of native species, and any concerns regarding the success of the mitigation efforts. The frequency of the assessments can vary. CTDOT OEP will oversee monitoring. Monitoring reports are required after each assessment and must include recommendations for corrective actions if the mitigation areas are not making acceptable progress toward becoming established within the first five years.

All wetland mitigation areas will be constructed and treated for invasives during the first growing season of Bridge construction. This will allow for any tweaks or corrections to be accomplished during the 4-5 years of active construction. As part of the overall tidal mitigation package CTDOT will be including 2 weatherproof interpretive signs, one on each side of the Norwalk River, describing the important role of the low saltmarsh in the ecosystem and the overall functionality of tidal wetlands. The following provides a description of the *Phragmites* treatment and tidal salt marsh restoration activities at each mitigation area. **Attachment M6** contains CTDOT's Specification Item # 0948013A –Tidal Wetland Creation and includes all compensatory wetland mitigation specifications, which are cited for each mitigation area.

Invasive Species (Phragmites) Treatment – Areas 1, 3 and 6B. One of the restoration components, and recommended through consultation with CTDEEP, includes treatment and eradication of invasive common reed (*Phragmites australis*) stands embedded within or adjacent to areas of existing salt marsh dominated by smooth cordgrass (*Spartina alterniflora*) along the Norwalk River banks in the project vicinity. These include Area 1 at the edge of Oyster Shell Park, Area 3 along North Water Street just south of Area 2, and Area 6B on top of the stormwater outfalls north of Area 6. The exact boundaries of each of the *Phragmites* treatment sites will be located and refined at the time of treatment. Although some of the *Phragmites* to be treated is on the slope above the coastal jurisdiction line (CJL), the objective is to control and prevent the spread of the invasive species into other areas with desirable species. Additionally, Areas 1 and 3 are on property owned by the City of Norwalk, are adjacent to a public trail and public recreation, and are highly visible.

For areas identified for *Phragmites* treatment, annual herbicide spraying of these areas will require walk-in access, which can be attained via adjacent walking paths or roadways. After plants have died, the debris will be cut and removed from the areas. The process will be repeated, as necessary, throughout the construction period until project completion. It is anticipated that these areas will naturally establish with volunteer native vegetation. The type(s) of herbicide and methods of cutting and spraying will be completed in accordance with contract specifications for control and removal of invasive vegetation.

CTDOT specifications which apply to Areas 1, 3, and 6B include CTDOT Specification Item #0952051A Control and Removal of Invasive Vegetation, located in **Attachment M6**.

Invasive Species (Phragmites) Treatment and Shrub Planting – Areas 4 and 5. *Phragmites* that has invaded two additional existing salt marsh areas will be treated, cut and removed in the same process as that described for Areas 1,3, and 6B. These include Area 4 near the WWTP and Area 5 in Constitution Park, southeast of Walk Bridge. The treatment process will be repeated, as necessary, throughout the construction period. It is anticipated that these areas will naturally establish with volunteer native vegetation. However, during the final year of construction, and if determined to be necessary by an Environmental Scientist from CTDOT Office of Environmental Planning (OEP), the areas will be enhanced with strategic locations of native shrub plantings, including Eastern baccharis (*Baccharis halimifolia*) and marsh elder (high-tide bush) (*Iva frutescens*).

CTDOT specifications which apply to Areas 4 and 5 include: CTDOT Specification Item #0952051A, Control and Removal of Invasive Vegetation; and CTDOT Specification Item #0949875A, Wetland Plantings; these specifications are located in **Attachment M6**.

Phragmites Removal and Salt Marsh Restoration – Area 2. Vegetated tidal wetlands restoration at Mitigation Area 2 (adjacent to Oyster Shell Park) will include removing invasive *Phragmites* and regrading the area to elevations more suitable for tidal low marsh vegetation. The areas will be over excavated to a minimum of 3 feet deep to remove the rhizomes. In the area above the *Phragmites*, other invasive species will also be controlled and removed. The over excavated soil and rhizomes and all invasive species debris will then be disposed of at an approved offsite location. Where needed, these areas will be backfilled with topsoil/planting soil and regraded. The low marsh area will be regraded to the elevation conducive to low salt marsh vegetation growth and at which elevation *Spartina alterniflora* is currently growing. The area will be graded to also include salt panne depressions that will initially remain unplanted to create a microhabitat to provide refuge for forage and juvenile fish species as well as forage areas for wading birds and waterfowl. The remainder of the low marsh area will be planted with salt marsh vegetation including smooth cordgrass and sea lavender (*Limonium carolinianum*).

At the landward edge of the low marsh area, a slope will be graded and sea lavender will be planted on the slope approximately one foot above the low marsh area where cord grass will be planted. The slope above the sea lavender area will be seeded with a salt tolerant shoreline grass mixture, and plantings of eastern baccharis shrubs, marsh elder shrubs, and seaside goldenrod (*Solidago sempervirens*) an herbaceous perennial, will be interspersed throughout. The CJL elevation of 5.4 feet (NAVD88) (for State jurisdictional water resources) was used as the upper boundary of the proposed vegetated tidal wetland. (Note that this elevation is 0.2 feet above the HTL elevation of 5.2 feet (NAVD88), which is the USACE's jurisdiction for Tidal Waters of the U.S. in the project area.)

The area above the CJL, which is considered a buffer between the vegetated wetland area and the City park, will be backfilled with topsoil where necessary and regraded. It will be seeded with a salt tolerant shoreline grass mixture and planted with the same species of shrubs and perennials described above. In addition, a portion of this buffer area above the HTL (17 feet wide by 110 feet in length) will be constructed as a northern diamondback terrapin (*Malaclemys terrapin terrapin*) habitat area, consisting of a minimum 30-inch deep sand layer over a 6-inch granular layer. This area will also be moderately planted with American beachgrass (*Ammophila breviligulata*).

As a component of a living shoreline, the waterward perimeter of Area 2 will be lined with a riprap sill to initially retain the soils for the marsh plantings, ensuring that the root systems mature enough to achieve long-term stability and resist wave energy. The riprap sill will also function to provide shoreline stabilization, erosion control, and protection of the salt marsh edge by absorbing wave energy. Water quality can also be improved from settling or trapping sediment on the landward side of the sill and filtering pollution. The riprap sill will be constructed of 24-inch to 30-inch diameter rock embedded 6-inches to 12-inches in the soil substrate, with a minimum 3-foot wide base and an approximate 18-inch to 24-inch height placed at or slightly above the proposed final grade of the low marsh area. In addition, oyster cultch will be placed among the exposed rocks on the waterward side of the riprap sill, in accordance with CTDOT's Tidal Wetland Creation Specification.

CTDOT specifications which apply to Area 2 include: CTDOT Specification Item #0952051A, Control and Removal of Invasive Vegetation; CTDOT Specification Item #0949875A, Wetland Plantings; CTDOT Specification Item #0950202A, Shoreline Grass Establishment; CTDOT Specification Item #0948013A, Tidal Wetland Creation; and CTDOT Specification Item #0949315A, Fiber Roll. The specifications are located in **Attachment M6**.

Riprap Removal and Salt Marsh Restoration – Area 6. Vegetated tidal wetland restoration at Mitigation Area 6 will include restoring salt marsh vegetation at an area within the river currently containing low-functioning rock riprap on the surface of the intertidal flat area, along the shoreline northeast of the bridge. Scattered individual plants of smooth cordgrass are growing within some of the voids of the riprap in locations with suitable elevation and substrate. The restoration activities will involve excavation of the existing riprap, placing topsoil/planting soil, establishing appropriate elevations, and planting native low salt marsh vegetation to create a higher functioning salt marsh.

The low marsh area will be regraded to the elevation conducive to low salt marsh vegetation growth and at which elevation *Spartina alterniflora* is currently growing. The area will be graded to also include salt panne depressions that will initially remain unplanted to create a microhabitat to provide refuge for forage and juvenile fish species as well as forage areas for wading birds and waterfowl. The remainder of the low marsh area will be planted with salt marsh vegetation including smooth cordgrass and sea lavender.

Area 6B is an area of Phragmites treatment on top of stormwater outfalls. In addition, Area 6A is an existing tidal wetland area of cord grass which will be shaded by a construction trestle and will therefore not survive during the construction period. After the trestle is removed when construction has ended in that area, dead vegetation will be removed, and the area will be replanted with cord grass plugs. No excavation or other disturbance will take place in that area during or after construction.

As a component of a living shoreline, the waterward edge of Area 6 will include a riprap sill to initially retain the soils for the marsh plantings, ensuring that the root systems mature enough to achieve long-term stability and resist wave energy. The riprap sill will also function to provide shoreline stabilization, erosion control, and protection of the salt marsh edge by absorbing wave energy. Water quality can also be improved from settling or trapping sediment on the landward side of the sill and filtering pollution.

A portion of the existing riprap in this area will remain along the waterward boundary to provide a substrate base for placing and reusing some of the existing excavated riprap to construct the sill. The configuration of the riprap sill will vary in height from 2 feet to 3 feet, with a 1:1 side slope on the landward side and 1.5:1 side slope on the waterward side. The width of the base will vary from 7 feet to 9.5 feet, depending

on the height. The reused rock will be an average size of 18 inches in diameter, although some rock could be as small as 12 inches or as large as 24 inches in diameter. In addition, oyster cultch will be placed among the exposed rocks on the waterward side of the riprap sill, in accordance with CTDOT's specification.

CTDOT specifications which apply to Area 6 include: CTDOT Specification Item #0949875A, Wetland Plantings; and CTDOT Specification Item #0948013A, Tidal Wetland Creation; these specifications are located in **Attachment M6**.

7. Sites 7, 8, and 9 Construction Activities – Barge Mooring

Barge mooring locations for project construction vessels will occur at Sites 7, 8, and 9. Site 7 is south of the Stroffolino Bridge, on the eastern shore of the Norwalk River along the west side of Veteran's Memorial Park. Site 8 is within the south anchorage basin east of the Norwalk Harbor navigational channel. Site 9 is in Long Island Sound, just west of Sheffield Island. Table 28 lists the construction activity that will occur at Sites 7, 8 and 9.

Table 28 –Sites 7, 8 and 9 Construction Activities

Construction Activity	Description	Construction Activity (CA) # /Permit Plates
Barge Mooring	Barge mooring location for construction barges south of the Stoffolino Bridge on the eastern shore of the Norwalk River (Site 7).	CA11/ CA11-4, CA11-5
Barge Mooring	Barge mooring location for construction barges east of Norwalk Harbor (Site 8).	CA11/ CA11-3, CA11-5
Barge Mooring	Barge mooring location for construction barges in Long Island Sound (Site 9).	CA11/CA11-2, CA11-5

7.1 CONSTRUCTION ACTIVITY: Barge Mooring

Permit Plates: GEN 8-10, SUM-1, CA11
Time of Year Restrictions: None

In addition to the barge mooring location at the Manresa Island Staging and Storage Yard (Site 10 and CA19, described in Section 8.1), three additional barge mooring locations will be required for staging construction barges for the Walk Bridge Replacement Project. Typical barge widths range from 30 feet to 54 feet, and typical barge lengths range from 72 feet to 280 feet (as shown of the Vessel Berthing Plan, GEN 8-10). Each mooring consists of a 60-inch diameter mooring buoy and a 5-ton anchor. The anchors will be lowered to the streambed or seabed from barges and properly secured to prevent migration. No dredging will be required for installation of the moorings. Temporary aids to navigation will be installed at each mooring location in coordination with the U.S. Coast Guard.

Table 29 – Resource Impacts: Barge Mooring – Site 7

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	100

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts.

Table 30 – Resource Impacts: Barge Mooring – Site 8

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	300

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts

Table 31 – Resource Impacts: Barge Mooring – Site 9

Impacts	Vegetated Tidal Wetland (sf)	Intertidal Flat (sf)	Intertidal Zone* (sf)	Below CJL** (sf)
Temporary	0	0	0	0
Permanent	0	0	0	400

Temporary impacts are construction impacts less than 24 months duration. Permanent impacts include temporary impacts of 24 or more months duration.
*Represents areas in the intertidal zone that are not defined as a vegetated tidal wetland or intertidal flat.
**Impacts below the CJL include areas below the CJL elevation, shore to shore, that are not included as vegetated tidal wetlands, intertidal flat, or intertidal zone impacts

8. Site 10 Construction Activities – Manresa Island Staging and Storage Yard

Site 10 is approximately 2.1 nautical miles south of Walk Bridge on the southern portion of Manresa Island. Site 10 consists of approximately 4.7 acres on Parcel 5/86/1, the site of the de-commissioned NRG Energy power plant. Work at Site 10 includes barge mooring waterward of the Coastal Jurisdiction Line (CJL) but landward of (outside) the navigation channel. Staging and storage yard activities at Site 10 are landward of the CJL and located in the 100-year floodplain; these activities are described in Section 9.10. Table 32 lists the construction activity below the CJL that will occur at Site 5.

Table 32 –Site 10 Construction Activities

Construction Activity	Description	Construction Activity (CA) # /Permit Plates
Manresa Island Staging and Storage Yard	Use of an existing dock at Parcel 5/86/1 for the assembly of the replacement bridge lift spans and transfer of materials to and from the existing bridge site via barge, including berthing of construction and material barges and safety vessels as needed.	CA19/CA19-1 through CA19-x

8.1 CONSTRUCTION ACTIVITY: Manresa Island Staging and Storage Yard Improvements

Permit Plates: EP-X, PP-X, CA19
Time of Year Restrictions:

- No work will be conducted between April 1st and July 31st within 400 feet of any active peregrine falcon (*Falco peregrinus*) nest.
- Use of the Manresa Island Staging and Storage Yard will be started before April 15th or after August 1st to allow for the nesting ospreys (*Pandion haliaetus*), to acclimate to this new activity within their nesting areas.
- Slow speeds along all access roads at Manresa Island will be enforced during the Northern diamondback terrapin (*Malaclemys t. terrapin*), active season from April 1st through October 31st.

An approximate 4.7-acre area with docking facilities on Manresa Island will be used for the assembly of the replacement bridge lift spans. Site 10 will used for approximately 60 months. Work activities below the CJL consist of barge mooring at the existing dock. The existing dock will be used for the temporary berthing of construction vessels and barges, including a lift span assembly barge, work barge, and various material barges, and berthing of safety boat vessel(s) and emergency rescue operations that are associated with construction of the lift spans. The barges will be anchored by spud piles. No dredging will be required for use of the existing dock/wharf area. Site 10 activities will not impact existing resources below the CJL.

9. Construction Activity Impacts to the 100-Year Floodplain

Project construction activity impacts to the 100-year floodplain have been calculated for ten floodplain areas, listed in Table 33 and shown in Figures 4 and 5 (and included in **Attachment I** [FP-2- FP-11]). Temporary floodplain impacts are construction impacts less than 24 months duration. Permanent floodplain impacts include temporary impacts of 24 or more months duration. In addition to the construction elements previously described in Sites 1 through 10, the Walk Bridge Replacement Project will include non-bridge related railroad elements. Railroad track work will include replacing about one-half-mile of tracks and ballast within the existing railroad right-of-way from approximately the Washington Street Bridge to approximately 300 feet east of the Fort Point Street Bridge. Overhead catenary and supports will be replaced within the limits of the project, generally from the Washington Street Bridge to a point approximately 300 feet east of the Fort Point Street Bridge. All approach track, catenary and signal work for the project will be within the existing state right-of-way, which is higher than the 100-year floodplain.

Table 33 – Floodplain Impact Areas

Floodplain Area	Location	Description of Activities
FP-2	Wetland Mitigation Area 2	Wetland restoration activities along the west bank of the Norwalk River, in the river bend north of the bridge
FP-3	Wetland Mitigation Area 6	Wetland restoration activities along the east bank of the Norwalk River, north of the bridge
FP-4	From west approach to east of Navigation Channel	All construction activities previously identified in Site 1 (West of Navigation Channel), Site 2 (Navigation Channel), and Site 3 (East of Navigation Channel) and additional areas in west and east. In west: installation of MNR and bridge cabling receiving shaft, repaving of North Water Street, removal of existing Pier 1, construction of new Pier 1, removal of Maritime Aquarium covered walkway (pedestrian link), development of MNR duct bank and vaults. In east: construction of pedestrian/bicycle trail north of bridge, trail and construction access road south of railroad, and MNR duct bank; use of construction yard (11 Goldstein Place); and northern limit of Mitigation Area 6.
FP-5	East Approach	Installation of MNR and bridge cabling launching shaft, construction of pedestrian/bicycle trail and construction access road south of railroad; MNR duct bank, and construction yards east and west of Goldstein Place (multiple parcels).
FP-6	From Vessel Dock Area to Goldstein Place	All construction activities previously identified in Site 4 (Vessel Dock Relocation). In west: repaving of parking lot (4 North Water Street); maintenance dredging in navigation channel; in east: construction yard (11 Goldstein Place), repaving of Goldstein Place/Route 136.
FP-7	Marine Staging Yard	All construction activities previously identified in Site 5 (Marine Staging Yard) and use of temporary construction yard for storage of construction equipment and material.
FP-8	Barge Mooring on eastern river front	All construction activities previously identified in Site 7.
FP-9	Barge Mooring east of Norwalk Harbor	All construction activities previously identified in Site 8.
FP-10	Barge Mooring in Long Island Sound	All construction activities previously identified in Site 9.
FP-11	Manresa Island Staging and Storage Yard	All construction activities previously identified in Site 10 and use of staging and storage yard for lift span construction and other construction staging and temporary storage activities.

Figure 4 – Project Floodplain Areas, FP-2 through FP-8

Figure 5 – Project Floodplain Areas, FP-9 through FP-11

9.1 FLOODPLAIN IMPACT AREA FP-2: Wetland Mitigation Area 2

Permit Plans: FP-2

Floodplain Impact Area FP-2 consists of temporary and permanent impacts to the 100-year floodplain associated with Wetland Mitigation Area 2, located northwest of the bridge site and south of Oyster Shell Park. Included in the temporary impacts are site access to the mitigation area. Note that Wetland Mitigation Area 1 is also in FP-2 (north of Mitigation Area 2 at Oyster Shell Park), however, it does not require any temporary or permanent fill in the floodplain.

Table 34 – Floodplain Impacts: Wetland Mitigation Area 2

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	300	400	700
Permanent	16,400	3,100	19,500

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.2 FLOODPLAIN IMPACT AREA FP-3: Wetland Mitigation Area 6

Permit Plans: FP-3

Floodplain Impact Area FP-3 consists of temporary and permanent impacts to the 100-year floodplain associated with Wetland Mitigation Area 6, along the eastern bank of the Norwalk River fronting the Waste Water Treatment Facility. Included in the temporary impacts are site access to the mitigation area. Note that Wetland Mitigation Area 3 is also in FP-3, located on the western bank of the Norwalk River, however, it does not require any temporary or permanent fill in the floodplain.

Table 35 – Floodplain Impacts: Wetland Mitigation Area 6

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	10,500	0	10,500

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.3 FLOODPLAIN IMPACT AREA FP-4: From west approach to east of Navigation Channel

Permit Plans: FP-4

Floodplain Impact Area FP-4 includes all construction activities previously identified in Site 1 (West of Navigation Channel), Site 2 (Navigation Channel), and Site 3 (East of Navigation Channel). Additional floodplain impacts to the west include installation of MNR and bridge cabling receiving shaft; milling and

paving of North Water Street; removal of existing Pier 1 to Elevation 4.0 to 6.0 (NAVD88), which is 2 feet below the ground surface of Elevation 4.0 to 6.0 (NAVD88); construction of new Pier 1; removal of the Maritime Aquarium's covered walkway (pedestrian link) under the bridge; and preparation of the construction staging area at 10 North Water Street (Parcel 2/19/2). Floodplain impacts also include the contractor's access area from North Water Street/Ann Street to the east side of the Maritime Aquarium (Parcel 2/19/3). Floodplain impacts to the east include the northern limit of Mitigation Area 6, construction of a portion of the pedestrian/bicycle path north of the bridge (connecting to the Norwalk Harbor Loop Trail), and construction of a portion of the pedestrian/bicycle path and construction access road immediately south of railroad corridor.

Table 36 – Floodplain Impacts: From west approach to east of Navigation Channel

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	9,100	9,100
Permanent	141,800	58,200	200,000

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.4 FLOODPLAIN IMPACT AREA FP-5: East Approach

Permit Plates: FP-5

Floodplain Impact Area FP-5 consists of the installation of MNR and bridge cabling launching shaft, construction of a portion of the pedestrian/bicycle path and the construction access road immediately south of the railroad corridor, and development of the construction yard east of Goldstein Place. The construction staging and storage area east of Goldstein Place includes multiple parcels (Parcels 3/1/30, 3/1/19, and 3/1/29) at 4, 6, and 10 Goldstein Place. Note that the existing eastern bridge abutment is being partially removed; however, it will be removed to Elevation 12.0 (NAVD88), therefore, there will be no floodplain impacts.

Table 37 – Floodplain Impacts: East Approach

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	0	61,400	61,400

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.5 FLOODPLAIN IMPACT AREA FP-6: From Vessel Dock Area to Goldstein Place

Permit Plates: FP-6

Floodplain Impact Area FP-6 includes construction activities previously described in Site 4. Additional floodplain impacts include the following: to the west, temporary impacts due to milling and overlay of the Norwalk Parking Authority (4 North Water Street) lot; a portion of maintenance dredging within the

navigation channel; and to the east, temporary impacts due to use of the Goldstein Place construction yard (multiple parcels) and roadway milling and overlay of Goldstein Place/Route 136 following project completion.

Table 38 – Floodplain Impacts: From Vessel Dock Area to Goldstein Place

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	8,500	40,400	48,900
Permanent	8,300	22,100	30,400

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.6 FLOODPLAIN IMPACT AREA FP-7: Marine Staging Yard

Permit Plates: FP-7

Floodplain Impact Area FP-7 includes construction activities previously described in Site 5. Additional floodplain impacts include development of a laydown area through site clearing and grading to approximately Elevation 8.0 (NAVD88) to allow site drainage. As presented in Section 5.1, the Marine Staging Yard will be used to store materials and equipment.

Table 39 – Floodplain Impacts: Marine Staging Yard

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	200	0	200
Permanent	19,300	70,900	90,200

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.7 FLOODPLAIN IMPACT AREA FP-8: Barge Mooring Site 7

Permit Plates: FP-8

Floodplain Impact Area FP-8 includes construction activities previously described in Site 7.

Table 40 – Floodplain Impacts: Barge Mooring Site 7

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	100	0	100

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.8 FLOODPLAIN IMPACT AREA FP-9: Barge Mooring Site 8

Permit Plates: FP-9

Floodplain Impact Area FP-9 includes construction activities previously described in Site 8.

Table 41 – Floodplain Impacts: Barge Mooring Site 8

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	300	0	300

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.9 FLOODPLAIN IMPACT AREA FP-10: Barge Mooring Site 9

Permit Plates: FP-10

Floodplain Impact Area FP-10 includes construction activities previously described in Site 9.

Table 42 – Floodplain Impacts: Barge Mooring Site 9

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	400	0	400

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

9.10 FLOODPLAIN IMPACT AREA FP-11: Manresa Island Staging and Storage Yard

Permit Plates: FP-11

Floodplain Impact Area FP-11 includes the use of the existing docking facilities as previously described in Site 10. Additional floodplain impacts include development of an approximate 4.7-acre staging and storage yard. The staging and storage yard at Manresa Island will consist of two general areas: an approximate 120,000 square foot (sf) work area and an approximate 87,500 sf construction equipment and material laydown area. The work area will be used for pre-assembly of structural components (i.e. lift tower) and full assembly of both lift span trusses (south and north trusses) before float-in to the bridge site. The laydown area will be used for storage of construction materials for trestles (pipe piles, girders, etc.) and sheet piles for marine enclosures (if space is available). It will also be used as a temporary storage and transfer site for components from the demolition of the existing bridge and the project site including components that are free of hazardous materials, such as stone masonry and concrete debris, and components that may contain hazardous materials, such as treated or painted timber cribbing/pilings, structural steel members, and timber ties. Component handling will include off-loading and transfer of

materias from barges to trucks for off-site disposal. No dredged material will be transported to or stored on the site.

Additional fill associated with the storage of material and equipment will be placed on the site. Prior to work start, a layer of geotextile fabric covered with six inches of crushed stone that will be placed over the entire surface area of the Staging and Storage Yard, to provide a level surface and to provide a layer of separation from the existing Areas of Concern (AOCs) associated with the de-commissioned energy plant. Additionally, in the material laydown area, a polyethylene covering will be placed directly beneath existing bridge components with potentially hazardous materials (e.g., lead paint; creosote) as an additional layer of protection against contact with the ground surface. The fill will be removed following project completion and the site will be restored to pre-construction conditions.

The Staging and Storage Yard at Manresa Island will incorporate flood proofing. The materials and equipment will be properly secured or removed, if flooding or coastal storms are anticipated. Flood-proof containers will be used on the site for secure storage and to provide weather protection. Critical activities, such as petroleum fuels, oil tanks for site generators, and other construction related hazardous or flammable materials, will be stored within double-walled and flood-proof containers. The size of containers will be limited to less than 1,300 gallons. In the event of a forecasted storm, containerized materials will be moved off-site. The Flood Contingency Plan for Parcel 5/86/1 will be incorporated into the application for Flood Management Certification for the project.

Table 43 – Floodplain Impacts: Manresa Island Staging and Storage Yard

Impacts	Below CJL (sf)	100-year Floodplain* (sf)	Total Below 100-Year Floodplain
Temporary	0	0	0
Permanent	0	168,700	168,700

*Impacts below the 100-Year Floodplain include areas below the 100—Year Floodplain that are not included as impacts below the CJL elevation.

2b. Describe any erosion and sedimentation or turbidity control installation and maintenance schedule and plans in detail.

Where demolition and removal activities do not take place over a barge, solid work platform, or within a marine enclosure, debris shields will be installed prior to performing the removal operations to prevent debris from falling into the waterway. The debris shields will be installed to maintain at least 1 foot of freeboard above the 2-year tidal elevation, except above the navigation channel where the debris shields must be located as close to the low chord as practical. The contract specifications will require any debris that accidentally falls into the waterway to be immediately removed.

Marine enclosures/temporary fenders will be installed prior to the start of certain construction activities as indicated in the response to **Question 2a** and shown in **Attachment I**. Marine enclosures are steel sheet pile structures that are not to be considered as being watertight. The sheeting allows low velocity flow between the enclosure and the outer tidal waters; the elevation of water inside the enclosure is isolated from tidal waters and therefore lags the tide. The marine enclosure will be installed so that the top of the

enclosure is at, or above, Elevation 6.2 (NAVD88), one foot above the high tide line. Where needed, the marine enclosure will be protected from navigation impacts with a temporary fender system consisting of mooring piles and temporary floating fenders between the mooring piles. To further prevent siltation outside of the marine enclosure, a turbidity curtain will be deployed around its exterior perimeter.

Type III Department of Transportation heavyweight turbidity control curtains will be used (CTDOT Specification Item #0210306A, Turbidity Control Curtains). If needed, pin piles will be used to hold the turbidity curtains in place. Turbidity curtains will be installed prior to the start of the following activities:

- Marine enclosure installation
- Pier construction (with marine enclosure)
- Pier removal (with marine enclosure)
- Existing submarine cable removal
- Slide rail installation and removal for swing span removal
- Control house independent fender system installation and existing fender removal
- Navigation/maintenance dredging
- Construction platform pile driving
- Pile installation and removal at the temporary vessel dock relocation/storage site
- New dredging (with marine enclosure if outside the dredging work window) at the temporary vessel dock relocation site [(waterward of 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33)] and at the permanent vessel dock location site [(waterward of 4 North Water Street (Parcel 2/19/1)]
- Bulkhead installation Marine Staging Yard
- Sheet pile installation and outfall reconstruction at the IMAX
- IMAX Theater removal
- Wetland restoration

The marine enclosures and turbidity curtains will be installed and maintained by the contractor. Prior to removal of the marine enclosure following each activity, the water inside the marine enclosure will be monitored for total suspended solids. Once the turbidity readings reach equilibrium with those readings outside of the turbidity curtain, then the marine enclosure can be removed. The turbidity curtains will remain in place until that portion of the project is complete and the turbidity has settled to no more than pre-construction conditions.

The project area will incorporate soil erosion and sediment control (SESC) measures consistent with the CTDEEP 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Standard erosion control measures such as hay bales, silt fence, turbidity curtains, and inlet filters will be implemented during construction. In addition, confined in-water work will occur within turbidity curtains and marine enclosures/temporary fenders to isolate the sediment-generating work zones from the river. Since the temporary staging and material storage yards consist primarily of asphalt surfacing with some locations of stone aggregate, stabilized construction access will only be used at the temporary staging and material storage yards where soils will be exposed. All SESC measures will be installed prior to construction activities that will result in soil disturbance. In accordance with the contract specifications, the marine enclosures, temporary fenders, turbidity curtains, and SESC measures will be inspected and maintained throughout the project construction period [Section 1.10 Environmental Compliance; Section 2.10 Water Pollution Control (Soil Erosion)].

Further, barge movements will take place such that there will be no impact to the river bottom or increase in turbidity.

CTDOT will implement water quality monitoring for all in-water work during the project. Water quality monitoring will consist of monitoring for turbidity on a continuous basis in the vicinity of each turbidity producing activity. Additionally, CTDOT will monitor for specific conductivity, salinity, dissolved oxygen, pH, temperature and water level (at one location) to determine if marine life and other natural conditions may be contributing to turbidity levels. Monitoring will be conducted for turbidity as required by CTDEEP (**Attachment M**, Section 1.10, Environmental Compliance).

CTDOT completed baseline monitoring at three locations within the proposed project area (Walk Bridge, Stroffolino, and the City of Norwalk Police Dock) to establish baseline conditions. The baseline monitoring will be utilized to establish trends and background levels that will assist in the exceedance reporting and investigations during construction monitoring. Turbidity monitoring during construction will be conducted on a continuous basis in the vicinity of each turbidity producing activity. Monitoring will be conducted upstream via two fixed monitors to act as a baseline and two floating monitoring locations both upstream and downstream of the marine enclosures/turbidity curtains to serve as the monitors during the ebb and flow of the river. If there is a spike in turbidity levels above the action levels, a CTDOT OEP-approved environmental inspector will investigate the cause of the exceedance to determine if the condition is due to natural conditions of the river, background traffic in the area, or from the construction activities. The results of the exceedance investigations will be coordinated with the resident engineer to adjust the BMPs implemented by the contractor, if necessary. The results of the investigations and the corrective actions implemented will be transmitted to the Norwalk Shellfish Commission and the Norwalk Harbor Management Commission on a monthly basis.

To simulate conditions during installation of the piles for the work trestles, a test pile program was planned and executed for the project. The program consisted of driving 30-inch diameter pipe piles and pairs of 40-foot long sheet piles at eight different locations across the site. The intent of the program was to measure pile capacity and pile length, for cost estimates and constructability. Additionally, as part of this program, noise and vibration levels were measured in the adjacent air and water and vibration effects on adjacent historic structures and the existing bridge were measured. Turbidity created by pile driving and extraction was measured via two sets of test piles, including a pair of sheets and pipe pile at two locations, and pile extraction at one location. Results from turbidity testing indicate that the turbidity impacts due to pile driving and removal are minimal; very little or no increase (less than 2 NTUs) was recorded at any of the test gauges during or after the pile driving activity. Per the Connecticut Water Quality Standards (effective October 10, 2013), Class SB Waters do not have a minimum turbidity threshold, "other than of natural origin except as may result from…construction activity,…dredging activity or discharge of dredged of fill materials provided all reasonable controls and Best Management Practices are used to control turbidity and none exceeding levels necessary to protect and maintain all designated uses."

2c. Indicate the length of time needed to complete the project and identify any anticipated time period restrictions.

Replacement of the Walk Bridge is anticipated to begin after regulatory approval and will have a construction duration of approximately 5 to 6 years.

CTDOT has coordinated with the National Oceanic and Atmospheric Administration/National Marine Fisheries Service/Greater Atlantic Regional Fisheries Office (NOAA/NMFS/GARFO); CTDEEP Division of Wildlife, CTDEEP Division of Fisheries - Marine Fisheries Program; CTDEEP Natural Diversity Data Base (NDDB); Norwalk Shellfish Commission (NSC), and the U.S. Army Corps of Engineers (USACE) in developing environmental protection measures for the project. Through coordination with NOAA/NMFS/GARFO, CTDEEP, NSC, and USACE, CTDOT has agreed to implement the following time of year restrictions:

- All pile driving and extraction (including sheet piles) activities conducted between April 1st and June 30th will only occur between one hour after sunrise to one hour before sunset.

- No unconfined turbidity producing activities will be allowed between February 1st and September 30th.

- A soft start will be required between March 16th and October 31st. A soft start will be used at the beginning of each shift that requires pile driving and extraction (including sheet piles) activities, as well as following cessation of activity for a period of 30 minutes or longer. A soft start is defined as follows:
    - For impact pile driving: pile driving will commence with an initial set of three strikes by the hammer at 40% energy, followed by a one-minute wait period, then two subsequent three-strike sets at 40% energy, with one-minute waiting periods, before initiating continuous impact driving.
    - For vibratory pile installation: pile driving will be initiated for 15 seconds at reduced energy followed by a one-minute waiting period. This sequence of 15 seconds of reduced energy driving, one-minute waiting period will be repeated two additional times, followed immediately by pile-driving at full rate and energy.

- Unconfined dredging will be conducted within turbidity curtains between December 1st and January 31st.

- Dredging from February 1st through November 30th will be conducted within a marine enclosure enclosed by a turbidity curtain.

- No construction and/or inspection activities which are within 400 feet of an identified peregrine falcon (*Falco peregrinus*) nest will be permitted during nesting season, between April 1st and July 31st.

- Use of the Manresa Island Staging and Storage Yard will be started before April 15tht or after August 1st to allow for the nesting ospreys (*Pandion haliaetus*), to acclimate to this new activity within their nesting areas.

- Slow speeds along all access roads at Manresa Island will be enforced during the Northern diamondback terrapin (*Malaclemys t. terrapin*), active season from April 1st through October 31st.

Required protocols and other BMPs for the protection of State-listed species and habitats are included in **Attachment C.**

Additionally, pile driving/extraction and drilled shaft and micropile drilling activities will be coordinated to ensure that the navigation channel is available for marine traffic and fish passage; activities will occupy less than 50% when working in the middle of the navigation channel.

Walk Bridge Replacement Project Bridge Number 04288R
Norwalk CT
State Project Number 0301-0176

Part III: Project Information
(continued)
Question 3

3. Describe the purpose of, the need for, and intended use of the proposed activities (For example, private recreational boating, marina, erosion protection, public infrastructure, etc.).

3.1 Project Purpose

Walk Bridge is a critical piece of public infrastructure on the New Haven Line/Northeast Corridor (NHL/NEC). Walk Bridge carries Amtrak intercity and high-speed passenger service on the NEC, is used for Metro-North Railroad (MNR) commuter rail service, and Providence and Worcester Railroad Company (P&W) through freight service. Replacement of the existing Walk Bridge will support Amtrak, MNR and freight service. Additionally, Walk Bridge is the northern boundary of the Norwalk Harbor, rated as a small commercial port by the USACE, with over 2,300 moorings and berthing spaces, and between 2,000 to 3,000 commercial vessel trips per year to port facilities. The replacement bridge will support marine use and operations on the Norwalk River. The purpose of the project is to replace the existing deteriorated bridge with a resilient bridge structure which will enhance the safety and reliability of rail service, offer operational flexibility and ease of maintenance, and provide for increased capacity and efficiencies of rail transportation along the New Haven Line/Northeast Corridor, while maintaining or improving navigational capacity and dependability for marine traffic in the Norwalk River. Upgrades to the Walk Bridge, through replacement, are needed to increase bridge reliability, incorporate bridge redundancy, and provide a sustainable bridge for significant weather events, thereby accommodating current and future rail and marine traffic.

3.2 Need for the Project

In coordination with the FTA, CTDOT is undertaking the Walk Bridge Replacement Project to address the following needs, or deficiencies, of the existing Walk Bridge.

Structure Age and Deterioration. The existing bridge is approximately 120 years old and has deteriorated. Section loss (loss of original structural material) due to corrosion has been observed in some locations and to varying extents and indicates that the structure is nearing the limit of its design life. Cumulative fatigue damage (damage due to repetitive train loadings) of the main load carrying elements of the bridge has occurred. The electrical systems are generally obsolete. Existing and projected deterioration and wear of mechanical systems are key elements which affect the reliability of the bridge.

Decreasing Reliability. In 2011, Walk Bridge failed 12 times out of 138 openings, and in 2013, the bridge failed 16 times out of 271 openings. Failure means that the bridge fails to open or close properly in a timely manner. Failures have occurred in both the opened and closed positions. When failure occurs in the opened

position, train traffic cannot cross the bridge until the bridge is completely closed and locked. If the bridge fails in the closed position, marine traffic taller than the vertical clearance under the bridge cannot pass under the bridge. When the bridge fails by only partially opening or closing, both train and marine traffic are stopped. Without action to rehabilitate or replace the bridge, failures are expected to increase.

Closing the bridge after a failure can take up to two hours. In May and June 2014, in two separate but similar incidents within a two-week time span, Walk Bridge failed to properly close. The failures prevented trains from crossing the bridge for extended periods of time, and impacted thousands of passengers.

Lack of Resiliency. System resiliency for Walk Bridge is described as the ability to return the bridge to use, either partially or completely, in a relatively short period of time in the aftermath of a compromising event. It also refers to minimizing the vulnerability of critical elements of the bridge to facilitate its return to use.

The existing bridge is not designed to current standards for flooding events or storm events. In its current condition, the bridge is highly vulnerable to damage from a storm surge or high wind event, and it is also at risk for malfunction due to extreme temperatures. The bridge also does not meet current standards with regard to its ability to withstand the magnitude of seismic forces and frequency of seismic events for this geographic area.

Safety Standards. The existing bridge does not meet current design standards which reflect improved safety aspects compared to when the bridge was originally designed and built. Minimum requirements (loading, safety margins, etc.) for the design of railroad bridges have evolved throughout the twentieth century to reflect increases in demands on the infrastructure and advances in materials, methods, and technology. Current train loads used for design are commonly-accepted loads representing modern-day freight rail traffic in the United States. These design loads are significantly heavier than design loads used over a hundred years ago. As a result, structures designed to pre-1900 standards do not typically provide the same margin of safety as bridges designed in accordance with current practice.

Lack of Redundancy. Operational redundancy for Walk Bridge is described as the ability to maintain train service on a limited number of tracks following an event that would have otherwise rendered all tracks inoperable. A failure of the existing bridge results in all four tracks being out of service, affecting train traffic in both directions and with far reaching effects on the NEC.

Limited Operational Flexibility. Existing operational constraints include the curvature of the track on the west end, narrow track centers, and miter rails on the movable span, all of which force trains traversing Walk Bridge to reduce their speed.

Difficulty of Maintenance. *S*ome maintenance activities require opening the structure, and therefore require the bridge to be closed and all four tracks be taken out of service which presents logistical challenges for both maintenance and rail mobility.

Reduced Rail Capacity and Efficiency. Failures of the bridge opening/closing cause reduced efficiency of train service in terms of increased delays and reduced on-time performance (OTP) of Metro-North and Amtrak passenger trains. This reduced efficiency can in turn reduce the line capacity of the rail lines.

Reduced Dependability and Capacity for Marine Traffic. As previously noted, when the bridge fails in the closed or partially opened position, some or all marine traffic cannot pass under the bridge and renders navigation unreliable and unpredictable. The existing vertical clearance also limits vessel passage in the bridge closed position, which affects navigation capacity.

Lack of Sustainability. The existing bridge is not sustainable as continued deterioration will cause bridge failures. Increased routine bridge maintenance will not extend the useful life of the bridge, so without major rehabilitation or replacement, the existing bridge will cease to function and result in more frequent train delays or even full shut-downs of the bridge, adversely affecting both rail and marine traffic. Increasing routine and major maintenance costs, combined with the cost associated with correcting a bridge failure, result in high life cycle costs to operate this bridge.

Walk Bridge Replacement Project Bridge Number 04288R
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State Project Number 0301-0176

Part III: Project Information
(continued)
Question 4

4. Identify and describe all coastal or aquatic resources on the site by checking the appropriate box and describe the expected impact on these resources. You may add addenda as necessary as Attachment M.

Drawing SUM-2 in Attachment I provides Walk Bridge Replacement Project summaries of temporary and permanent impacts to coastal resources and dredging volumes. Project impacts consist of temporary construction impacts of less than 24 months (temporary < 24 mo. impacts), temporary construction impacts of 24 months or more (temporary ≥ 24 mo. impacts), and permanent impacts. Temporary impacts of 24 months or more are permitted as permanent impacts.

4.1 Intertidal Flats

4.1.1 Description of Existing Intertidal Flats

Intertidal flats exist upstream and downstream from Walk Bridge on both sides of the river with the closest affected by construction consisting of a large intertidal flat along the eastern shoreline of the Norwalk River, north of the Walk Bridge, adjacent to the City of Norwalk's Waste Water Treatment Plant (WWTP). Figure 1 shows delineated intertidal flats in the vicinity of Walk Bridge; Figures 2 and 3 show aerial photography of selected intertidal flat areas north and south of the bridge. Additionally, there are smaller exposed intertidal areas on both the east and west shores of the Norwalk River near the abutments of Walk Bridge. However, by definition, these areas do not qualify as mudflats; the substrate of these areas is comprised more of a coarse sand/cobble mix and the grade of these areas is not gently sloping or flat.

The following describes existing intertidal flats in three quadrants of Walk Bridge. No mudflats are present in the southwest quadrant.

Bridge Northwest Quadrant. No mudflats are present in the southern portion of this quadrant. However, some cobble/shell mudflats are present directly under the Walk Bridge. Other mudflats found within this quadrant are associated with areas adjacent to Oyster Shell Park. The mudflats in this area are up to 100 feet wide adjacent to the vegetated tidal wetland areas.

Bridge Northeast Quadrant. Based on review of available aerial photography taken at low tide, the mudflats in this quadrant are from 100 feet to 150 feet wide (Figure 2). Sea lettuce was observed growing on the mudflats and rocky shoreline in this quadrant. Sea lettuce is found in waters that are nutrient rich such as those located near the WWTP outfall.

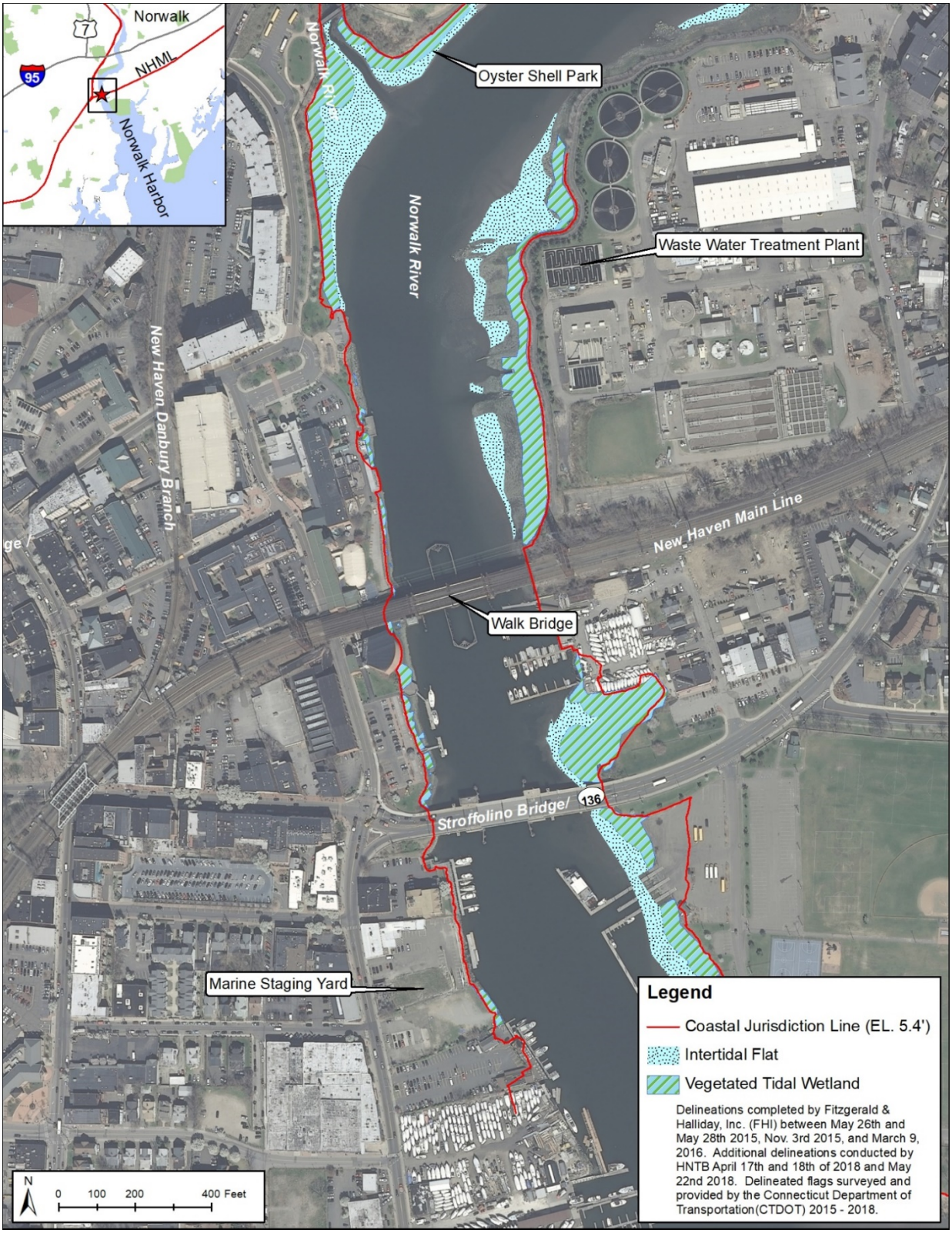

Figure 1 – Delineated Intertidal Flats and Vegetated Tidal Wetlands in the Vicinity of Walk Bridge

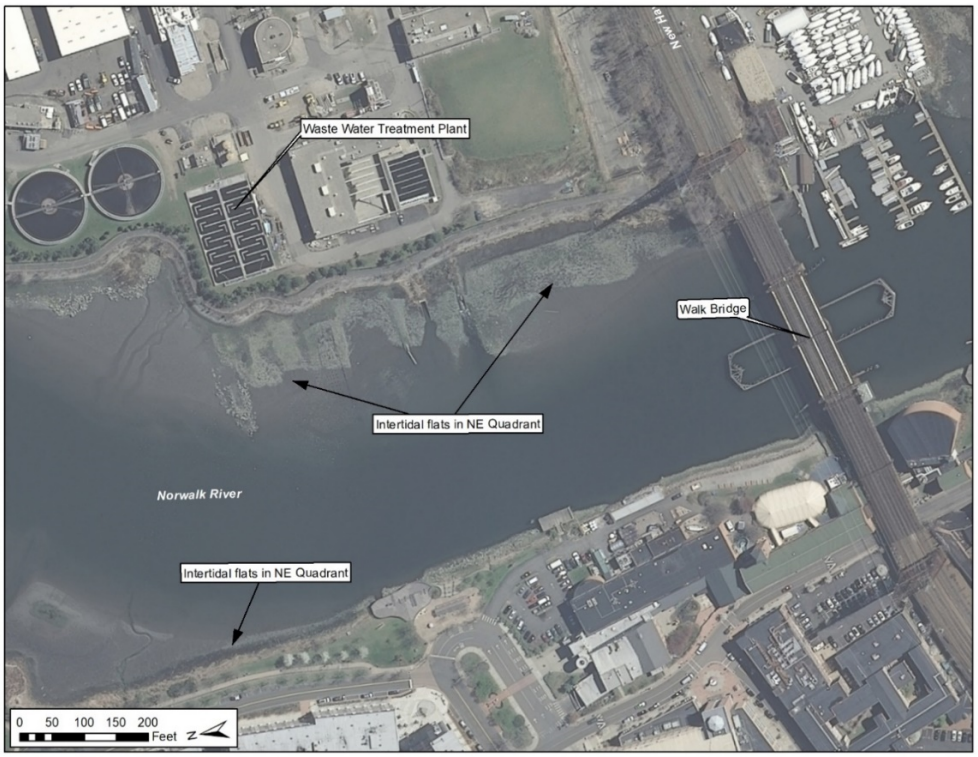

Figure 2—Aerial photo of intertidal flats north of the bridge site

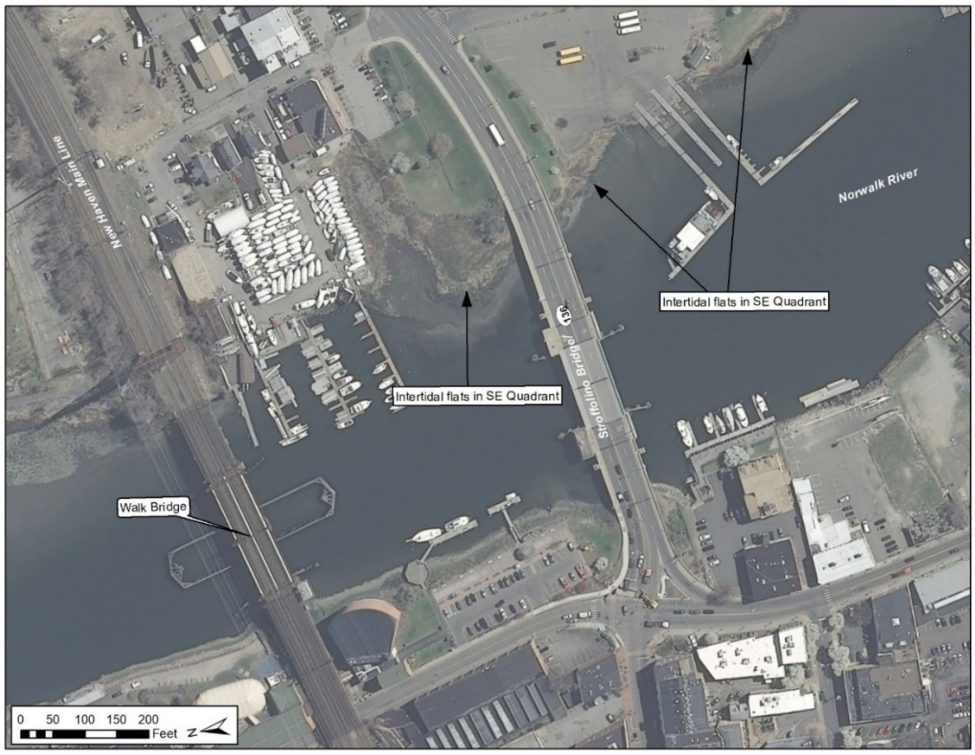

Figure 3—Aerial photo of intertidal flats south of the bridge site

Bridge Southeast Quadrant. Based on review of available aerial photography taken at low tide, the mudflats in this quadrant are from 100 feet to 150 feet wide.

Intertidal flats exist on the eastern and western sides of Manresa Island. Figures 4 and 5 show photographs of representative intertidal flats and the developed shoreline in the vicinity of the Manresa Island Staging and Storage Yard. On the eastern side of Manresa Island, intertidal flats border the Norwalk River on the northern parcel (Parcel 5/86/2), north of the Staging and Storage Yard. On the western site of Manresa Island, intertidal flats border the Outer Harbor area, extending from the southern parcel (Parcel 5/86/1) north to the inlet at the northern parcel (refer to Figures 4 and 7).

4.1.2 Impacts and Compensatory Mitigation

Temporary ≥ 24 months (permanent) impacts to intertidal flats north of the bridge will result from piles driven for construction work platforms and temporary construction trestle piles that are in place longer than 24 months. Temporary < 24 months impacts to the mudflat areas north of the bridge will result from existing submarine cable removal. Neither temporary nor permanent impacts will occur at Manresa Island.

Permanent impacts to intertidal flats (mudflats) will require a 4:1 mitigation ratio; the compensatory mitigation plan, described in Section 4.2.4, accounts for impacts to intertidal flats and vegetated tidal wetlands. Temporary impacts to intertidal flats will require a 1:1 mitigation ratio. Mitigation will be in the form of replacing soil material in the same location after the submarine cable is removed.

Total amounts of impact also are provided on **Drawing SUM-2 in Attachment I** by construction site and impacts by construction activity are provided in **Question 2a**. The proposed mitigation plan is described in **Section 6.1 in Question 2a**.

Figure 4—Photo of intertidal area on western shore of Manresa Island, view south

Figure 5—Photo of dock and rocky intertidal area at Manresa Island, view southeast

4.2 Vegetated Tidal and Freshwater Wetlands

Vegetated tidal wetlands are located along the east and west sides of the Norwalk River, both north and south of Walk Bridge, as shown in Figure 1 and Figure 6. In the vicinity of the bridge, vegetated tidal wetlands are representative of estuarine vegetative communities typically deemed salt tolerant, such as smooth cordgrass [*Spartina alterniflora*, Obligate Wetland (OBL)], salt meadow grass [*Spartina patens*, Facultative Wetland (FACW)], high-tide bush (*Iva frutescens*, FACW), water hemp (*Amaranthus cannabinus*, OBL), seaside goldenrod (*Solidago sempervirens*, FACW), and marsh orach (*Atriplex patula*, FACW). The prominent species in the vicinity of the bridge is smooth cordgrass. No freshwater wetlands are located in the vicinity of the bridge. Both tidal and freshwater wetlands are located in the undeveloped, overgrown, and wooded northern parcel of Manresa Island (Parcel 5/86/2), and along the shore on both sides of the island, as shown in Figure 7.

4.2.1 Description of Existing Wetlands

Wetlands were delineated in the surrounding areas of the project according to both the federal and State of Connecticut definitions. Twenty-two vegetated tidal wetlands exist near the bridge site on both sides of the Norwalk River (Figure 6). Two vegetated tidal wetlands and one freshwater wetland exist near the northern border of Parcel 5/86/1, in the vicinity of the staging and storage yard at Manresa Island (Figure 7).

At the bridge site, federal wetland resources were delineated in the field according to the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (USACE, 1987) and the USACE 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2012). The fieldwork to identify and delineate wetlands and watercourses proximate to the bridge site initially was conducted during fall/winter of 2014, spring/fall of 2015, and spring 2016. Additional delineations were performed in the summer of 2018 to verify any changes in the distribution of invasive species and to facilitate wetlands compensation/mitigation planning. Wetlands proximate to the Manresa Island Staging and Storage Yard were field verified in March 2020.

The following describes existing wetlands in the four quadrants of Walk Bridge and proximate to the Manresa Island Staging and Storage Yard. Attachment J provides site photographs.

Bridge Northwest Quadrant. The shoreline in the northwest quadrant of the bridge site consists of riprap, rocks, and boulders with some bulkheads and fixed docks. Eleven vegetated tidal wetland areas were delineated in this quadrant. The soils in the wetlands and uplands in this quadrant are highly disturbed and are mapped by the Natural Resources Conservation Service (NRCS) as Urban land. Nine vegetated tidal wetland areas are located adjacent to the parking areas of the Maritime Aquarium property. Two vegetated tidal wetland areas are within Oyster Shell Park that is located north of the Maritime Aquarium property. The vegetated tidal wetlands in this quadrant are vegetated with typical saltmarsh species (wetland indicator status also provided) that include smooth cordgrass (*Spartina alterniflora*, OBL), seaside goldenrod (*Solidago sempervirens*, FACW), marsh orach (*Atriplex patula*, FACW), water hemp (*Amaranthus cannabinus*, OBL) and high tide bush *(Iva frutescens*, FACW) with smooth cordgrass being the dominant species. Several of the individual vegetated tidal wetlands consist of small clumps of smooth cordgrass. The largest wetland in this quadrant continues north into Oyster Shell Park. In addition to the native salt marsh species, the invasive haplotype of common reed (Phragmites australis, FACW) is present in areas adjacent to Oyster Shell Park. Common reed was not present in any of the other tidal wetlands south of

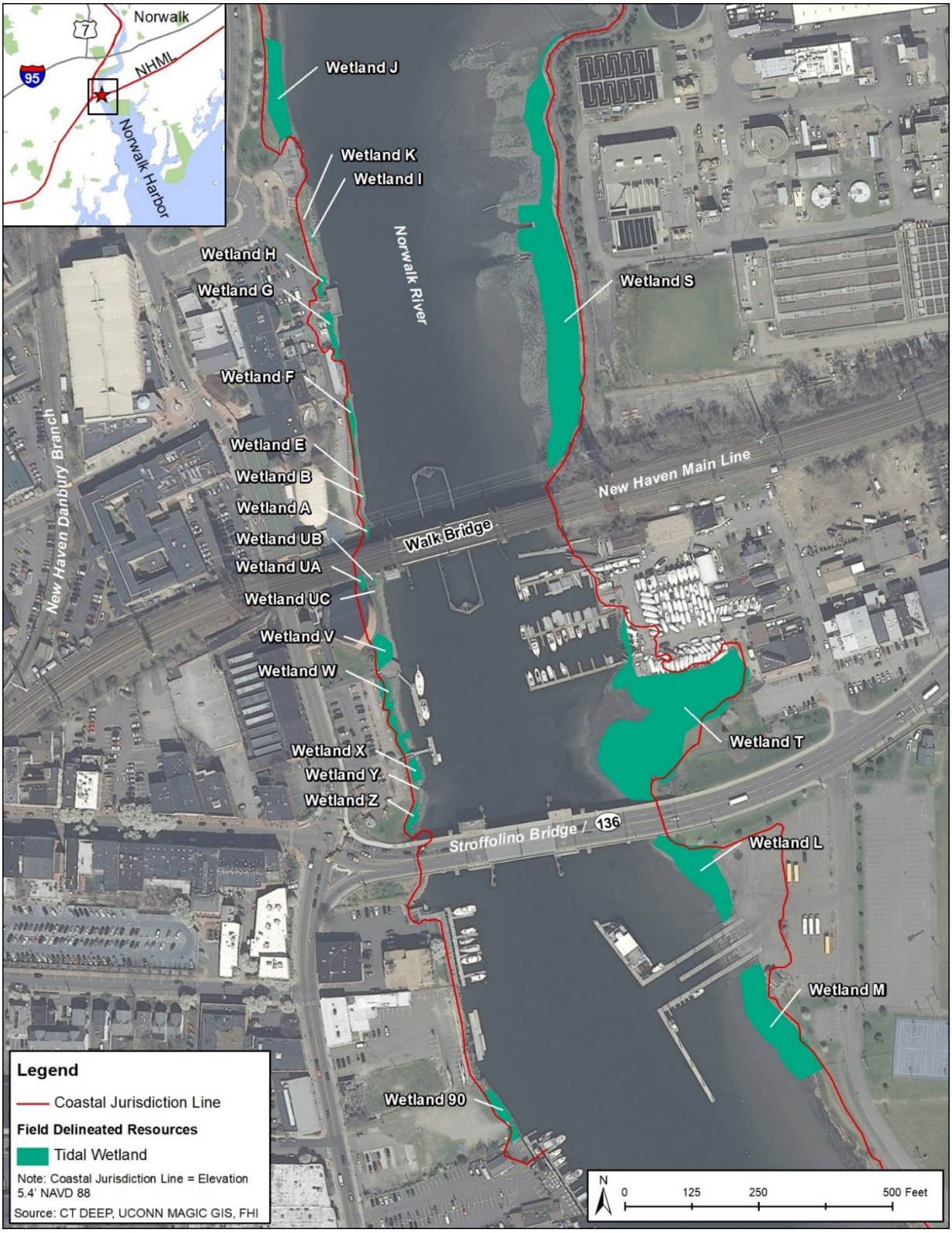

Figure 6—Delineated Wetlands in the Vicinity of Walk Bridge

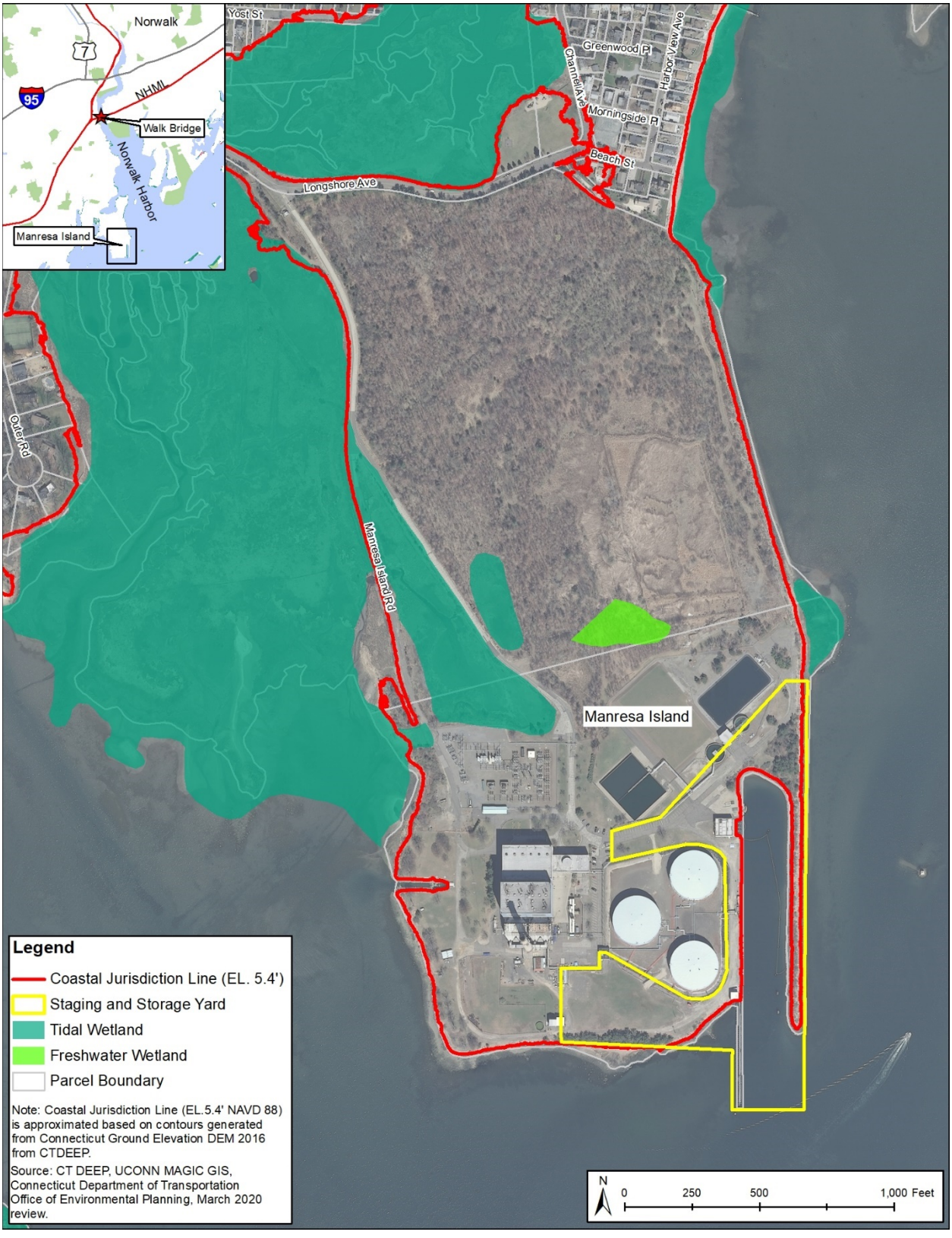

Figure 7—Wetlands in the Vicinity of Manresa Island Staging and Storage Yard

Oyster Shell Park in the northwest quadrant. The adjacent uplands consist of buildings and paved parking lots, with lawn and landscape plantings.

Bridge Northeast Quadrant. The landward side of the shoreline in the northeast quadrant of the bridge site consists almost entirely of chain link fencing (gabion slope/Reno mattress-like) atop riprap on a relatively steep slope. The only upland that is adjacent to the vegetated tidal wetlands that does not consist of chain link fencing on riprap is a small area immediately north of the railroad bridge. Water-ward of the toe of the slope of the riprap, the shoreline consists of areas of rocks and mudflats. Also included in this quadrant are the outfalls for the City of Norwalk WWTP. A continuous band of saltmarsh vegetation extends along the entire shoreline in this quadrant. Smooth cordgrass is by far the dominant species, with seaside goldenrod and high tide bush also present. Adjacent to these areas are some areas that are sparsely vegetated with smooth cordgrass within the mudflats. There are also areas where common reed is present with the largest stand located near the WWTP outfall. The soils in the wetlands and uplands in this quadrant are highly disturbed and are mapped by the NRCS as Udorthents-Urban land complex.

Bridge Southwest Quadrant. The shoreline in the southwest quadrant of the bridge site consists of riprap, rocks, and boulders, along with fixed and floating docks. The IMAX Theater building, part of the Maritime Aquarium complex that is just south of the railroad bridge, is also located immediately adjacent to the vegetated tidal wetlands. Eight vegetated tidal wetlands were delineated in this quadrant. Additionally, one vegetated tidal wetland was delineated at the Marine Staging Yard, south of the Stroffolino Bridge. The soils in the wetlands and uplands in this quadrant are highly disturbed and are mapped by the NRCS as Urban land. Smooth cordgrass is the dominant species in the vegetated tidal wetlands with seaside goldenrod and high tide bush also being common species. Vegetated tidal wetlands located under the railroad bridge are sparsely vegetated with seaside goldenrod, smooth cordgrass, marsh orach and saltmeadow cordgrass (*Spartina patens*, FACW). The vegetated tidal wetland adjacent to the Marine Staging Yard consists of a narrow strip of smooth cordgrass and high tide bush growing on the landward side of a dilapidated bulkhead. Non-vegetated portions of the shoreline are exposed at low tide with the dominant benthic substrate observed to be shell hash. The seaweeds rockweed (*Fucus sp*.) and sea lettuce (*Ulva lactuca*) are present in the intertidal area. The adjacent uplands predominantly consist of buildings, paved parking lots along with lawn and landscaped areas.

Bridge Southeast Quadrant. The southeast quadrant of the bridge site includes naturally vegetated shoreline in Constitution Park and the site formerly occupied by a private marina, with the shoreline made up of a bulkhead north of the Washington Street Bridge. South of the Washington Street Bridge, the southeast quadrant includes the area along the Norwalk River in the vicinity of the municipal boat ramp associated with Veteran's Park. One vegetated tidal wetland was identified north of the Washington Street Bridge. Two vegetated tidal wetlands were identified south of the bridge, on either side of the municipal boat ramp. The dominant species in the southern portion of vegetated tidal wetland north of the Washington Street Bridge is smooth cordgrass, with seaside goldenrod, saltmeadow grass, poison ivy and high tide bush also common. Groundsel tree (*Baccharis halimifolia*, FACW) is also present but not common. Common reed is present around the higher elevation fringe portion of this vegetated tidal wetland. Included in the northern part of this vegetated tidal wetland is a portion of the bulkhead in the marina where a narrow, broken strip of high tide bush and smooth cordgrass is present. South of the Washington Street Bridge, the vegetation includes smooth cordgrass, saltmeadow grass, saltgrass (*Distichlis spicata*, FACW), blackgrass (*Juncus gerardii*, OBL), seaside goldenrod, poison ivy and high tide bush. There is also a small stand of common reed present. Vegetation south of the municipal boat ramp includes smooth cordgrass, seaside goldenrod, blackgrass and some common reed. The soils in the wetlands and uplands in this quadrant are highly disturbed and are mapped by the NRCS as Udorthents-Urban land complex and Udorthents, smoothed. Mudflats are present in the southern portion of the quadrant north of the Washington Street

Bridge as well as south of the bridge. The uplands adjacent to the vegetated tidal wetlands adjacent to the municipal boat ramp consist of paved parking areas or mowed grass.

Manresa Island. Tidal wetlands are present in the Manresa Island northern parcel, Parcel 5/86/2. CTDOT OEP confirmed in a site walk conducted in March 2020 that there are no tidal wetlands in the proposed Staging and Storage Yard; however, tidal wetlands are in the southern parcel, Parcel 5/86/1, adjacent to the north side of the work area. Adjacent tidal marshes include low marsh vegetation consisting of smooth cordgrass (*Spartina alterniflora*) and high marsh vegetation consisting of salt hay (*Spartina patens*) and high tide bush (*Iva frutescens*), with a common reed (*Phragmites australis*) perimeter as the marsh slopes to the upland area.

4.2.2 Functions and Values

The following provides a description of the functions and values of the vegetated tidal wetland resources and the subtidal habitats of the Norwalk River. Smooth cordgrass-dominated salt marshes are one of the most valuable habitat types in the estuarine environment and perform many functions including fish, shellfish and wildlife habitat, sediment/toxicant retention, nutrient removal, shoreline stabilization and production export. Coastal salt marshes are one of the most productive ecosystems in the world. When smooth cordgrass decomposes, the resulting organic matter is fed upon by a myriad of small organisms that in turn support a broad food chain that, in turn again supports shellfish and finfish populations (Dreyer and Niering, 1995). Therefore, production export is a principal function performed by tidal marshes. The tidal wetlands and river in the study area provide fish and shellfish habitat evidenced by the presence of ribbed mussels (*Geukensia demissa*), American oyster (*Crassostrea virginica*) and hard-shelled clam (*Mercenaria mercenaria*). Fish species collected in the study area by Harbor Watch during their 2014 juvenile benthic marine trawling program include winter flounder (*Pseudopleuronectes americanus*), northern sea robin (*Prionotus carolinus*), cunner (*Tautogolabrus adspersus*), hogchoker (*Trinectes maculatus*) and northern pipefish (*Syngnathus fuscus*) (Harbor Watch, 2014). Additionally, schools of Atlantic menhaden (*Brevoortia tyrannus*) were observed in the river during the field investigation and local fisherman stated that they had caught striped bass (*Morone saxatilis*) in the study area as well. The mudflats that are adjacent to the vegetated wetlands as well as the open water areas in the river provide foraging habitat for a number of waterfowl, shore birds and long-legged waders. Great Blue Heron (*Ardea herodias*), Great Egret (*Ardea alba*) and Snowy Egret (*Egretta thula*) were observed foraging on the mud flats and unvegetated rocky shoreline while a Black-crowned Night-heron (*Nycticorax nycticorax*) was observed roosting in trees adjacent to the bridge in the Northeast Quadrant on more than one occasion. Double-crested Cormorant (*Phalacrocorax auritus*), Mallard (*Anas platyrhynchos*), Herring Gull (*Larus argentatus*), Ring-billed Gull (*Larus delawarensis*), Mute Swan (*Cygnus olor*) Osprey (*Pandion haliaetus*), and Common Tern (*Sterna hirundo*) were observed utilizing the open water areas of the river.

The root system and structure of the vegetation in the tidal wetlands can help to stabilize the shoreline as well as to retain sediments and toxicants. The City WWTP and local runoff are potential sources of nutrients in the river and the salt marsh vegetation can locally aid in nutrient removal. Although the tidal wetlands in the study area have the high potential to perform the functions discussed above most are relatively narrow fringes of vegetation along the river which somewhat limits their overall capacity to perform those functions when compared to wider, more extensive salt marshes. This is particularly true for the small, sparsely vegetated tidal wetlands that are located on the west side of the Norwalk River near the Walk Bridge.

The primary value provided by the tidal wetlands and river in the vicinity of the bridge is the opportunity for recreation. There are City parks on the east and west sides of the river in the vicinity of the bridge that provide public access for fishing, bird watching, walking, and boating. The Harbor Loop Trail that is adjacent to the river in the bridge's northeast quadrant also provides walking and bird watching opportunities for the public. Fishermen were observed along the shores of the bridge's northwest quadrant while rowers and recreational boats were observed on the river. Additionally, the Maritime Aquarium educational research vessel as well as the ferry boat for Sheffield Island are docked in the bridge's southwest quadrant, providing public access to these tidal wetlands.

4.2.4 Impacts to Wetlands

The project will result in permanent impacts to vegetated tidal wetlands at and in the vicinity of the bridge site. No wetlands will be impacted by the temporary Staging and Storage Yard at Manresa Island. Direct impacts to vegetated tidal wetlands at and in the vicinity of the bridge site will be unavoidable. The total amounts of impact also are provided on **Drawing SUM-2 in Attachment I** by construction site and impacts by construction activity are provided in **Question 2a**. Permanent impacts to vegetated tidal salt marsh wetland will result from fill material for new bridge piers and abutments, permanent excavation, installation of the bulkhead at 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33), temporary construction trestle piles that are in place longer than 24 months, and shading from work platforms that are in place longer than 24 months. Permanent impacts to vegetated tidal salt marsh wetland will require a 4:1 mitigation ratio. No temporary impacts to vegetated tidal wetlands will occur.

4.2.5 Compensatory Mitigation

Compensation for permanent impacts to the vegetated tidal wetlands and intertidal mudflats due to construction will be provided through mitigating tidal wetland areas within the intertidal zone. The loss of vegetated tidal wetlands and intertidal flats will be mitigated through treatment and removal of invasive common reed (*Phragmites australis*) in existing tidal wetlands, by restoration of degraded vegetated tidal wetlands dominated by *Phragmites*, and by restoration of a low-functioning intertidal flat previously impacted by riprap placement. The proposed compensatory mitigation strategies were developed by CTDOT OEP biologists through site visits, meetings, and correspondence with CTDEEP and USACE. Local stakeholder representatives from the City of Norwalk and the Maritime Aquarium of Norwalk had opportunities to review the mitigation plans.

Vegetated tidal wetland mitigation activities are described in **Section 6.1 of Part III, Question 2a.** Mitigation consists of four elements in six areas as follows:

- Invasive *Phragmites* treatment;
- Invasive *Phragmites* treatment with subsequent shrub planting;
- Tidal salt marsh restoration through invasive *Phragmites* removal, living shoreline riprap sill installation, grading and topsoil placement, salt marsh restoration through vegetation planting, and establishment of a northern diamondback terrapin (*Malaclemys terrapin terrapin*) habitat area in the buffer above the high tide line; and
- Excavation and removal of in-water rock riprap, living shoreline riprap sill installation from reused existing riprap, regrading and topsoil placement, and salt marsh restoration through raising the elevation and vegetation planting.

The proposed mitigation areas are along the Norwalk River, proximal to, but outside of the immediate vicinity of Walk Bridge.

The restored vegetated tidal wetland areas will be dominated by smooth cordgrass (*Spartina alterniflora*). This type of salt marsh is one of the most valuable habitat types in the estuarine environment and performs many functions including fish and shellfish habitat, wildlife habitat, sediment/toxicant retention, nutrient removal, shoreline stabilization and production export. The root system and structure of the vegetation in the tidal wetlands can help to stabilize the shoreline, as well as to retain sediments and toxicants. The City wastewater treatment plant (WWTP) and local runoff are potential sources of nutrients in the river and the salt marsh vegetation can locally aid in nutrient removal, thereby improving water quality.

Coastal salt marshes are one of the most productive ecosystems in the world. The decomposed organic matter of the salt marsh vegetation is fed upon by several small organisms that support a broad food chain, eventually supporting shellfish and finfish populations. Essential Fish Habitat (EFH) is designated for ten species in the area inclusive of the Walk Bridge site (and continuing further upstream). In addition to these ten species, additional species have designated EFH reaching the Stroffolino Bridge and continuing south to include Norwalk Harbor and Long Island Sound. Since this is a regulatory boundary rather than a physical barrier, it is likely that these species also use the adjacent area in the Walk Bridge vicinity at various stages of their life cycles.

4.3 Estuarine Embayments/Nearshore Waters

Located within the tidally influenced Norwalk River, the project is partially protected and maintains an open connection to the sea. The project site is also a small area within a much larger estuarine embayment, as shown in Figure 8 and Figure 9, and is defined as nearshore waters. There will be a net increase in available estuarine embayment and in available nearshore water benthic habitat following this project. Construction period impacts are anticipated from construction work platforms, marine enclosures, dredging/excavation along the bottom of the Norwalk River and channel; however, these activities will not adversely impact the overall estuarine environment/nearshore waters. Adverse construction impacts to water quality will be minimized to the maximum extent practicable by employing turbidity curtains and, in some cases, marine enclosures around the work areas prior to work start. Further, water quality will be monitored during active work in the waterway.

Based on subsurface investigations in the Norwalk River conducted in June 2018, the Norwalk River is identified as a preliminary Area of Environmental Concern (AOEC). The sediment contains Extractable Total Petroleum Hydrocarbons (ETPH), Semi-Volatile Organic Compounds (SVOCs), pesticides, and/or metals (arsenic and/or chromium) at concentrations exceeding the RSR criteria; and is therefore classified as contaminated material. Based on the *Norwalk Power Economic Impact Analysis Findings & Recommendations Report* (City of Norwalk and Manresa Association, 12/14/18), Long Island Sound sediment is determined to be an Area of Concern (AOC), an area where hazardous substances and/or hazardous substances (including petroleum) could have been disposed of or spilled and released to the environment, associated with the decommissioned NRG Energy Manresa Island Power Plant and the site's previous identification as a large quantity generator of hazardous waste. The sediment contains TPH, polycyclic aromatic hydrocarbons (PAHs), and metals.

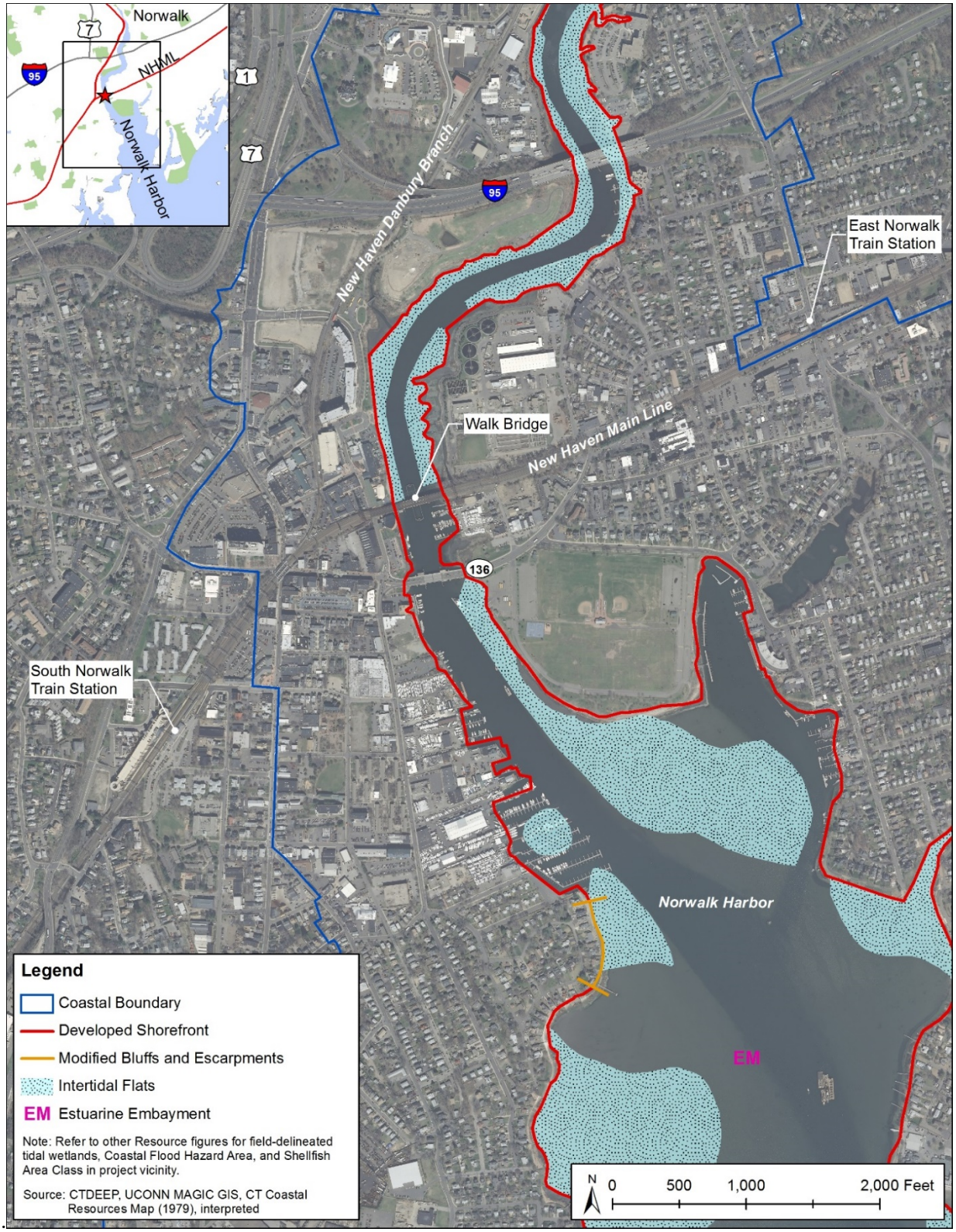

Figure 8- Coastal Resources in the Vicinity of Walk Bridge

Figure 9- Coastal Resources in the Vicinity of Manresa Island Staging and Storage Yard

Any sediment removed from the Norwalk River at the bridge site, including Sites 1, 2, 3, 4, and/or 5, will therefore be handled as controlled material. No dredging will be required at Manresa Island, Site 10. Any sediment removed from the Norwalk River will be transported to the project WSA for testing and disposal. Sediment spoils will be dewatered/decanted on barges or work platforms and the dewatered wastewater will be treated as necessary prior to being discharged back into the river. Excavated sediments will be managed in accordance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) and the General Permit for the Discharge of Groundwater Remediation Wastewater. **Appendix A** provides further information about the management of project-generated controlled substances.

4.4 Coastal Hazard Areas

The project site is located within the tidal reach of the Norwalk River near the river's mouth into Long Island Sound. As such, the bridge is influenced by both riverine events and coastal storm surges. Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (July 8, 2013), Walk Bridge is located in Zone AE, defined as the 100-year floodplain or as areas subject to inundation by the 1-percent-annual-chance flood event, as shown in Figure 10. Walk Bridge is approximately 500 feet upstream of the Route 136 Bridge (Stroffolino Bridge); the boundary of Zone VE is just south of the Stroffolino Bridge and extends south to include the Norwalk Harbor at Manresa Island, as shown in Figure 11. Zone VE is defined as areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. Upstream of Walk Bridge, the 100-year flood elevation is Elevation 10.0 feet (NAVD88). Immediately downstream of Walk Bridge, the 100-year flood elevation is Elevation 12.0 feet (NAVD88). East of the river, immediately downstream of Walk Bridge, the 100-year flood elevation is Elevation 13.0 feet (NAVD88). Downstream of the Stroffolino Bridge, the 100-year flood elevation is Elevation 14.0 feet (NAVD88). At Manresa Island, the 100-year flood elevation varies from Elevation 13.0 to 17.0 feet (NAVD88). For reference, the elevation of Walk Bridge when closed (at its lowest point) is approximately 18.0+/- feet (NAVD88).

The replacement of Walk Bridge within the 100-year and 500-year floodplains will not result in any adverse impacts to the floodplains, nor will it alter the hydraulic and erosive characteristics of the river within the project area. Hydraulic models of the bridge site in both the existing and proposed conditions have been performed to verify that replacement of the existing bridge will not adversely impact the hydraulic characteristics of the Norwalk River at and in the vicinity of the bridge site, including water surface elevations and flood velocities. The results of the models indicate that the 100-year water surface elevations will be reduced at and in the vicinity of the bridge site, except at the downstream face of Walk Bridge where water surfaces will increase by 0.01 feet. Due to the removal of the large existing pivot pier, the 100-year flood velocities will decrease between 0.02 and 0.38 feet/second through the project area. Therefore, the project will reduce the risk to future damage including property and loss of human life.

During construction, provisions will be made to protect the 100- and 500-year floodplains. Work in the regulated floodplains of the Norwalk River and Norwalk Harbor includes the storage of construction materials (railroad ties, rails, timber, structural steel, etc.); storage of fuels and other construction-related hazardous or flammable materials (waste oil, oxygen/acetylene, etc.); storage of construction equipment and vehicles; removal of existing buildings at the temporary staging and material storage yards; and

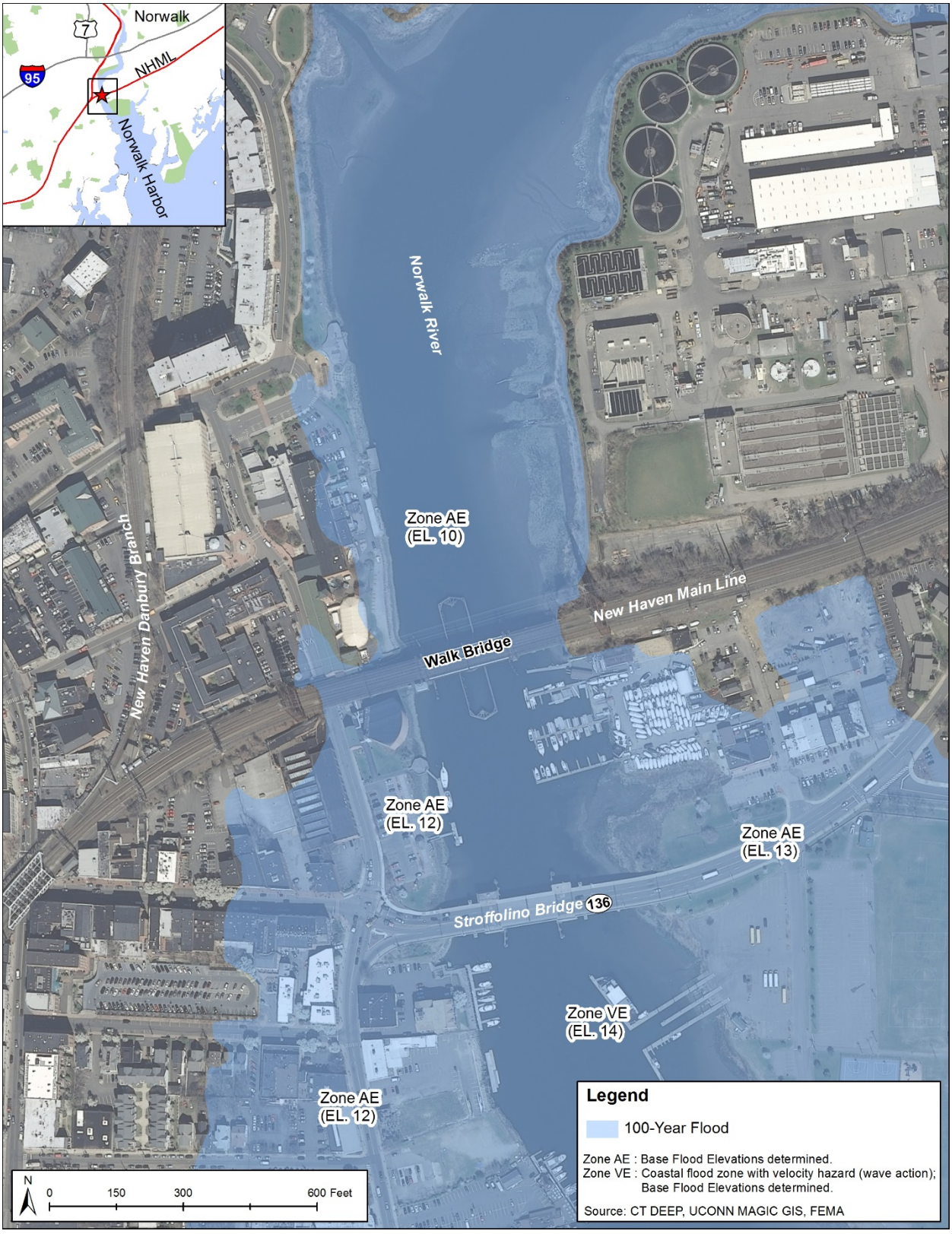

Figure 10 – Coastal Flood Hazard Areas in the Vicinity of Walk Bridge

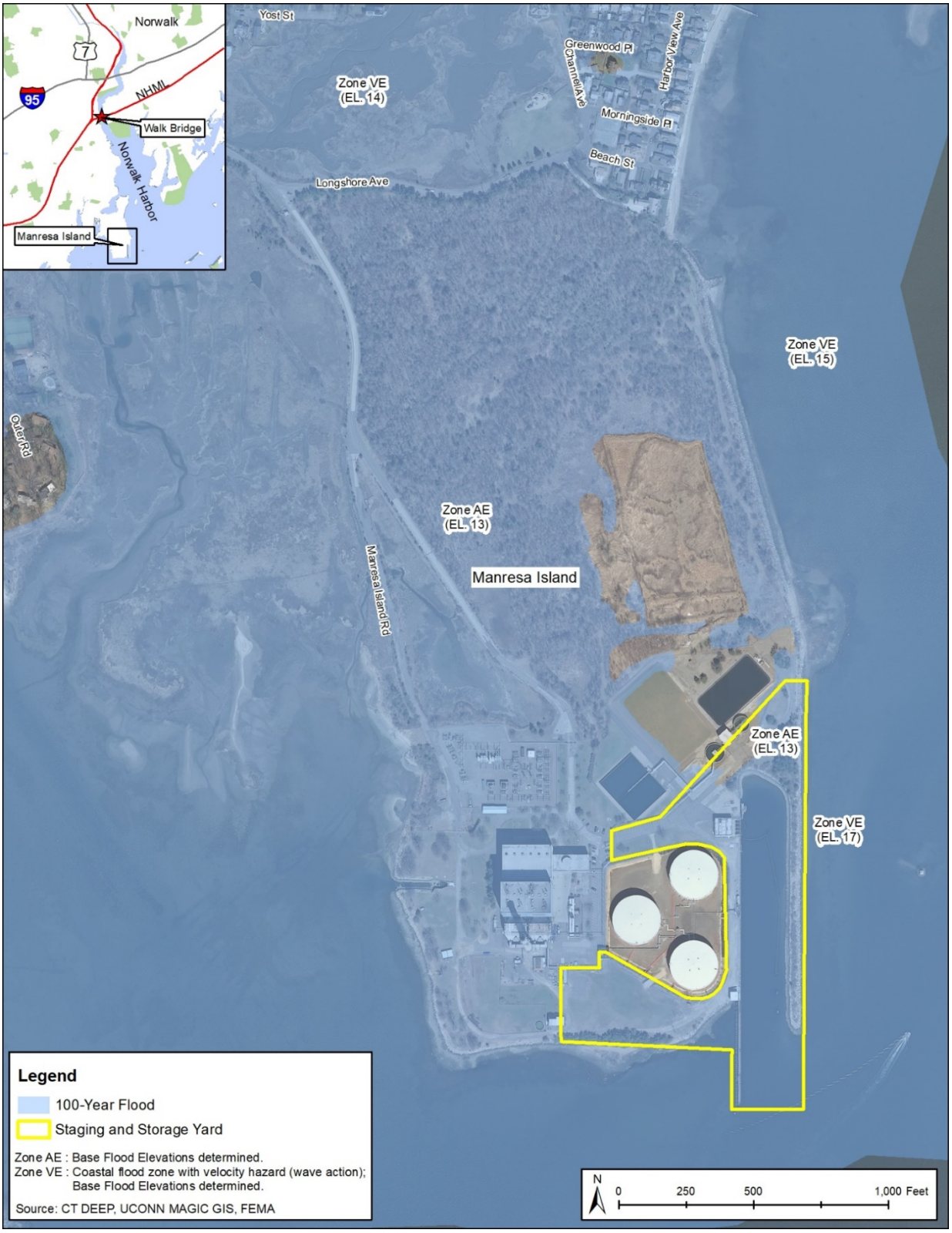

Figure 11 – Coastal Flood Hazard Areas in the Vicinity of Manresa Island Staging and Storage Yard

transfer, staging, and temporary storage of components from the existing bridge, including stone masonry, concrete debris, timber pilings, structural steel members, and track and catenary system components, prior to off-site disposal and management at CTDOT-approved waste stockpile areas (WSAs). Conex boxes (shipping containers) will be used on the temporary staging and material storage yards for secure storage and to provide weather protection. Critical activities, such as fuels and other construction-related hazardous or flammable materials, will be stored above the 500-year floodplain where practicable, or stored within appropriate flood-proof containers. At the temporary staging and material storage yards, where fuel and paint supplies will be located below the 500-year floodplain, they will be stored within double-walled and flood-proof containers. The size of containers will be limited to less than 1,300 gallons. In the event of a forecasted storm, containerized materials will be immediately moved off-site.

Temporary fill will be placed in the construction staging parcels. At the construction staging parcels where buildings will be removed, the areas will be stabilized with 1-1/4-inch processed aggregate to avoid increasing impervious cover on the site while providing a stable working surface. To provide a layer of separation from two Areas of Concern (AOCs) at the Manresa Island Staging and Storage Yard (a former ash disposal area and a former coal storage area), the ground surface will be covered with 6-inches of crushed stone over geotextile fabric.

Hydraulic modeling is not required for the project's construction staging and storage yards. The parcels at the bridge site are within the regulatory FEMA floodplain, but are located within the tidal floodplain with no riverine (fluvial) impacts. At the construction staging and storage yards, the temporary fill will be placed only in the tidal floodplain and not in the fluvial floodplain. Further, the volume of fill at the sites is not substantial enough to result in adverse impacts to the depth, velocity, or flow patterns during a storm surge event. The use of these sites as the project's temporary staging and storage yards will not result in any adverse impacts to the 100-year or 500-year floodplains, nor will it alter the hydraulic and erosive characteristics of the Norwalk River at and within proximity to the bridge site or Manresa Island.

The Flood Management Certification (FMC) application for this project, filed on August 15, 2019 with CTDEEP, with revisions to be submitted at a future date, contains additional detail.

4.5 Developed Shorefront

The surrounding riverbanks in the vicinity of Walk Bridge and the Manresa Island Staging and Storage Yard are defined as developed shorefront, as depicted in Figure 8 and Figure 9. During construction at the bridge site, this project will include unavoidable construction phase shorefront disturbances and limitations to water access, primarily due to the use of construction work platforms throughout the duration of the project and the need for construction staging, storage areas, and access at and near the bridge site. At the Manresa Island Staging and Storage Yard, use of the developed shorefront will include berthing of construction barges for assembly of the replacement bridge lift spans and transfer of existing bridge components for staging and temporary storage. At the completion of the project, the construction sites will be restored to their pre-construction conditions (Parcels 2/19/1, 2/19/3,3/2/3,3/2/6, 5/86/1); stabilized with seed and mulch for erosion control (Parcels 2/19/2 and 3/1/25); or improved (Parcels 3/2/6, 3/2/3, 2/84/19, 2/84/33).

The Walk Bridge Replacment Project will improve the Norwalk River's developed shorefront. A new waterside pedestrian/bicycle path will be constructed on the east bank of the Norwalk River (Parcels 3/2/6

and 3/2/3), connecting to the Norwalk River Valley Trail. A new permanent bulkhead will be constructed waterward of 68-90 Water Street [Parcels 2/84/19 and 2/84/33, identified as Serials # 9 and 7 per Walk Bridge Program Right of Way (ROW) maps], just southwest of the Route 136/Stroffolino Bridge. The new bulkhead will improve these properties zoned for Marine Commercial uses. The realignment of the existing docks and new dock addition for the Sheffield Island Lighthouse Ferry and the Maritime Aquarium's research vessel, waterward of 4 North Water Street (Parcel 2/19/1) will improve waterfront facilities for these operators and enhance water-dependent uses in downtown Norwalk.

For those parcels with waterfront access that were acquired for project construction [1 Goldstein Place (Parcel 3/1/25) and 90 Water Street (Parcel 2/84/33)], upon construction completion, CTDOT will market the excess property indicating the highest priority and preference for water-dependent use of the site. Regarding the sale of the respective properties, State agencies are given first right of refusal. Thereafter, properties will be offered for sale by bid. Once the purchase price has been established, the City of Norwalk will be given the right of first refusal before they are offered to the public. Non-conforming parcels will only be offered to the abutting property owner(s). The development of waterfront parcels with water-dependent uses is a priority use per the Norwalk Harbor Plan and the Connecticut Coastal Management Act.

4.6 Shellfish Concentration Areas

The Norwalk River extending south to the Norwalk Outer Harbor is a State-designated natural shellfish bed. Shellfish of economic importance are not expected to occur along the bottom of the Norwalk River/Federal Navigation Channel in the soft unconsolidated sediment, however, shellfish resources do occur in the intertidal and subtidal zones adjacent to the channel. Spatial extent and distribution of the species present in the system change with substrate conditions, which are also variable. Ribbed mussels (*Geukensia demissa*) were observed in the upper intertidal zones growing in association with stands of *Spartina alterniflora* or as separate shell beds. Lower intertidal areas contain soft-shell clams *(Mya arenaria*) and hard-shell clams (quahog) (*Mercenaria mercenaria*). Eastern oyster (*Crassostrea virginica*) was observed growing on boulders in the intertidal zone and on the stone bridge abutments and piers of the Walk Bridge. Despite the observed presence of shellfish in the vicinity of the project, the Norwalk River estuary has been evaluated for indicator bacteria by CTDEEP and segments of it, including the location of the project site, are deemed to be impaired for shellfishing practices per the State total maximum daily load (TMDL) for indicator bacteria. Shellfish are therefore prohibited from being harvested at the project sites, as indicated in Figure 12 and Figure 13.

Because shellfishing currently is prohibited in the Norwalk River and Harbor, no adverse impacts to harvestable shellfish will result from the project. Additionally, any impact to natural shellfish beds in the area of Walk Bridge will be minimized as follows: dredging/excavation within a turbidity curtain will occur between December 1st and January 31st; 2) dredging/excavation outside of the December – January window will occur within a marine enclosure enclosed by a turbidity curtain; and 3) no unconfined turbidity-producing activities will be allowed between February 1st and September 30th. As previously cited, no dredging will occur at Site 10. Collectively, these measures will minimize any potential for impacts to nearby and downstream resources.

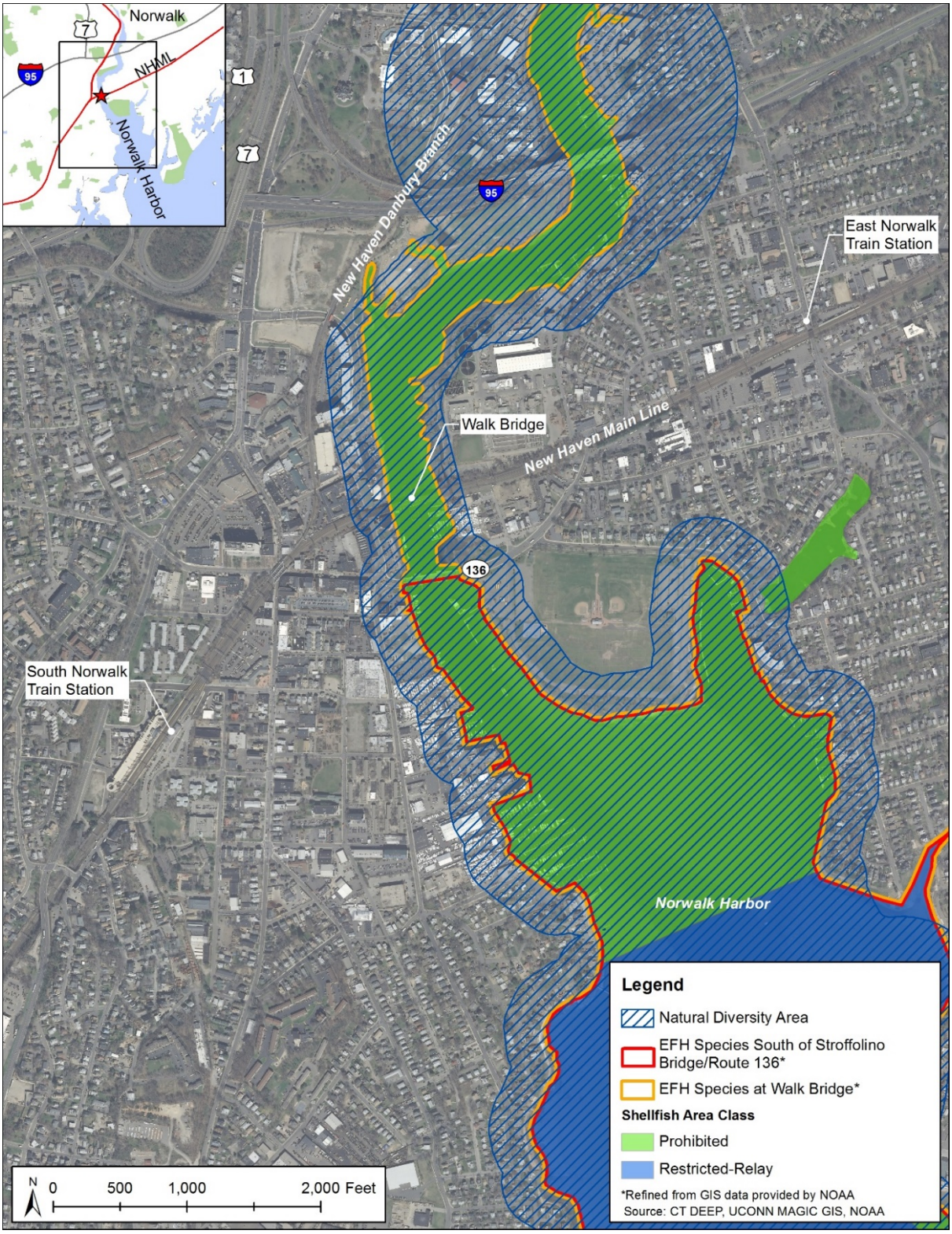

Figure 12 - Aquatic Resources in the Vicinity of Walk Bridge

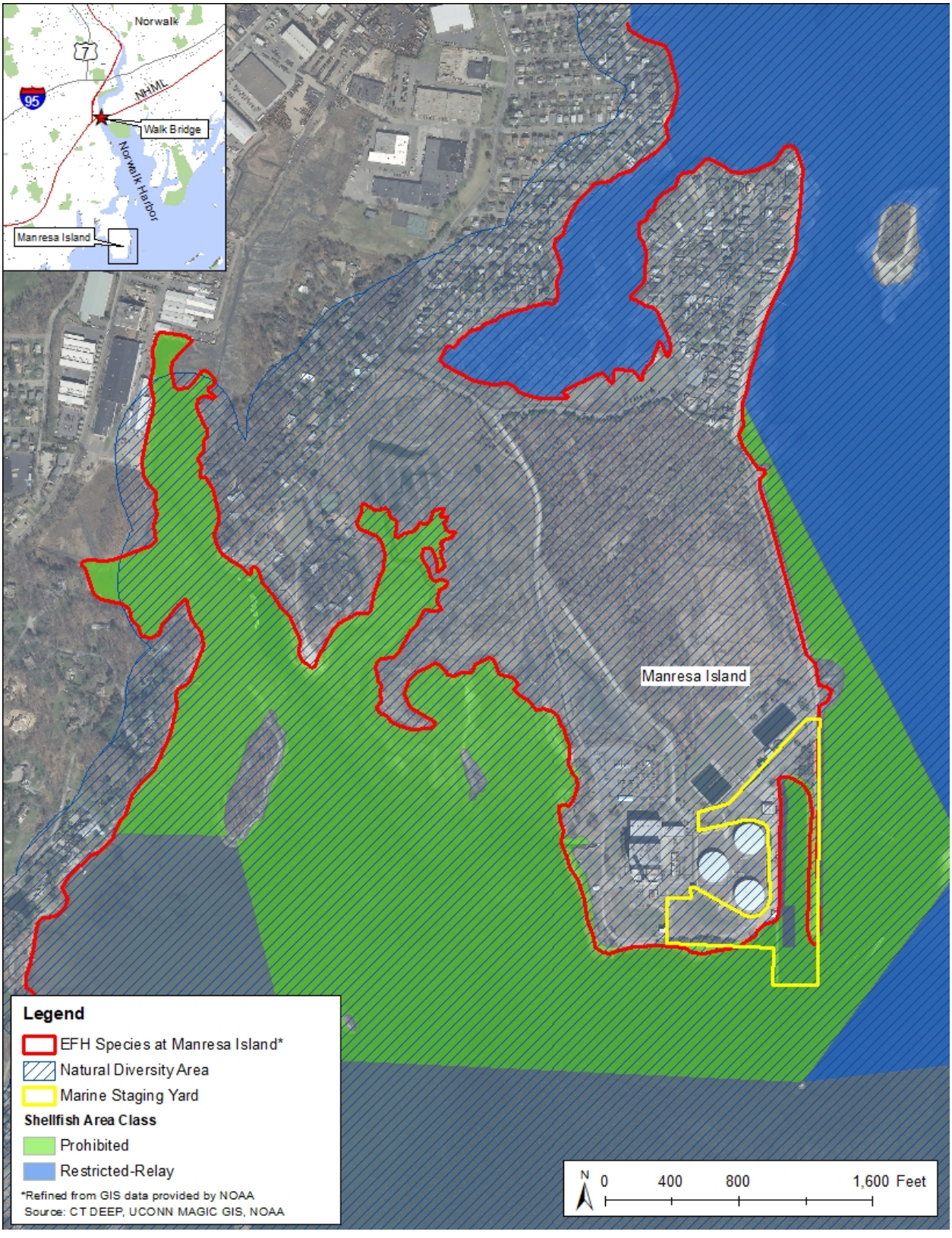

Figure 13 - Aquatic Resources in the Vicinity of Manresa Island Staging and Storage Yard

4.7 Aquatic and Terrestrial Resources and Habitat

Several species of plants, fish, birds, invertebrates, and mammals use the Norwalk River for food, shelter, and nursery grounds. Field investigations have documented the presence of schools of Atlantic menhaden (*Brevoortia tyrannus*), and local fisherman have stated that they had caught striped bass (*Morone saxatilis*) in the vicinity as well. The Norwalk River is also a known migratory route for diadromous species such alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), and the American eel (*Anguilla rostrata*). The Norwalk Harbor Watch program's latest data from 2014 trawling of juvenile benthic marine fish species produced collections of winter flounder (*Pseudopleuronectes americanus*), northern sea robin (*Prionotus carolinus*), cunner (*Tautogolabrus adspersus*), hogchoker (*Trinectes maculatus*) and northern pipefish (*Syngnathus fuscus*) within the project site vicinity. Per the National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) mapper (April 2020), EFH for eighteen species exists in the project area, including Walk Bridge, the Norwalk River, Norwalk Inner Harbor, Norwalk Outer Harbor, and western Long Island Sound to Manresa Island. The EFH includes varying life stages for each of the following species: winter skate (*Leucoraja ocellata*), little skate (*Leucoraja erinacea*), summer flounder (*Paralichthys dentatus*), black sea bass (*Centropristis striata*), scup (*Stenotomus chrysops*), longfin inshore squid (*Loligo pealeii*), Atlantic mackerel (*Scomber scombrus*), bluefish (*Pomatomus saltatrix*), Atlantic butterfish (*Peprilus triacanthus*), Atlantic herring (*Clupea harengus*), pollock (*Pollachius virens*), red hake (*Urophycis chuss*), winter flounder (*Pseudopleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), ocean pout (*Macrozoarces americanus*), silver hake (*Merluccius bilineris*), sand tiger shark (*Carcharias taurus*), and smoothhound shark complex (Atlantic stock) (as depicted in Figure 10 and Figure 11).

According to the December 2019 CTDEEP Natural Diversity Database (NDDB) map, the Walk Bridge project, inclusive of the wetland mitigation areas at Oyster Shell Park and extending south to the Manresa Island Staging and Storage Yard, is designated as state and federal species habitat. The northern parcel of Manresa Island (Parcel 5/86/2), generally west of Manresa Island Road, is shown as critical habitat on the December 2019 NDDB Areas Map for Norwalk. The CTDEEP NDDB critical habitat designation is for the Coastal Marine Community which will not be impacted at any stage of this project. In its *Northeast Coastal Areas Study: Significant Coastal Habitats of Southern New England and Portions of Long Island, New York*, the USFWS lists the Norwalk Islands and Tidal Wetlands Complex (Site 20), which includes Manresa Island extending north along the mainstem channel of the Norwalk River to the vicinity of the Silvermine River, as a significant and unique coastal habitat (1991). Potential impacts to wildlife resources and habitat are described in Section 4.9.

4.8 Benthic (bottom) Habitat

The waters in and around the project site, consisting of Norwalk River, the Norwalk Inner Harbor, and the Norwalk Outer Harbor, serve as habitat for multiple benthic species. The Norwalk Harbor Watch program inventoried crustacean collections and found the presence of common mud snail (*Ilyanassa obsoleta*), eastern mud snail (*Ilyanassa obsolete*), black fingered mud crab (*Panopeus herbstii*), blue crab (*Callinectes sapidus*), common slipper shell (*Crepidula fornicata*), Atlantic oyster drill (*Urosalpinx cinerea*), shore shrimp (*Palaemonetes spp.*), and sand shrimp (*Crangon septemspinosa*). In the immediate vicinity of the Walk Bridge, field observations of ribbed mussels, eastern oyster, and hard-shelled clam provided direct evidence of benthic habitat utilization by bivalves. Other shellfish expected to occur within the river channel include blue mussel (*Mytilus edulis*) and softshell clam. Various other aquatic invertebrate species observed or expected to be present in the Norwalk River proximate to the project site include various

amphipods, isopods, fiddler crabs (*Uca spp.*), shore crabs, pea crabs (*Pinnotheres* [*Tumidotheres*] *maculatus*), spider crabs (*Libinia spp.*), tunicates, barnacles (*Balanus spp.*), jellyfish, and bryozoans.

Marine algae, commonly called seaweeds, are rootless macroscopic benthic plants found from intertidal to subtidal regions of coastal environments. The more common seaweeds likely found in the project vicinity include green algae (phyla *Chlorophyta*) and brown algae (phyla *Phaeophyta*), both of which occupy the shallower areas. Observed at the project area were sea lettuce (*Ulva spp.*), as well as rock weed and knotted wrack (*Ascophyllum spp.*), although several other species are likely present. The seaweeds are typically found in association with boulders or larger cobbles that may or may not be embedded in the sediment, while sea lettuce predominates in unconsolidated sediment areas between the boulder and cobble. Many of the seaweeds are only visible during limited seasonal conditions.

Based on a research and field review of the Norwalk River and surrounding waters in the vicinity of Walk Bridge, CTDOT determined that no populations of submerged aquatic vegetation (SAV), such as common eelgrass (*Zostera marina*), widgeongrass (*Ruppia maritima*), or any other non-algae submerged aquatic plant species, exist in and around the Walk Bridge.[1] The CTDEEP Environmental Conditions Online resource map viewer was accessed to assess whether any eelgrass beds were identified in or around Manresa Island. This online database depicts eelgrass beds identified during the 2002, 2006, 2009, 2012, and 2017 surveys. No eelgrass beds were identified at the Manresa site. Therefore, no impacts to SAV species are anticipated to occur from the construction of the replacement bridge. Potential impacts to benthic (bottom) habitat are described in Section 4.9.

4.9 Potential Project Impacts and Avoidance and Mitigation Measures

4.9.1 Impacts to Benthic Environment

Direct removal of the benthic substrate at the bridge site, via dredging/excavation and drilled shaft/center support structure construction for the two lift piers, will be necessary. The resulting disturbance footprints will be small when compared to the total area of existing Norwalk River benthic habitat, which has been subject to larger scale disturbances in the past such as the U.S. Army Corps of Engineers' (USACE's) maintenance dredging conducted in 2014 for the portion of the Norwalk River federal channel just south of Walk Bridge and extending south to the Norwalk Harbor. Adverse impacts to benthic invertebrate communities and EFH from this project are therefore anticipated to be minor. These minor adverse permanent short-term impacts include the removal of benthic species inhabiting the footprints, as they will be excavated along with river bottom sediments and removed from the site for upland disposal. However, after dredging/excavation activities are completed, substrate of similar composition will be placed back. This will provide the opportunity for similar benthic species to return and recolonize the disturbance footprint.

Recolonization of the disturbance footprints by algae and benthic organisms is expected to begin almost immediately following construction activities, especially given the proximity to colonizing biota. Larvae and other motile life stages and motile species will find the substrate available for settlement. Additionally, colonizing filter feeders will not be impeded from normal functioning and will flourish. Recruitment rates by algae and benthic fauna are tied to light penetration into the water column, water chemistry and temperature, substrate characteristics, and other factors such as wave or tidal energy, and bathymetry. The

[1] Stanton, Paul, Fitzgerald & Halliday, Inc. Summary of Research and Findings Regarding Sub-Aquatic Vegetation in the Norwalk River. June 2, 2015.

unconfined dredging activities will be scheduled to conclude before spring, allowing recolonization to coincide with steadily increasing water temperatures and light penetration with the onset of the spring and summer seasons.

4.9.2 Impacts to Indigenous Aquatic life, Including Shellfish and Finfish

Consultation with CTDEEP Fisheries Division – Marine Fisheries Program indicates that anadromous fish migration periods exist in the Norwalk River/Harbor from April 1st through June 30th, and the most sensitive period for winter flounder reproduction in the Norwalk River/Harbor is from February 1st through May 15th. Similarly, coordination with the NOAA/National Marine Fisheries Service/Greater Atlantic Regional Fisheries Office (NMFS/GARFO) indicates that from April through November, there is potential for Section 7 Endangered Species Act (ESA)-listed species (Atlantic sturgeon and shortnose sturgeon) to occur within the project action area, which includes construction barge traffic from vessel mooring locations in outer Norwalk Harbor (proximate to and south of Manresa Island) north on the Norwalk River to approximately 1.3 miles north of the bridge site.

Overall, minor adverse short-term impacts are anticipated to indigenous fish species during periods of active construction. Fish will be hindered from using habitat in the project area when barges and other construction equipment are actively excavating/dredging, pile driving/extracting, and/or shaft and micro pile drilling. Short term conditions potentially affecting fish include increased turbidity in the water column (which will be limited or controlled with the installation of turbidity curtains, marine enclosures, and/or unconfined during the months of December and January) and increased sound pressure levels from underwater construction activity.

Impacts from underwater construction noise have been documented in the NOAA/NMFS Section 7 Informal Consultation and through consultation with NOAA/NMFS for the protection of EFH (**Attachments M1 and 2**). The noise assessment considered underwater sound pressure levels from pile driving and extraction; clamshell and backhoe dredging/excavation; shaft and micro pile drilling; use of grinders, impact guns, jackhammers/rock breakers; from moving barges, as well as generators and compressors used on barges. As indicated in **Part III, Question 2b**, a test pile program was planned and executed for the project. As part of the test pile program, noise and vibration levels were measured in the water and assessed for impacts to fish. Based on the results of the hydro acoustic monitoring, it was determined that the use of the vibratory hammer did not generate significantly higher noise than background. For the use of impact hammers only, it was determined that the physiological threshold levels have been exceeded for the four turtle species of interest, and that the cumulative threshold levels have been exceeded for the sturgeon species. Per agreement with NOAA/NMFS/GARFO, impacts associated with underwater noise will be mitigated for implementing soft start protocols (as indicated in **Part III, Question 1**) for impact pile driving and vibratory pile installation activities that are conducted outside the November 1st through March 15th timeframe. Per guidance from CTDEEP Marine Fisheries Program, drilling operations within caissons and behind a marine enclosure are not subject to these restrictions.

Coordination with NOAA/NMFS/GARFO includes a recommendation for an unconfined dredging window behind turbidity curtain of December 1st through January 31st to minimize adverse impacts to EFH and Section 7 ESA-listed species. This construction window is aligned with the aforementioned CTDEEP Marine Fisheries Program time of year restriction. Additionally, in compliance with NOAA/NMFS/GARFO requirements, no unconfined in-water silt producing activities will be conducted from February 1st through September 30th, of any calendar year, to protect winter flounder sensitive life history stage EFH, diadromous fish passage, and shellfish resources (**Attachment M1**). Note that per

agreement with NOAA/NMFS/GARFO, pile driving is not considered to be silt-producing work. Additionally, per agreement, turbidity generated by activities within marine enclosures will not affect the river outside the marine enclosure, and therefore activities within marine enclosures are not bound by the time of year restriction of silt producing activities.

Coordination with NOAA/NMFS/GARFO identified that shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) have the potential to occur in the Norwalk River from April to November. Shortnose sturgeon and the New York Bight, Chesapeake Bay, South Atlantic, and Carolina distinct population segments (DPSs) of Atlantic sturgeon are listed as federally endangered, and the Gulf of Maine DPS of Atlantic sturgeon is listed as federally threatened. CTDOT has consulted with NOAA/NMFS/GARGO under Section 7 of the ESA. **Attachment M2** includes correspondence from NOAA/NMFS/GARFO concurring that the project is not likely to adversely affect any NMFS ESA-listed species and/or designated critical habitat in the project action area. Coordination includes initial concurrence determinations (July 17, 2018) and verification of findings due to design refinements with the potential to impact ESA-listed species and/or critical habitat (August 1, 2019).

As a further protection of aquatic resources, CTDOT will conduct water quality monitoring through the duration of in-water project construction activities; water quality monitoring details are provided in **Part III, Question 2b**. **Part III, Question 1** lists the environmental protection measures to be implemented for the project, including time of year restrictions.

4.9.3 Impacts to Terrestrial Resources and Habitats

Attachment C and **Attachment M5** contain the May 23, 2019 and April 16, 2020 responses from CTDEEP NDDB for the project. Per CTDEEP NDDB records, the State Threatened peregrine falcon (*Falco peregrinus*) has been known to nest up on High Tower 529 above South Norwalk. CTDOT has developed protocols (best management practices) for protection of the peregrine falcon during construction activities. Per the NDDB response, CTDEEP confirmed with CTDOT that no confirmed nesting by the peregrine falcon has occurred since 2015 in the immediate vicinity of the project. Should the species be observed in the direct work area, however, CTDEEP has directed CTDOT to implement its best management practices (BMPs) for protection of the peregrine falcon, including the stipulation that no work (including construction and/or inspection activities) will occur within 400 feet of an active nest between April 1st and July 31st.[2]

According to the December 2019 CTDEEP Map for Norwalk, state and federal listed species exist on Manresa Island. CTDEEP has records for peregrine falcon and State Special Concern Northern diamondback terrapin (*Malaclemys t. terrapin*) in the vicinity of the Manresa Island Staging and Storage Yard. A field investigation of the Manresa site conducted by CTDOT in March 2020 revealed a peregrine falcon pair proximate to the Staging and Storage Yard, and up to three potentially active osprey (*Pandion haliaetus*) nests located within/adjacent to the yard which could be affected by project activities. Additionally, activities at the Manresa Island Staging and Storage Yard have the potential to intersect nesting habitat areas for the Northern diamondback terrapin via the site access roads, which are in close proximity to the turtles' habitat during breeding season. Per the NDDB response, CTDEEP concurred with CTDOT's use of its BMPs for protecting the peregrine and the Northern diamondback terrapin (included in **Attachment C**) as a means to lessen adverse impact on identified species.

[2] This BMP is included in Article 1.10.03 of Section 1.10 Environmental Compliance of CM/GC Division 1 – General Requirements and Covenants, revised 4-13-2020.

Due to the presence of identified species on Manresa Island, CTDOT re-initiated consultation with CTDEEP Wildlife Division to implement protection strategies. Mitigative measures include: for the Northern diamondback terrapin, implementing speed restrictions along the access roads and educating personnel on site regarding the possible occurrence of the Northern diamondback terrapin; and for the osprey, starting use of the staging and storage yard outside the window of April 15th through July 31st to allow for nesting ospreys to acclimate to project activity within their nesting areas. These TOY restrictions and other BMPs will be incorporated into contract specifications.

The project was submitted to the United States Fish & Wildlife Service (USFWS) under the final 4 (d) streamlined consultation process for the Northern long-eared bat (*Myotis septentrionalis*) and has a not likely to adversely affect (NLLA) determination. On behalf of FTA, CTDOT OEP biologists have made a no effect determination for the threatened red knot (*Calidris canutus rufa*) and the endangered roseate tern (*Sterna dougallii dougallii*) based on the most current data from CTDEEP and a no suitable habitat determination. Construction will occur from barges located within the river, from work platforms above the river, from the railroad tracks, or from within the right-of-way. **Attachment M4** includes correspondence from USFWS.

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Part III: Project Information
(continued)
Questions 5 and 6

5. Identify whether the proposed activities will impact the following categories. If so, describe the expected impact, adding addenda as necessary as Attachment M.

5.1 Use and Development of Adjoining Uplands

The project will have minor impacts on adjoining upland communities/habitat. The minor impacts that will occur at the bridge site are associated largely with the loss of a narrow, ruderal upland habitat patch, which contains a high composition of invasive plant species, that has developed along the railway side slopes.

The project will not impact native upland soils or other valued surficial or bedrock geologic resources. The expansion of the bridge approach on the east side of the river may necessitate the import of suitable backfill material that will replace existing urban soils.

Existing upland vegetation will be lost due to clearing and grubbing during construction work along both bridge approaches. The entire area within the limit of disturbance will be cleared, resulting in the removal of existing vegetation and stumps. This removal is considered a permanent impact (i.e., loss of woody plant coverage within the project area). Although the existing trees and shrubs will be permanently removed, this is not anticipated to be a significant negative ecological impact due to the limited extent of the trees being removed, the largely non-native community composition, and the poor quality of the habitat affected (largely ruderal habitat that grew atop a filled slope).

Loss of herbaceous coverage will be temporary, since upon completion of the bridge approach widening construction activity, all exposed bare soil areas will be stabilized via re-seeding. Soil stabilization within the project area will be conducted as required to protect the water quality of the Norwalk River. Approved seed mixes for coastal locations will be used to return herbaceous cover to areas of disturbed soil. Invasive species control/removal will be provided as needed during the site stabilization.

5.2 Use and Development of Adjoining Lands and Properties

The project will require the use of lands and properties adjoining the project site and along the Norwalk River for the construction and operation of the replacement bridge, as shown in Figures 1 and 2. The parcels will be used for temporary storage of construction equipment and supplies, assembly of large assembly components of the new bridge and staging of equipment, storage of components of the dismantled existing bridge, access to the Norwalk River and streets for transport of equipment and materials, access to the

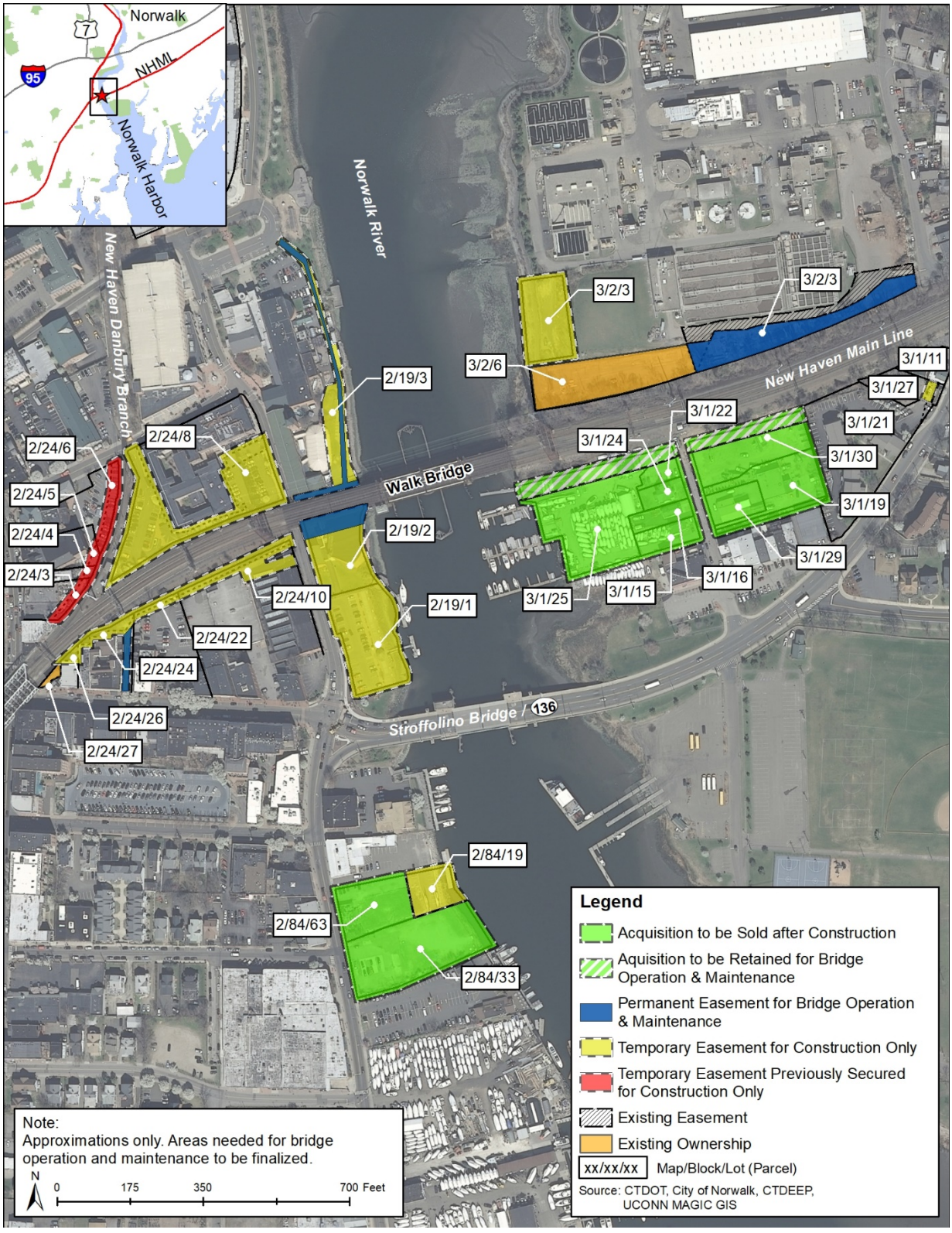

Figure 1 – Proposed Parcel Use in the Vicinity of Walk Bridge

Figure 2 – Proposed Parcel Use at Manresa Island

railroad ROW, dredged/excavated sediment temporary storage and management, and access to the bridge for maintenance. CTDOT is acquiring parcels through full and partial parcel acquisitions and full or partial parcel construction easements. As design progresses, CTDOT may require additional, minor right-of-way (ROW) easements for construction.

In the case of the parcels immediately adjacent to the bridge (Parcels 2/19/2, 2/19/3, and 3/1/25), CTDOT will retain permanent easements for access to the bridge for future operations and maintenance. Note that permanent access is also needed on Parcel 3/2/6, which is already owned by CTDOT. CTDOT is continuing to refine the size of the required easements for future bridge maintenance and operations. The permanent easements required on Parcels 2/19/2, 2/19/3, and 31/25 for bridge operations and maintenance may result in less available area for future development. CTDOT is finalizing the amount of areas needed for bridge operations and maintenance.

Following construction completion, the acquired parcels will be sold per CTDOT's Office of Rights of Way Property Management Division. CTDOT will provide monetary and other relocation assistance to displaced property owners in accordance with the procedures outlined in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Connecticut's Uniform Relocation Assistance Act. For waterfront parcels (1 Goldstein Place – Parcel 3/1/25, zoned Industrial; and 90 Water Street - Parcel 2/84/33, zoned Marine Commercial), CTDOT will market the excess property indicating the highest priority and preference for water-dependent use of the site. Regarding the sale of the respective properties, State agencies are given first right of refusal. Thereafter, properties will be offered for sale by bid. Once the purchase price has been established, the City of Norwalk will be given the right of first refusal before they are offered to the public. Non-conforming parcels will only be offered to the abutting property owner(s). There are opportunities for these two parcels to be redeveloped with water-dependent uses, a priority use of waterfront parcels per the Norwalk Harbor Plan and the Connecticut Coastal Management Act.

Except for 10 North Water Street (Parcel 2/19/2, IMAX Theater), construction easements will cease upon project completion, and properties will be restored to pre-construction conditions. The full use of Parcel 2/19/2 as a temporary easement will result in the displacement and demolition of the IMAX Theater. To mitigate impacts and compensate for the loss of the facility, CTDOT has entered into an agreement with the City of Norwalk allowing for the future development of a functional replacement facility. In coordination with the City of Norwalk, the Maritime Aquarium of Norwalk is responsible for constructing the functional replacement facility, including conducting environmental evaluations and preparing permit applications.

5.3 Improvement of Coastal and Inland Navigation for all Vessels, Including Small Craft for Recreational Purposes

The project will improve marine traffic conditions in the Norwalk River. With the new vertical lift bridge, the reliability of bridge operations will be substantially improved. The proposed increased bridge height will reduce the frequency of bridge openings, which will benefit commercial and recreational marine users.

The elimination of the center pivot pier that divided the navigation channel at the existing Walk Bridge will result in an effective increase in the width of the navigation channel of the replacement bridge, improving passage through the replacement bridge. The widened channel at Walk Bridge via the removal of the pivot pier and fender system also will improve rowing conditions and rower (and other small boat) safety, by providing more visibility for rowers and boaters. The required channel maintenance dredging to the authorized dredge depth will straighten the alignment between Walk Bridge and the Stroffolino Bridge and improve the navigability of the river between and through the two bridges, improving overall conditions for large and small vessel users.

A primary goal of the Walk Bridge Replacement Project design is to minimize disruptions to rail and river traffic during construction. As such, the lift span was designed and configured to allow the swing span to remain operational for boat traffic until the first of the two lift spans is ready to be installed. For most of the project duration, it is anticipated that the river will remain open to traffic by restricting construction activity to one existing channel and keeping the other channel open to marine traffic. There will be certain construction activities that will require either a vertical restriction or a complete channel closure. A vertical restriction is introduced when construction activity would prevent the safe movement of the existing swing span. CTDOT will coordinate the existing bridge removal and new bridge construction activities with the USCG Sector Long Island Sound to limit channel restrictions and outages. Aids to navigation will include Notices to Mariners, on-site signs, and lighting. Coordination with the USCG Sector Long Island Sound and the Norwalk Harbormaster is currently ongoing and will continue during the operational phase of the project.

The Walk Bridge Replacement Project will improve coastal navigation and water-dependent uses. As a commitment to the City of Norwalk, a new bulkhead waterward of 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33) will be constructed and retained in the permanent condition. The permanent bulkhead will improve the existing properties and support navigational operations for future water-dependent uses at these parcels zoned Marine Commercial. The realignment of the existing docks and new dock addition for the Sheffield Island Lighthouse Ferry and the Maritime Aquarium's research vessel will improve waterfront facilities for these operators and enhance water-dependent uses in downtown Norwalk.

5.4 Water Quality

The surface waters of the Norwalk River at the existing bridge site south to Manresa Island are identified as Class SB coastal and marine surface waters. Class SB waters have designated uses for marine fish, shellfish and wildlife habitat, recreation, industrial and other uses including navigation. Discharges into Class SB waters are restricted to those from public or private drinking water treatment systems, dredging and dewatering, and emergency and clean water discharges. This also includes cooling waters and discharges from industrial and municipal wastewater treatment facilities.

In June 2018 CTDOT conducted subsurface site investigations within the Norwalk River and at the proposed wetland mitigation areas in the vicinity of the existing bridge to determine whether dredging and other work within the river would require management of contaminated sediment. Based on the testing results, both the wetland mitigation areas and the Norwalk River are identified as a preliminary Areas of

Environmental Concern (AOECs). The sediment contains Extractable Total Petroleum Hydrocarbons (ETPH), Semi-Volatile Organic Compounds (SVOCs), pesticides, and/or metals (arsenic and/or chromium) at concentrations exceeding the RSR criteria and therefore classified as contaminated material. Any sediment removed from the wetland mitigation sites and the Norwalk River is classified as contaminated material and will therefore be handled as controlled material. The project includes specifications for the proper management and disposal of contaminated materials, including removal, handling, transporting and disposal during construction activities and for establishment of appropriate worker health and safety protocols. Excavated sediments will be managed in accordance with the CTDEEP General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) and the CTDEEP General Permit for the Discharge of Groundwater Remediation Wastewater.

As described in **Part III, Question 2b**, CTDOT will implement water quality monitoring for all in-water work during the project. Water quality monitoring will consist of monitoring for turbidity on a continuous basis in the vicinity of each turbidity producing activity. Additionally, CTDOT will monitor for specific conductivity, salinity, dissolved oxygen, pH, temperature and water level (at one location) to determine if marine life and other natural conditions may be contributing to turbidity levels.

Water quality within the Norwalk River will improve due to the wetland mitigation parcels being constructed. Native saltmarsh areas are being created to aid in sediment retention and water quality improvement through the thousands of plantings of shrubs and native grasses in the low marsh restoration areas.

At the site of the Manresa Staging and Storage Yard, site-wide groundwater has been impacted by historic power plant operations. The entire Manresa Island site (both the northern and southern parcels) was previously characterized as a large quantity generator of hazardous waste. It is currently enrolled in USEPA/CTDEEP's Property Transfer Program and RCRA Corrective Action Program, requiring regular groundwater monitoring. Installation of construction fencing required for the Staging and Storage Yard, including installation of fence and gate posts, will not impact site groundwater. Per CTDOT OEC, excess materials from fencing posts will be handled in accordance with project specifications, including transport to the project Waste Stockpile Area (WSA), characterization, and disposal.

5.5 Water Circulation and Drainage

CTDOT is applying for individual Flood Management Certification (FMC) concurrent with this application for a Structures, Dredging & Fill, and Tidal Wetlands and 401 Water Quality Certificate.

The following provides a summary of findings presented in the FMC application relative to hydraulic modeling and impacts to the 100-year and 500-year storm events at the Walk Bridge site.

Hydraulic models were developed of the existing and proposed conditions at the Walk Bridge site. To ensure that the proposed bridge will not have an adverse impact to the 100-year design floodplain, the proposed conditions hydraulic model was compared to the existing conditions model. The proposed 100-year water surface elevations (WSELs) were compared to determine the proposed bridge's impact on the

Norwalk River. Upstream of the project bridge, the proposed model showed no adverse impact to the 100-year floodplain, as the proposed WSELs either matched or decreased 0.01 feet compared to existing conditions. Downstream of the project bridge, WSELs increased slightly (0.01 feet) in the sections immediately downstream of the bridge. Proposed WSELs match the existing elevations further downstream. The 100-year floodplain at these sections remains within the channel. Due to the minimal variance between the existing and proposed models, the proposed 100-year floodplain limits match the existing limits. The proposed bridge exceeds the CTDOT Drainage Manual's under clearance requirement of 2 feet for large tidal structures, as it provides over 15 feet of under clearance.

During the 500-year storm event, the proposed conditions model WSELs are shown within 0.03 feet of the existing elevations. Similar to the 100-year storm event, the proposed bridge will provide over 15 feet of under clearance during the 500-year storm event. No additional properties (commercial, industrial or residential) or roadways will be impacted by the 500-year floodplain.

As described in **Part III, Question 2a**, during construction, temporary work platforms (trestles) and marine enclosures will be used within the Norwalk River, beneath and adjacent to the bridge. The proposed bridge is expected to take approximately five to six years to construct. For projects with a three year or longer construction duration, the CTDOT Drainage Manual recommends that temporary conditions be designed for the 25-year storm event. The first temporary condition (Temp 1) consists of the existing bridge, temporary work platforms, and the marine enclosures required to construct the lift piers. The second temporary condition (Temp 2) includes the existing pivot pier, existing rest piers, proposed bridge (foundation and superstructure), temporary work platforms and marine enclosures required to remove the swing span pier and rest piers. Upstream of Walk Bridge, both temporary conditions resulted in an increase in 25-year WSELs. Temp 1 25-year WSELs were up to 0.08 feet higher than existing elevations and Temp 2 25-year WSELs were up to 0.11 feet higher than existing elevations. Downstream of the bridge, Temp 1 WSELs matched existing elevations, while Temp 2 WSELs matched existing elevations for all but for one section (0.02-foot increase). The 25-year WSELs for both temporary conditions are contained within the Norwalk River's main channel. Neither of the temporary conditions will result in adverse flooding of any commercial, residential, or industrial structures upstream of the project; nor will they impact roadways or parking lots during the 25-year temporary design event.

As cited in Question 4.4, hydraulic modeling is not required for the project's construction staging and storage yards. While there will be fill within the FEMA floodplain at the parcels, the parcels at the bridge site are located within the tidal floodplain with no riverine (fluvial) impacts. Similarly, at the Manresa Island Staging and Storage Yard, the temporary fill will be placed only in the tidal floodplain and not in the fluvial floodplain. Further, the volume of fill at the sites is not substantial enough to result in adverse impacts to the depth, velocity, or flow patterns during a storm surge event.

5.6 Recreational Use of Public Water

In the permanent condition, the project will improve the recreational use of the Norwalk River. The straightened channel alignment between Walk Bridge and the Stroffolino Bridge will greatly improve the navigability of the river between and through the two bridges, improving overall conditions for large and

small vessel users. The widened channel at Walk Bridge and the removal of the pivot pier also will improve rowing conditions and rower (and other small boat) safety, by providing more visibility for rowers and boaters.

During project construction, the recreational use of the Norwalk River will be impacted. However, to the greatest extent practicable, construction activities will be coordinated to ensure activities are only taking place on one half (or occupy less than only 50% when working in the middle of the river) of the navigation channel at a time. As a result, smaller boats using the river, including rowing shells, generally will have access through the project construction area. With the exception of channel closures for specific bridge demolition and construction activities, as well as restrictions or closures due to construction equipment, one of the existing channels will be available for smaller boats without vertical clearance requirements During times of vertical restriction, taller vessels, such as sailboats or powerboats with fixed equipment extending above the vertical clearance, will need to relocate to marine facilities south of Walk Bridge, or to other harbors nearby for winter storage, summer use, or both. For vessels requiring longer-term boat repairs or winter storage at upstream facilities, dropping sailboat masts downstream of Walk Bridge would facilitate passage to upstream facilities. Depending upon the mast type and boat, it may be possible for the vessel to carry the mast on-board through the construction area to its destination.

CTDOT is preparing a Marine Use Plan, a component of the project's construction coordination plans, through consultation with water-dependent users of the Norwalk River, including rowing clubs, marinas, and other commercial interests. Additionally, the construction contractor is required to prepare a Marine Safety Plan for approval by CTDOT. This plan will be developed through consultation with the Norwalk Harbormaster and USCG Long Island Sector.

5.7 Protection of Life and Property from Flood, Hurricane and other Natural Disasters

As cited in Section 4.4, Coastal Hazard Areas, measures will be implemented during construction to protect property from flood, hurricane, and other natural disasters.

6a. Identify and evaluate any potential beneficial and adverse impacts to navigation (include federal and local navigation channels and distance to nearby docks).

The project will improve marine traffic conditions in the Norwalk River. With the new vertical lift bridge, the reliability of bridge operations will be substantially improved. The proposed bridge height represents an increase from existing conditions, and will reduce the frequency of bridge openings, which will benefit commercial and recreational marine users. In the open position, the vertical clearance will match the clearance of the governing bridge (the Yankee Doodle Bridge). With the removal of the center pivot pier, the proposed bridge will increase the effective width of the navigation channel and decrease the hazard of passage through the proposed bridge by allowing marine traffic to use the entire navigation channel. The larger hydraulic opening will also result in a slight reduction in flood and tidal velocities. In sum, the

vertical and horizontal clearances will provide for the safe, efficient passage of vessels through Walk Bridge.

The required channel maintenance dredging to the authorized dredge depth will straighten the alignment between Walk Bridge and the Stroffolino Bridge and improve the navigability of the river between and through the two bridges, improving overall conditions for large and small vessel users. The widened channel at Walk Bridge via the removal of the pivot pier will improve rowing conditions and rower (and other small boat) safety, by providing more visibility for rowers and boaters.

During construction, marine users will be adversely impacted at times. A primary goal of the Walk Bridge design is to minimize construction-related disruptions to rail and river traffic. As such, the swing span will remain operational for boat traffic until the first of the two lift spans is ready to be installed. For most of the project duration, it is anticipated that the river will remain open to traffic by restricting construction activity to one existing channel and keeping the other channel open to marine traffic. There will be certain construction activities that will require either a vertical restriction, a horizontal restriction or a complete channel closure. A vertical restriction is introduced when a construction activity would prevent the safe movement of the existing swing span. A horizontal restriction is introduced when temporary works being implemented for new bridge construction are temporarily placed within the limits of the navigation channel, thereby reducing the horizontal clearance. CTDOT will coordinate the existing bridge removal and new bridge construction activities with the USCG Sector Long Island Sound to limit channel restrictions and outages. Aids to navigation will include Notices to Mariners, on-site signs, and lighting. Ongoing coordination with the Norwalk Harbormaster and the USCG Sector Long Island Sound will continue during the operational phase of the project.

The design of the southwest construction platform (trestle) has been revised to possibly allow the existing docks of the Sheffield Island Ferry and Maritime Aquarium to remain in their general current location (waterward of Parcel 2/19/1) during project construction. In coordination with the owners, the City of Norwalk, the Norwalk Harbor Management Commission, and federal and state regulators, CTDOT is evaluating options for passenger loading and unloading and vessel storage that will minimize impacts on vessel operations while maintaining safety for waterway users. Options include maintaining all operations at the current location, temporarily relocating passenger operations and vessel storage approximately 700 feet south, waterward of 68 and 90 Water Street (Parcels 2/84/19 and 2/84/33), or a combination of the two locations. This permit application, including permit plates and estimated impacts, is based on using a combination of the two locations. Following bridge construction, all operations of the Sheffield Island Ferry and the Maritime Aquarium vessel will resume waterward of Parcel 2/19/1.

As cited in Section 5.3, the new permanent bulkhead at 68 and 90 Water Street will support navigation and water-dependent uses. The realignment of the existing docks and new dock addition for the Sheffield Island Lighthouse Ferry and the Maritime Aquarium's research vessel will enhance water-dependent uses in downtown Norwalk.

6b. Identify and evaluate any potential beneficial and adverse impacts to public access to, and public use of, public trust lands and waters waterward of mean high water.

CTDEEP's Coastal Access Guide identifies 32 public trust lands in the city of Norwalk, many of which are located along the Norwalk River in proximity to Walk Bridge. Upriver from Walk Bridge, public trust lands include locations at St. Ann's Club, Norwalk Rowing Club Association, Norwalk Boat Club, and Oyster Shell at Heritage Park. Downriver from Walk Bridge, public trust lands include Constitution Park, Veterans Park and public boat slips and moorings, and Calf Pasture Beach, which is located approximately 1.5 miles south of Walk Bridge. Riverfront walkways at condominiums and office developments located upriver and downriver from Walk Bridge are also considered to be public trust lands. Public trust lands adjacent to the bridge site include the Norwalk River Valley Trail (NRVT) on the west side of the river adjacent to the Norwalk Parking Authority (NPA)'s North Water Street parking lot; and the NRVT Harbor Loop Trail, located on the water's edge of the City's Waste Water Treatment Plant (WWTP) property on the east side of the river.

Project construction activities, including compensatory wetland mitigation, will impact portions of the NRVT on both sides of the river. Due to a construction easement on the NPA's parking lot, the portion of the NRVT adjacent to the lot may be closed to the public during construction. Access requirements to the wetland mitigation areas on the east side of the river (Areas 4 and 6) may affect public access to portions of the Harbor Loop Trail, including temporary closure of the trail. Additionally, access to Wetland Mitigation Areas 1 and 2 are proposed through Oyster Shell Park or parking areas for the park, impacting public access to portions of the park. These impacts to public trust lands will be short-term. Signage and flagging will be used during construction to minimize impacts to pedestrian and bicyclist safety. CTDOT is coordinating anticipated impacts to public trust lands and parks with the City of Norwalk.

The navigation improvements provided by this project will be a benefit for water-dependent uses, particularly for upriver commercial marine users and vessels with restricted maneuverability. This positive impact helps to mitigate the short-term effects of constrained marine passage during construction. Additionally, the City zoning and waterfront use and development policies have strong coastal use protections to provide for access to the coast and some water-dependent uses in riverfront parcels in the Inner Harbor.

The Walk Bridge Replacement Project will improve public access to and use of public trust lands near the bridge. This project will facilitate expansion of the coastal access network along the east side of the Norwalk River, providing waterfront access mitigation. CTDOT will construct an eastern path connection of the Norwalk Harbor Loop Trail via the existing and partially lowered eastern abutment of the existing bridge; the pedestrian/bicycle connection will extend south along the edge of the river, turn east, and follow the southern edge of the railroad to Goldstein Place (where the trail will join the roadway at South Washington Street). This pedestrian and bicycle connection will help facilitate the goals and vision of the Norwalk Master Plan of Conservation and Development, the Norwalk Pedestrian and Bikeway

Transportation Plan (2012), the Norwalk Trail Study - Maritime Link (2014), and the Mid-Harbor Planning Study (2005). In addition to the pedestrian/bicycle connection, and as part of the project Memorandum of Agreement, CTDOT is constructing a series of interpretive panels to be located near Walk Bridge, including along the bicycle paths and in public trust areas. The interpretive panels will enhance the public use and enjoyment of public trust areas near Walk Bridge.

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Part IV: Project Information
(continued)
Questions 10 and 12

10. Indicate the number and date of issuance of any previous state coastal permits or certificates issued by DEEP authorizing work at the site and the names to whom they were issued.

Permit/COP Number	Date Issued	Name of Permittee/Certificate Holder
Certificate of Permission/201807462	6/14/2018	Connecticut Department of Transportation
Structures, Dredging and Fill/Section 401 Water Quality Certification/CAM Review/201708100	5/7/2018	Connecticut Department of Transportation
Flood Management General Certification/201801456-FM	3/16/2018	Connecticut Department of Transportation
General Permit for Water Resource Construction Activities	6/26/2017 (submittal date)	Connecticut Department of Transportation
General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities/GSN003179	6/13/2017	Connecticut Department of Transportation
Coastal Management Consistency Review/NA	8/2/2016 & 3/8/2017	Connecticut Department of Transportation
Section 401 Water Quality Certification/TBD	11/21/2016	Connecticut Department of Transportation
Certificate of Permission/2016033772-MG	4/4/2016	Connecticut Department of Transportation
Certificate of Permission/201207773-SJ	3/11/2013	Connecticut Department of Transportation
Flood Management General Certification/ FM-201200688C	3/21/2012	Connecticut Department of Transportation
Certificate of Permission/2004-059-KZ	5/10/2004	Connecticut Department of Transportation

12.a. Identify and describe the existing municipal zoning classification of the site.

Walk Bridge is located within the Connecticut Coastal Area Boundary. The state-designation is intended to ensure that any development within the coastal area is conducted in a context sensitive manner without significantly disrupting either the natural environment or sound economic growth. The following City of Norwalk zoning districts are in the immediate vicinity of Walk Bridge at the four quadrants of the bridge:

- The northeast quadrant is zoned Industrial 1(I1). According to the Norwalk regulations, "the district is intended to provide low-scale industrial facilities interspersed with other uses and with the utilities and infrastructure necessary to support such industrial operations. The provisions of this zone are designed to recognize the need for manufacturing space while ensuring that these areas are compatible with adjacent residential neighborhoods and with the capacity of available infrastructure."

- The southeast quadrant is zoned Neighborhood Business (NB) directly adjacent to the bridge and AAA Conservation Land at Veterans Memorial Park. The intention of the AAA Conservation Land is to preserve land for park and recreation purposes. The Neighborhood Business Zone is intended to encourage mixed-use development in neighborhood commercial areas and water-dependent uses are encouraged on those lots which are adjacent to the waterfront.

- The northwest quadrant is zoned Reed Putnam Design District – Subarea D (RPDD) along the river and Reed Putnam Design District – Subarea E (RPDE) west of the NHL Danbury Branch. The districts were created to encourage development in accordance with the Reed Putnam Urban Renewal Plan, including creating opportunities for mixed-use development and enhancing public access to the Norwalk waterfront. There are five different subareas within the Reed Putnam districts, reflecting differences in use, height, and bulk of buildings.

- The southwest quadrant is zoned Washington Street Design District (WSDD). According to Article 50 of the Building Zone Regulations: "The purpose of this regulation is to preserve and enhance the unique character of the Washington Street Historic District and environs by encouraging the preservation of existing buildings, by encouraging the mixed-use of properties and by ensuring that all uses and structures will be compatible with one another and with the established character of the area."

  There are two areas of designated properties (also known as overlay districts) located west of the bridge. The first overlay district, "Designated Properties for Fees in lieu of Parking in South Norwalk," includes most of SoNo and allows for flexibility in parking requirements for uses located within its boundary. The second overlay district, "Designated Properties for Transit-Oriented Development (TOD) at South Norwalk Railroad Station," specifies TOD provisions for properties within its boundary. A third overlay district has been proposed to the east of the project area; the "Designated Properties for Transit Oriented Development at the East Norwalk Railroad Station," also specifies TOD provisions for properties within its boundary.

The parcels designated for construction material storage and employee parking at 68 (portion), 70, and 90 Water Street (Serials 7, 8, and 9 of the Walk Bridge Program ROW maps)) are located less than 0.20 miles southwest of the bridge site. The parcels are zoned as Marine Commercial (MC). Water-dependent uses are allowed in the Marine Commercial Zone including marinas, water-based recreational uses, parks and public recreational facilities and marine research labs and related facilities.

Parcel 5/86/1, a portion of which will be used as the Manresa Island Staging and Storage Yard, is located approximately 2.1 nautical miles south of the existing bridge. The 33-acre southern parcel (Parcel 5/86/1), and the 92-acre northern parcel (Parcel 5/86/2) on Manresa Island are zoned for B Residence. The principal uses and structures allowed in B Residence Zones are single-family detached dwellings, parks and playgrounds, limited farms/nurseries and neighborhood club houses. The decommissioned NRG Energy Manresa Island Power Plant and supporting facilities were allowed as a special permit use.

12.b. Identify and describe the existing land uses(s) on and adjacent to the site.

Walk Bridge and the railroad corridor in South Norwalk and East Norwalk are designated as a transportation land use.

The SoNo neighborhood, located west of the bridge, is a dense mixed-use area with restaurants, bars, retail, office, light industrial, and residential units served by municipal bus service. Recently, this area has seen substantial publicly and privately funded revitalization. There are several mixed-use Transit Oriented Development (TOD) projects under construction or planned in the SoNo neighborhood. The neighborhood is also home to two parks and the Norwalk Police Headquarters. In addition to the South Norwalk Train Station that services the New Haven Line, the neighborhood is served by five city bus routes. In the Norwalk Plan of Conservation and Development, the neighborhood is highlighted as a regional center with numerous development areas, some of which have already taken place.

The Maritime Aquarium at Norwalk is located directly adjacent to Walk Bridge between the Norwalk River and North Water Street. The Aquarium complex occupies the western bank of the Norwalk River on both the north side and south sides of the bridge; the two areas are connected by a pedestrian walkway running underneath the bridge. Across North Water Street from the aquarium on the north side of the rail corridor is the Norwalk Lock Building, a historic industrial building converted to commercial office space that abuts the retaining wall along the rail corridor, separated by a 10-foot access driveway. Further north, the SoNo Collection, a mixed used retail shopping center with over 1 million square feet of development, currently is under construction and slated for completion in 2019. To the west along the north side of the rail corridor to the bridge over Washington Street, the land use is comprised of three and four-story mixed-use buildings with commercial uses on the lower floors and residential uses on the upper floors. The land use along the south side of the rail corridor west of the river is a similar make up, consisting of historic warehouse buildings rebuilt for new mixed use including the Ironworks SoNo building, converted to incorporate over 100 residences, located across North Water Street from the aquarium's IMAX Theater. South of the theater along the riverbank, additional uses include the Maritime Aquarium and Sheffield Island ferry docks and

an NPA public parking lot. Portions of the Norwalk River Valley Trail exist along the waterfront north of the SoNo neighborhood and at the NPA parking lot.

Further south along Water Street, at 68-90 Water Street, are three parcels designated for use as construction material storage and employee parking. Current land uses include office, warehouse and parking.

The east bank of the river directly adjacent to Walk Bridge is less densely developed than the west bank. The East Norwalk neighborhood is centered around the East Norwalk Train Station, which is located approximately one-half-mile east of the bridge. The Norwalk Water Pollution Control Authority (WPCA) Wastewater Treatment Plant (WWTP) is located approximately 750 feet to the northeast of Walk Bridge. The bridge and the WWTP are separated by a vacant CTDOT-owned lot primarily used for materials storage and access to the railroad and bridge for operations and maintenance. The WWTP Waterfront Walkway section of the Norwalk Harbor Loop Trail runs north along the river from Walk Bridge. The Liberty Square area, located southeast of Walk Bridge, consists of mixed land uses, including commercial uses (an auto body repair shop, contractor storage yard, plastic fabrication company) and single and multi-family residential uses.

Manresa Island, the location of the project's Staging and Storage Yard, consists of two parcels. The southern parcel, Parcel 5/86/1, is the site of the decommissioned NRG Energy Manresa Island Power Plant and supporting facilities, including industrial/utility support structures, an active Eversource Energy electrical substation, an office building and employee parking (71 spaces), dock, and harbor. In 2013, the power plant was decommissioned. Access to and from Parcel 5/86/1 is by two paved roads, Manresa Island Road and an unnamed construction access road, through the northern parcel (Parcel 5/86/2) to Longshore Avenue. Parcel 5/86/2 contains historic fill (contaminated material), dense forest cover, tidal and freshwater wetlands, and critical habitat. Due to the level of contamination, the parcel is not considered suitable for development.

Attachment AA – Published Notice of Application and Completed Certification of Notice Form

Connecticut Department of Energy & Environmental Protection

Certification of Notice Form - Notice of Application

DEEP USE ONLY
Division
Application No.

I , **Kimberly C. Lesay** , certify that
(Name of Applicant)

the attached notice represents a true copy of the notice that appeared in **The Hour**
(Name of Newspaper)

on **August 28, 2019**
(Date)

I also certify that I have provided a copy of said notice to the chief elected municipal official listed below as required by section 22a-6g CGS.

Harry Rilling	**Mayor**	
Name of Official	*Title of Official*	
125 East Avenue, P.O. Box 5125		
Address		
Norwalk	**CT**	**06856-5125**
City/Town	*State*	*Zip Code*
Kimberly Lesay	8/29/19	
Signature of Applicant	*Date*	
Kimberly C. Lesay	**Transportation Assistant Planning Director, Office of Policy & Planning**	
Name of Applicant (print or type)	*Title (if applicable)*	

SPORTS

COLLEGE FOOTBALL

No. 9 Notre Dame has stacked deck of youthful linebackers

ASSOCIATED PRESS

SOUTH BEND, Ind. — For a guy who generally holds his cards close to the vest, Clark Lea may have a couple aces up his sleeve.

The defensive coordinator and linebackers coach for No. 9 Notre Dame said he sees leaders everywhere on his side of the ball with the season opener at Louisville coming up on Monday.

In the secondary, free safety Alohi Gilman and strong safety Jalen Elliott are both team captains and the Fighting Irish are counting on senior Troy Pride Jr. to replace All-American Julian Love at boundary corner. On the defensive line, senior ends Julian Okwara and Khalid Kareem also were named captains by their teammates. Junior Myron Tagovailoa-Amosa has replaced the graduated Jerry Tillery and junior Kurt Hinish has stepped up at nose tackle.

Tasked with replacing linebackers Te'von Coney and Drue Tranquill — a combined 209 stops — from last season's 12-1 playoff team, Lea has spent the last eight months searching for the right combinations. Of 13 players rotating at Lea's three linebacker positions, 10 are freshman or sophomores.

"The thing I'm excited about is we have a talented group," Lea said. "Everyone has the ability to have a role in the game. We're not having two guys take the brunt of snaps this season. We have rotations, we have specific skills that are executed in situations."

Asmar Bilal, a 6-2, 227-pound grad student who saw the majority of snaps at rover last fall and finished with 50 tackles, has spent time at both Coney's middle and Tranquill's weakside linebacker positions. Drew White, a 6-foot, 230-pound physical junior who saw limited action in four games, has returned from shoulder surgery and is part of the rotation in the middle. Jeremiah Owusu-Koramoah, a 6-1, 216-pound junior, has been impressive in Bilal's old rover spot.

"(White's) got a really, really nice knack of finding the ball," added Lea, who likely will remove the once overlooked former three-time state champion at St. Thomas Aquinas (Florida) in passing situations. "He's a winner who has fought through adversity and hasn't wavered or backed down."

Coach Brian Kelly said he realizes that how well this young group grows will determine how far the Irish will go in 2019.

"We've got a better feel on who (the players) are and what their strengths and weaknesses are," Kelly said. "We'll use different packages and you'll see different faces. For this team, it's going to be about the basic tenets of football — we're going to have to run the ball well and stop the run. We're going to have to play with a physicality."

Carlos Osorio / Associated Press

Stanford wide receiver Trenton Irwin is stopped by Notre Dame safety Jalen Elliott (21) and linebacker Asmar Bilal during the first half in South Bend, Ind., in 2016. Notre Dame's second-year defensive coordinator Clark Lea has spent all spring, summer and preseason looking for replacements for graduated 2018 tackle leaders Te'von Coney and Drue Tranquill. In grad student Bilal and junior Drew White he may have found two of many.

The Norwalk Hour

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PUBLIC NOTICES

Notice of Permit Application

Town: City of Norwalk

Notice is hereby given that the Department of Transportation (the "applicant") of 2800 Berlin Turnpike Newington, CT 06131 has submitted to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-32 for a permit to conduct regulated activities in tidal wetlands, and Section 22a-361 to conduct work in tidal coastal or navigable waters of the State; and 33 U.S.C. Section 1341 (401 Water Quality Certification) to conduct an activity which may result in a discharge to certain waters of the State.

Specifically, the applicant proposes to replace the New Haven Line Railroad Bridge (Walk Bridge, Bridge No. 04288R) crossing the Norwalk River in Norwalk, Connecticut. The project consists of the removal of the existing bridge, including the superstructure, substructure elements (abutments and piers), timber pier protection system, and deactivated electrical and railroad submarine cables; and construction of the replacement bridge. The four-span replacement bridge includes two side-by-side, 240-foot vertical lift spans across the Norwalk River, each with independently operated mechanical and electrical equipment. The pair of 240-foot vertical lift spans provides 170 feet horizontal navigational clearance between fenders, 60.73 feet vertical clearance above mean high water (MHW) when the span is fully raised, and 25.73 feet vertical clearance above MHW when the span is closed. There are two western approach spans and one eastern approach span. The approach spans are side-by-side, two-track structures; the north structure carries Tracks 1 and 3 and the south structure carries Tracks 2 and 4. Each structure is comprised of a precast concrete composite ballasted deck supported on four simply-supported built-up welded plate girders. The lift spans are 40-foot deep through trusses, each with a double-intersection Warren truss configuration without verticals. Each lift span is an open-deck two-track structure made up of trusses with floor beams supporting track stringers. Tower structures at the end of the lift spans support the lifting mechanisms and counterweights for both lift spans. Short deck--girder spans through the towers at each end provide continuity from the approach spans to the movable spans.

The proposed activity will affect the Norwalk River; intertidal flats and vegetated tidal wetlands along the east and west sides of the Norwalk River, both north and south of the bridge; and the 100-year floodplain. The project will result in 8,600 square feet (sf) (0.20 acre) of permanent impacts to tidal wetlands. Compensation for permanent impacts to the vegetated tidal wetlands and intertidal mudflats will be largely in the form of mitigating tidal wetland areas within the intertidal zone, with some enhancement areas located landward of the high tide line. The loss of vegetated tidal wetlands and intertidal mudflats will be mitigated through treatment and removal of invasive common reed (Phragmites australis) in existing tidal wetlands, restoration of degraded vegetated tidal wetlands dominated by Phragmites, and restoration of a low-functioning intertidal flat previously impacted by riprap placement. The proposed mitigation areas cover a total of 61,990 square feet (1.42 acres), which is sufficient to compensate for the 34,400 square feet (0.79 acre) of required mitigation. These areas include 43,200 square feet (0.99 acre) that will be restored within existing tidal wetland boundaries which contain salt marsh vegetation, stands of Phragmites, and riprap with scattered patches of smooth cordgrass (Spartina alterniflora), in addition, 18,790 square feet (0.43 acre) will be newly created or restored tidal wetlands outside of existing tidal wetland boundaries. The mitigation plan also will include listed species enhancements and improvements to the overall water quality of the Norwalk River. The proposed mitigation areas exist along the Norwalk River, proximal to, but outside of the project's immediate vicinity. Selection and development of the wetland mitigation sites were conducted in close conjunction with the Connecticut Department of Energy and Environmental Protection (CTDEEP); additionally, local stakeholder representatives from the City and the Maritime Aquarium were also given opportunities to review the mitigation plans. The project also includes new developments to improve coastal navigation and water-dependent uses, consisting of a new bulkhead at the Marina Staging Yard (68-90 North Water Street), which will support navigational operations for future water-dependent uses; new docking facilities for existing Maritime Aquarium and Sheffield Island Ferry vessels; and a new permanent public fishing pier with small boat short-term docking waterfront of 4 North Water Street.

Interested persons may obtain copies of the application in electronic (CD) format from Ms. Kimberly Lesay, Transportation Assistant Planning Director, Connecticut Department of Transportation, 2800 Berlin Turnpike, Newington, Connecticut 06131 Telephone (860) 594-2931.

Interested persons may view the application on the Walk Bridge Program website at www.walkbridgect.com. Additionally, interested persons may view the application and/or obtain copies of the application in paper or CD format at the Walk Bridge Program Welcome Center, 24 Marshall Street, South Norwalk, Connecticut (corner of North Water Street and Marshall Street in the first floor of the Lock Building). The Walk Bridge Welcome Center hours of operation are: Tuesday 8:00 a.m. - 4:00 p.m.; Wednesday 8:00 a.m. - 4:00 p.m.; and Thursday 12:30 - 4:30 p.m. Please call in advance to schedule a review of the application, telephone 1-833-GO2-WALK (462-9255).

The application is available for inspection at the Department of Energy and Environmental Protection, Land and Water Resources Division, 79 Elm Street, Hartford, Connecticut 06106-5127, telephone (860) 424-3034 from 8:30 a.m. to 4:30 p.m. Monday through Friday. Please call in advance to schedule review of the application.

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PROBATE NOTICES

NOTICE TO CREDITORS
ESTATE OF Jill Ann Mola
(19-04845DR)

The Hon. Douglas Stern, Judge of the Court of Probate, District of Norwalk-Wilton Probate Court, by decree dated August 5, 2019, ordered that all claims must be presented to the fiduciary at the address below. Failure to promptly present any such claim may result in the loss of rights to recover on such claim.

Diane Ely, Chief Clerk

The fiduciary is:

Corey Mola
26 Lakeview Drive,
Norwalk, CT 06850
David Mola aka David J. Mola,
2 West Avenue Unit 16,
Norwalk, CT 06854

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PUBLIC NOTICES

PUBLIC NOTICES

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Town: City of Norwalk

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

August 29, 2019

Connecticut Department of Energy and Environmental Protection
Land and Water Resources Division
79 Elm Street
Hartford, CT 06106

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
City of Norwalk
Certification of Abutter Notices

To Whom It May Concern:

The State of Connecticut Department of Transportation (the Department) is applying for a Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification pursuant to Connecticut General Statutes Sections 22a-32 and 22a-361, and 33 U.S.C. Section 1341 from the Connecticut Department of Energy and Environmental Protection.

In accordance with Section 22a-6g of the Connecticut General Statutes, as revised, this letter serves as certification that all abutting property owners within 500 feet of the project limits have been provided a copy of the legal notice which appeared in *The Norwalk Hour* on August 28, 2019. A copy of the letter sent to the Abutters is enclosed. A list of the abutting property owners is located in Attachment K of the Structures, Dredging and Fill, and Tidal Wetlands Permit application for the proposed project.

In accordance with Section 22a-6g of the Connecticut General States, as revised, copies of the legal notice were provided to the Chairman of the Norwalk Shellfish Commission and Chairman of the Norwalk Harbor Management Commission. Certification that a published notice was provided to the City of Norwalk Mayor is provided in Attachment AA of the application.

If you have any questions or require additional information, please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Kimberly C. Lesay
Transportation Assistant Planning Director
Office of Environmental Planning
Bureau of Policy and Planning

Enclosure

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

June 26, 2020

Connecticut Department of Energy and Environmental Protection
Land and Water Resources Division
79 Elm Street
Hartford, CT 06106

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
City of Norwalk
Certification of Abutter Notices

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If you have any questions or require additional information, please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Kimberly Lesay

Digitally signed by Kimberly Lesay
DN: cn=Kimberly Lesay, o=Department of Transportation , ou=Environmental Planning, email=kimberly.lesay@ct.gov, c=US
Date: 2020.06.26 14:56:11 -04'00'

Kimberly C. Lesay
Transportation Assistant Planning Director
Bureau of Policy and Planning

Enclosure

STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

August 28, 2019

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
City of Norwalk
Notice of Permit Application

To Whom It May Concern:

The State of Connecticut Department of Transportation (the Department) is applying for a Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification pursuant to Connecticut General Statutes Sections 22a-32 and 22a-361, and 33 U.S.C. Section 1341 from the Connecticut Department of Energy and Environmental Protection.

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Very truly yours,

Kimberly C. Lesay
Transportation Assistant Planning Director
Office of Environmental Planning
Bureau of Policy and Planning

Enclosure

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
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June 26, 2020

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DN: cn=Kimberly Lesay, o=Department of Transportation , ou=Environmental Planning, email=kimberly.lesay@ct.gov, c=US
Date: 2020.06.26 14:54:39 -04'00'

Kimberly C. Lesay
Transportation Assistant Planning Director
Bureau of Policy and Planning

Enclosure

STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

August 28, 2019

John Romano, Chairman
City of Norwalk Harbor Management Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
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Office of Environmental Planning
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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

June 22, 2020

John Romano, Chairman
City of Norwalk Harbor Management Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
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Kimberly Lesay

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Date: 2020.06.23 11:47:45 -04'00'

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STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

August 28, 2019

Peter Johnson, Chairman
City of Norwalk Shellfish Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
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2800 BERLIN TURNPIKE, P.O. BOX 317546

NEWINGTON, CONNECTICUT 06131-7546

June 22, 2020

Peter Johnson, Chairman
City of Norwalk Shellfish Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

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Very truly yours,

Kimberly Lesay

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Date: 2020.06.23 11:48:19 -04'00'

Kimberly C. Lesay
Transportation Assistant Planning Director
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STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

August 28, 2019

The Honorable Harry Rilling
Mayor, City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
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Office of Environmental Planning
Bureau of Policy and Planning

Enclosure

STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546

NEWINGTON, CONNECTICUT 06131-7546

June 22, 2020

The Honorable Harry Rilling
Mayor, City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
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Kimberly Lesay

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Date: 2020.06.23 11:47:12 -04'00'

Kimberly C. Lesay
Transportation Assistant Planning Director
Office of Environmental Planning
Bureau of Policy and Planning

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STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

September 3, 2019

John Verel, Chairman
City of Norwalk Conservation Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
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Very truly yours,

Kimberly Lesay

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Transportation Assistant Planning Director
Office of Environmental Planning
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Enclosure
cc: CTDEEP OLISP

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

June 26, 2020

Karen Destefanis, Vice Chair
City of Norwalk Conservation Commission
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
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Updated Permit Application – Permit No. 201909990-TWSDF

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125 East Avenue
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DEPARTMENT OF TRANSPORTATION

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Phone: (860) 594-2931

September 3, 2019

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125 East Avenue
P. O. Box 5125
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Mayor, City of Norwalk
125 East Avenue
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Permit Application

Dear Mayor Rilling:

The State of Connecticut Department of Transportation (the Department) is applying for a Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification pursuant to Connecticut General Statutes Sections 22a-32 and 22a-361, and 33 U.S.C. Section 1341 from the Connecticut Department of Energy and Environmental Protection.

The project proposes to replace Bridge No. 04288R which carries the New Haven Line over the Norwalk River in the City of Norwalk. The project consists of the removal of the existing bridge, including the superstructure, substructure elements (abutments and piers), timber pier protection system, deactivated electrical and railroad submarine cables and construction of the replacement bridge. The proposed project will affect the Norwalk River; intertidal flats and vegetated tidal wetlands along the east and west sides of the Norwalk River, both north and south of the bridge; and the 100-year floodplain.

Per the requirements of this permit application, please find attached a copy of the Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification application for your use. If you have any questions or require additional information, please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Kimberly Lesay

Kimberly C. Lesay
Transportation Assistant Planning Director
Office of Environmental Planning
Bureau of Policy and Planning

Enclosure
cc: CTDEEP OLISP

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone: (860) 594-2931

June 26, 2020

The Honorable Harry Rilling
Mayor, City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Subject: State Project No. 301-176, Walk Bridge Replacement Project
Metro-North Railroad Bridge (Bridge No. 04288R) over the Norwalk River
City of Norwalk
Updated Permit Application – Permit No. 201909990-TWSDF

Dear Mayor Rilling:

The State of Connecticut Department of Transportation (the Department) is submitting an updated Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification, pursuant to Connecticut General Statutes Sections 22a-32 and 22a-361, and 33 U.S.C. Section 1341, to the Connecticut Department of Energy and Environmental Protection.

The updates to the permit application are due to a recent Value Engineering Study the Department conducted. The study brought about changes to the construction methodology for several phases of the project. The result is a reduction in impacts to resources in the project area, as well as a reduction in the duration of partial blockages in the Federal Navigational Channel.

The project proposes to replace Bridge No. 04288R which carries the New Haven Line over the Norwalk River in the City of Norwalk. The project consists of the removal of the existing bridge, including the superstructure, substructure elements (abutments and piers), timber pier protection system, and deactivated electrical and railroad submarine cables; and construction of the replacement bridge. The proposed project will affect the Norwalk River; intertidal flats and vegetated tidal wetlands along the east and west sides of the Norwalk River, both north and south of the bridge; and the 100-year floodplain.

Per the requirements of this permit application, please find attached a copy of the updated Structures, Dredging and Fill, and Tidal Wetlands Permit and Section 401 Water Quality Certification application for your use. If you have any questions or require additional information, please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Kimberly Lesay

Digitally signed by Kimberly Lesay
DN: cn=Kimberly Lesay, o=Department of Transportation , ou=Environmental Planning, email=kimberly.lesay@ct.gov, c=US
Date: 2020.06.26 14:58:28 -04'00'

Kimberly C. Lesay
Transportation Assistant Planning Director
Office of Environmental Planning
Bureau of Policy and Planning

Enclosure