



PUBLIC NOTICE

Comment Period Begins: February 20, 2024
Comment Period Ends: March 20, 2024
File Number: NAE-2020-01866
In Reply Refer to: Ms. Cori M. Rose
Phone: (978) 831-3673
Email: cori.m.rose@usace.army.mil

The District Engineer, U.S. Army Corps of Engineers, New England District (USACE), has received a permit application, file number NAE-2020-01866 to conduct work in waters of the United States from Dawn Henning, City of New Haven Engineering Department, 200 Orange Street, New Haven, Connecticut. This work is proposed in New Haven Harbor at Long Wharf Park, Long Wharf Drive, New Haven, Connecticut. The site coordinates are Latitude 41.2880° N, Longitude -72.9235° W, New Haven, New Haven County, Connecticut.

The work proposed will involve the permanent discharge of up to 11,410 cubic yards of stone/ECONcrete© and 12,349 cubic yards of sand, gravel, and cobble, as well as associated grading below the high tide line over a 5.4-acre area of intertidal and shallow submerged mudflats. The applicant proposes activity in estuarine waters, which seeks to raise the elevation of the tidal substrate, and the newly established sills and planted saltmarsh are intended to attenuate waves and reduce shoreline erosion for storm events (up to the 20-year recurrence interval). The living shoreline stabilization project will span a 3,400 linear foot section of the New Haven Harbor coastline known as “Long Wharf” and Vietnam Veterans Memorial Park.

In total, the proposed fill material will convert an area of approximately 3.4-acres from tidal mudflat to low coastal wetland dominated by saltmarsh cordgrass (*Spartina alterniflora*), and include stone sills with scour protection and marsh migration zone. Within this 3.4-acre area, 0.6 acres will be stone sills (0.2 acres will be exposed crushed stone for scour protection and 0.4 acres for stone sills proper), 2.5 acres will be Low Marsh and 0.3 acres will be marsh migration zone. The crushed stone scour protection landward of the rock sills is intended to serve the dual purpose of scour protection and to provide access to the sill area during construction and any future maintenance. An additional 2.0-acres of intertidal mudflat will have fill discharged to correspond with the new adjacent shoreline elevation, but the discharge will have no change to the function of the area as an intertidal mudflat. The area of habitat conversion waterward of the high tide line (HTL) is summarized in the table below:

Habitat	Seaward of HTL (4.4 ft-NAVD) (sf)	Seaward of HTL (4.4 ft-NAVD) (ac)
Permanent Impacts		
Low Marsh	108,577	2.5
Tidal Flats	-147,267	-3.4
Maritime Shrub	321	0.007
Phragmites	-321	-0.007
Marsh Migration Zone	13,110	0.3
Stone Sills	25,580	0.6
Total Impact Area (fill and excavation)	147,588	3.4
Temporary Impacts		
Tidal Flats	1,650	0.04

The project will include the following permanent and temporary components:

- Construction of 23 stone sills consisting of rubble mound, low-crested quarried granite stone placed waterward of mean high water (MHW). Each rock sill will be approximately 80-feet long, 25-feet wide and range between 3.5 and 5.5-feet high with a crest width of 4-feet and a sill crest elevation of 4.5-feet. A space of between 25 and 35 feet will be provided between each stone sill to maintain tidal circulation and movement of aquatic resources to and from the intertidal shoreline.
- Placement of 12,349 cubic yards of permanent fill consisting of a mix of gravel, cobble, and sand for creation of new salt marsh planting bed and future tidal wetland landward marsh migration zone. Two acres of tidal flat habitat not being converted to low marsh will also receive fill to bring the elevation of these intertidal areas up to the elevation of the new low marsh.
- Mechanical removal of invasive common reed (*Phragmites australis*) from an approximately 0.33-acre area in the northern end of the site, placement of approximately 9 cubic yards of new sand fill below the HTL.
- Planting of native maritime woody shrubs and perennial herbaceous plants and grasses along the base of the existing granite revetment and within the northwest project corner where invasive reed currently resides.
- Installation of 3 pedestrian access granite stairways in place of the existing granite revetment for access to the shoreline.
- Placement of temporary fill, in the form of protective mats as best management practice, below the HTL for temporary vehicular construction access.

The project proponent has identified two methodologies for construction of the rock sills. The first, listed above, would involve the use of tracked and/or low-pressure vehicles and excavators on mats or pads placed in the water and within the intertidal zone. An alternative to this approach, which has the potential to reduce the disturbance from construction vehicles in the intertidal zone, would involve the use of a jack-up or spud barge with mounted crane and/or excavator. A barge of this type could access the sill construction area at a higher water level and be elevated above the substrate on legs (spuds) at low water cycles. This methodology would reduce tracking of equipment along the shoreline and result in less disturbance than if a barge were “grounded” at low water.

The purpose of the proposed work is to establish a climate resilient shoreline at a popular urban park which will withstand erosion forces up to a 20-year storm event while simultaneously improving ecological function and continuity of the land with the water interface and enhancing the opportunity for public access and passive recreational pursuits. Construction of the living shoreline is expected to take between one and two years to complete.

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The work is just one of multiple components to the City of New Haven’s shoreline protection and flood control strategy, which includes (from seaward to landward) this proposal for installation of a living shoreline, the existing granite armored rock revetments above the HTL, and the proposed federal USACE federally funded Long Wharf Flood Protection Project which includes a 6,425-foot long system of flood walls, gates and pump stations (<https://www.nae.usace.army.mil/Portals/74/docs/Topics/FairField/Draft-Main-Report-EA-13DEC2019.pdf>).

The work is shown on the enclosed plans entitled “THE LONG WHARF MARSH NEW HAVEN, CONNECTICUT,” on 19 sheets, and dated “FEB. 2023”.

The project proponent has considered multiple alternatives and site configurations for the project and has included the use of best management practices and operational controls into the project design to minimize the potential adverse effects of the project. No compensatory mitigation is being proposed.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The USACE will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an environmental assessment and/or an environmental impact statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

The Federal Emergency Management Agency (FEMA) is funding the project and therefore has been designated, by the Corps, as the lead Federal agency to fulfill the collective Federal responsibilities under Section 7 of the Endangered Species Act of 1973 (PL 93-205), Section 106 of the National Historic Preservation Act of 1966 (PL 89-665), and the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (PL 104-267).

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will impact approximately 5.4-acres of EFH. Of the 5.4-acres, 2-acres will remain tidal flat with minimal additional material placed to grade it into the proposed marsh area. This habitat consists of intertidal mudflat made up of fine to medium sand with gravel, shell hash, some cobbles, and occasional boulders. Loss or alteration of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding the project's impacts to EFH and inclusion of EFH conservation recommendations is being conducted by FEMA, in coordination with USACE, and these consultations will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on our initial review of the proposed project, historic properties were identified within the area of potential effects. However, the applicant currently proposes to avoid all effects to known historic properties. Additional review and consultation to fulfill requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be completed by FEMA as part of the project review, and these consultations will be concluded prior to the final decision.

ENDANGERED SPECIES CONSULTATION

The USACE has reviewed the application for the potential impact on federally listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act (ESA) as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated, or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. FEMA is coordinating with the National Marine Fisheries Service and U.S. Fish and Wildlife Service on listed species under their jurisdiction and such ESA consultations will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this public notice, we are requesting the state concurrence or objection to the applicant’s consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

- (X) Permit, license or assent from State.
- () Permit from local wetland agency or conservation commission.
- (X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

The USACE is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties so that we may consider and evaluate the impacts of this proposed activity. Any comments received will be considered by USACE to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. People submitting comments are advised that all comments received will be available for public review in their entirety and will be considered a matter of public record.

Comments should be submitted in writing by the above date. If you have any questions, please contact Ms. Cori M. Rose at cori.m.rose@usace.army.mil or (978) 831-3673.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The USACE holds public hearings

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for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

Kevin R Kotelly

Kevin R. Kotelly, P.E.
Chief, CT/RI Section
Regulatory Division

Please contact Ms. Tina Chaisson at bettina.m.chaisson@usace.army.mil or (978) 318-8058 if you would like to be removed from our public notice mailing list.

THE LONG WHARF MARSH

INDEX OF DRAWINGS

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PROJECT OWNER

CITY OF NEW HAVEN
CITY HALL
165 CHURCH STREET
NEW HAVEN, CONNECTICUT

JUSTIN ELICKER - MAYOR
DONNA HALL - CITY OF NEW HAVEN
PLAN DEPARTMENT



PROJECT ENGINEER



GZA GEOENVIRONMENTAL, INC.
249 VANDERBILT AVE.
NORWOOD, MASSACHUSETTS 02062

GZA GEOENVIRONMENTAL, INC.
95 GLASTONBURY BLVD.
GLASTONBURY, CT 06033

GZA HAS DESIGNED THE LONG WHARF LIVING SHORELINE USING A DESIGN APPROACH AND METHODOLOGIES CONSISTENT WITH THE CURRENT STATE OF PRACTICE USED BY PRACTITIONERS FOR SIMILAR PROJECTS. LIVING SHORELINES ARE DYNAMIC SYSTEMS, INCLUDING NATURAL MATERIALS THAT ARE SUSCEPTIBLE TO CHANGE DUE TO EXPOSURE TO NORMAL COASTAL PROCESSES AND TO MINOR TO SEVERE DAMAGE DURING COASTAL STORMS. DAMAGE AND MAINTENANCE SHOULD BE EXPECTED.

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NO.	ISSUE/DESCRIPTION	BY	DATE

PROJECT: THE LONG WHARF MARSH NEW HAVEN, CONNECTICUT	PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	APPLICANT: CITY OF NEW HAVEN
	PROJ MGR: BW REVIEWED BY: RM DESIGNED BY: DCS DRAWN BY: MEG DATE: FEB. 2023 PROJECT NO. 01.0172596.10	CHECKED BY: SCALE: SEE DWG REVISION NO. -
TITLE SHEET AND INDEX OF DRAWINGS		

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LEGEND

GENERAL NOTES

EXISTING CONDITIONS PLANS

UTILITIES	
	CATCH BASIN
	DRAINAGE FEATURE
	MANHOLE
	OUTFALL
	SEWER CONNECTION
	SEWER MAIN
	ELECTRIC BOX
PLANIMETRICS	
	EXISTING BUILDING LOCATION
	EDGE OF PAVED ROADWAY
	EDGE OF PAVED PARKING
TOPOGRAPHY	
	COASTAL JURISDICTION LINE (EL.+4.6' NEW HAVEN, CT)
	SPRING HIGH TIDE LINE (EL.+3.3')
	MEAN HIGH WATER LINE (EL.+2.8')
	TOPOGRAPHIC SURFACE CONTOUR MINOR (1' INTERVAL)
	TOPOGRAPHIC SURFACE CONTOUR MAJOR (5' INTERVAL)
FEATURES	
	STONE REVETMENT
	SECTION LINE (STATIONING IN FEET)
	SECTION ID
	GRASS (LAWN)
	BITUMINOUS WALK
	PHRAGMITES
	MARSH (SPARTINA ALTERNIFLORA)
	BEACH
	MARITIME SHRUB
	TIDAL FLAT
	SANDBAR
	S01 CONE PENETROMETER TEST LOCATIONS
	TR-1 UPPER (BEACH) AND LOWER (MARSH/ TIDAL FLAT) SEDIMENT SAMPLE LOCATIONS

PROPOSED CONDITIONS PLANS

TOPOGRAPHY	
	COASTAL JURISDICTION LINE (EL.+4.6' NEW HAVEN, CT)
	SPRING HIGH TIDE LINE (EL.+3.3')
	MEAN HIGH WATER LINE (EL.+2.8')
	EXISTING TOPOGRAPHIC SURFACE CONTOUR MINOR (1' INTERVAL)
	EXISTING TOPOGRAPHIC SURFACE CONTOUR MAJOR (5' INTERVAL)
	PROPOSED TOPOGRAPHIC SURFACE CONTOUR MINOR (1' INTERVAL)
	PROPOSED TOPOGRAPHIC SURFACE CONTOUR MAJOR (5' INTERVAL)
FEATURES	
	PROPOSED TIDAL WETLAND
	PROPOSED BEACH

1. THE PURPOSE OF THESE DRAWINGS ARE FOR REGULATORY REVIEW ONLY.
2. VICINITY MAP TAKEN FROM ESRI.
3. ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), UNLESS OTHERWISE NOTED.
4. THIS SITE INFORMATION HAS BEEN TAKEN FROM A DRAWING TITLED "TOPOGRAPHIC SURVEY LONG WHARF PARK", PREPARED FOR THE CITY OF NEW HAVEN DEPARTMENT OF ENGINEERING, BY DAVID A. HUGHES PROFESSIONAL ENGINEER & LAND SURVEYOR, DATED 10/04/2019.
5. SUPPLEMENTARY INFORMATION WAS OBTAINED BY GZA DURING A BATHYMETRIC SURVEY IN MARCH 2017, AND ONLY REPRESENTS THE SITE CONDITIONS AT THAT TIME.

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NO.	ISSUE/DESCRIPTION	BY	DATE

PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

PREPARED BY:
 GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

APPLICANT:
CITY OF NEW HAVEN

LEGEND AND GENERAL NOTES

PROJ MGR: BW	REVIEWED BY: RM	CHECKED BY:	DWG
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SHEET NO. 2 OF 19

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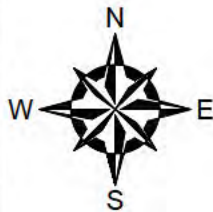
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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

VICINITY MAP

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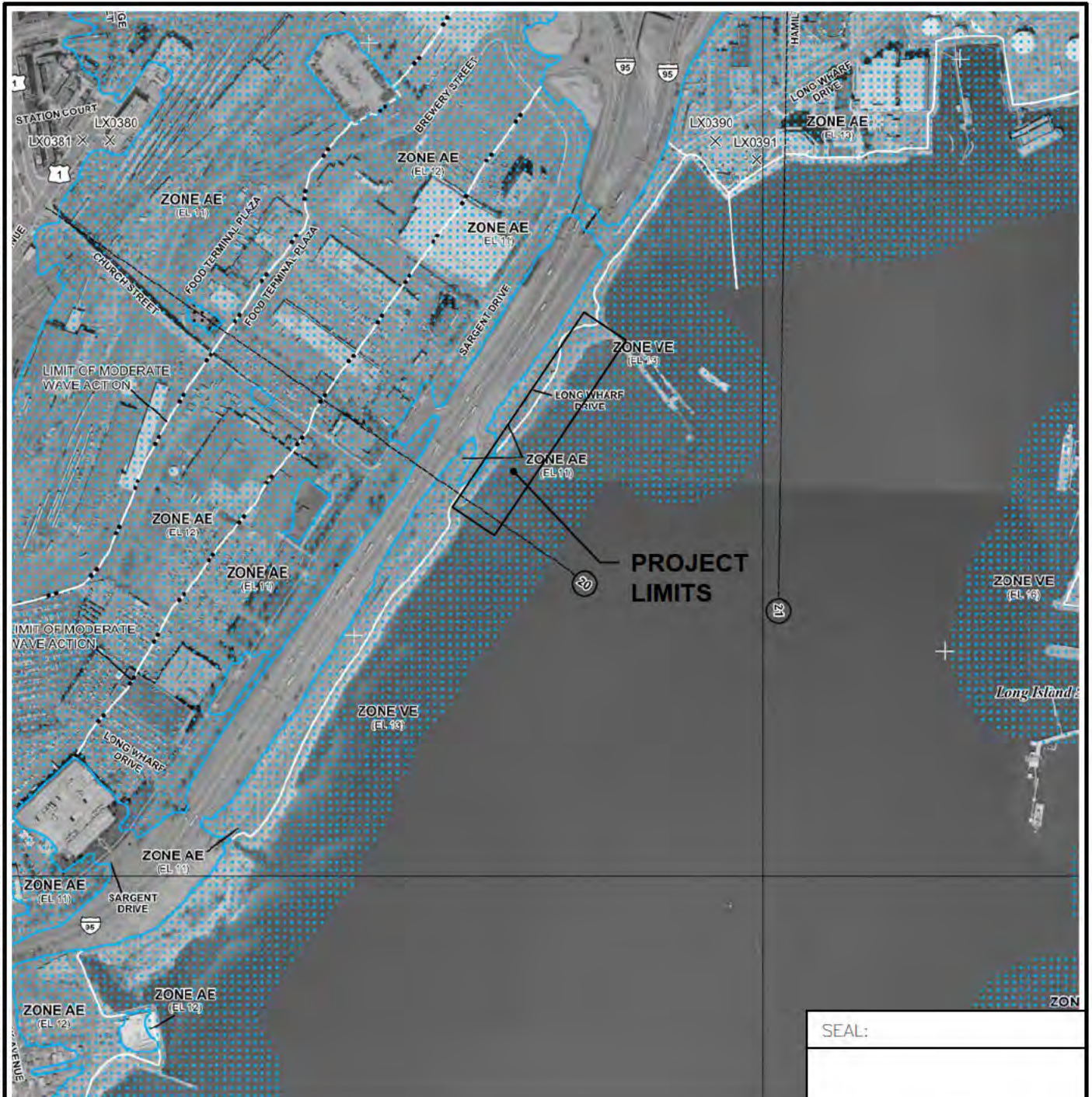
APPLICANT:
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VICINITY MAP

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DESIGNED BY: DCS	DRAWN BY: MEG	SCALE: SEE DWG	
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			SHEET NO. 3 OF 19


GO.03
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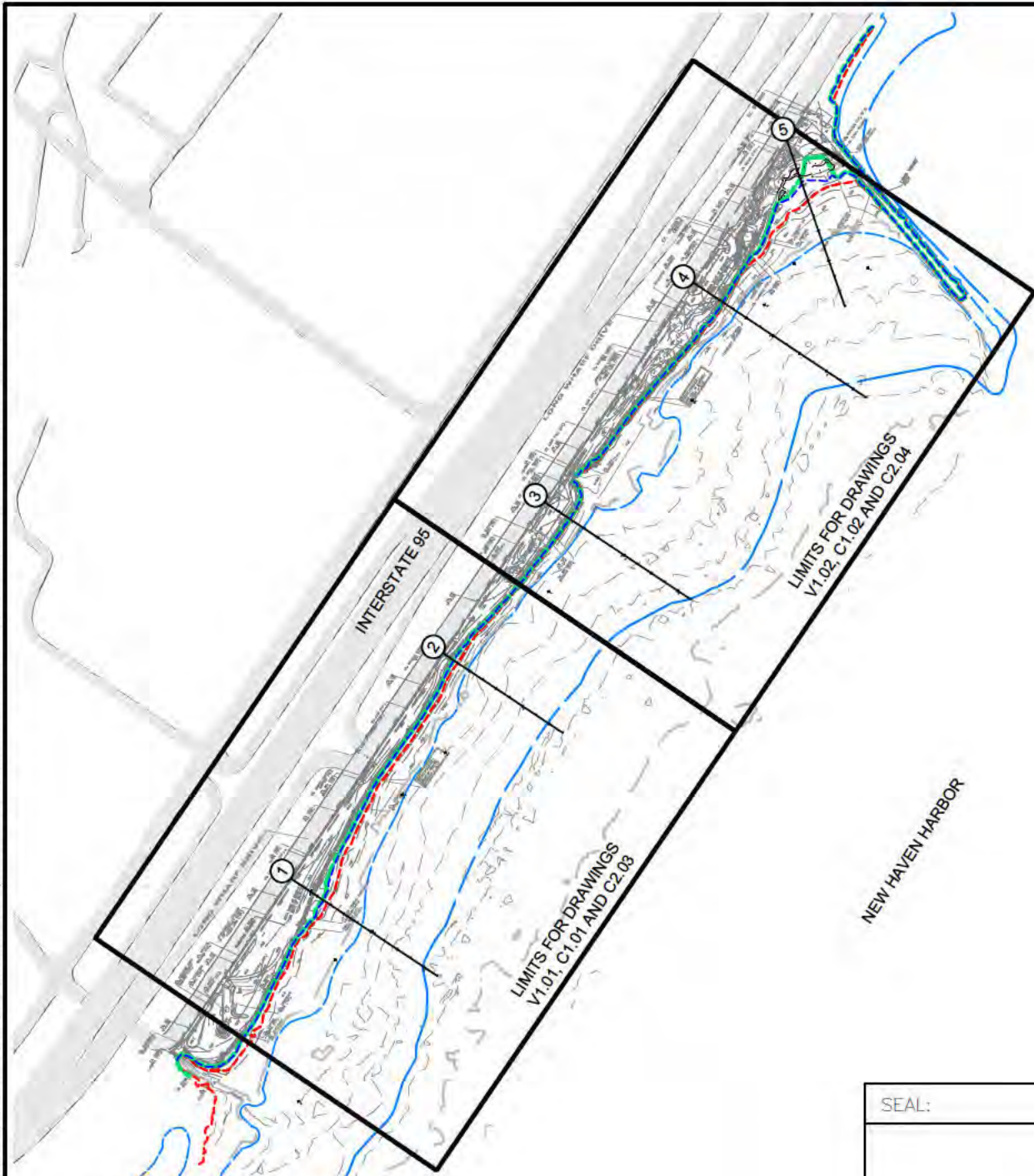
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PROJECT:		PREPARED BY:		APPLICANT:	
THE LONG WHARF MARSH NEW HAVEN, CONNECTICUT		 GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		CITY OF NEW HAVEN	
NOAA NAUTICAL CHART 12371 NEW HAVEN HARBOR		PROJ MGR: BW	REVIEWED BY: RM	CHECKED BY:	DWG
		DESIGNED BY: DCS	DRAWN BY: MEG	SCALE: SEE DWG	G0.04
		DATE: FEB. 2023	PROJECT NO. 01.0172596.10	REVISION NO. -	
					SHEET NO. 4 OF 19

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NOTES

- 1. REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.



SCALE IN FEET 1" = 500'

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PROJECT: **THE LONG WHARF MARSH
 NEW HAVEN, CONNECTICUT**

PREPARED BY:
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APPLICANT:
 CITY OF NEW HAVEN

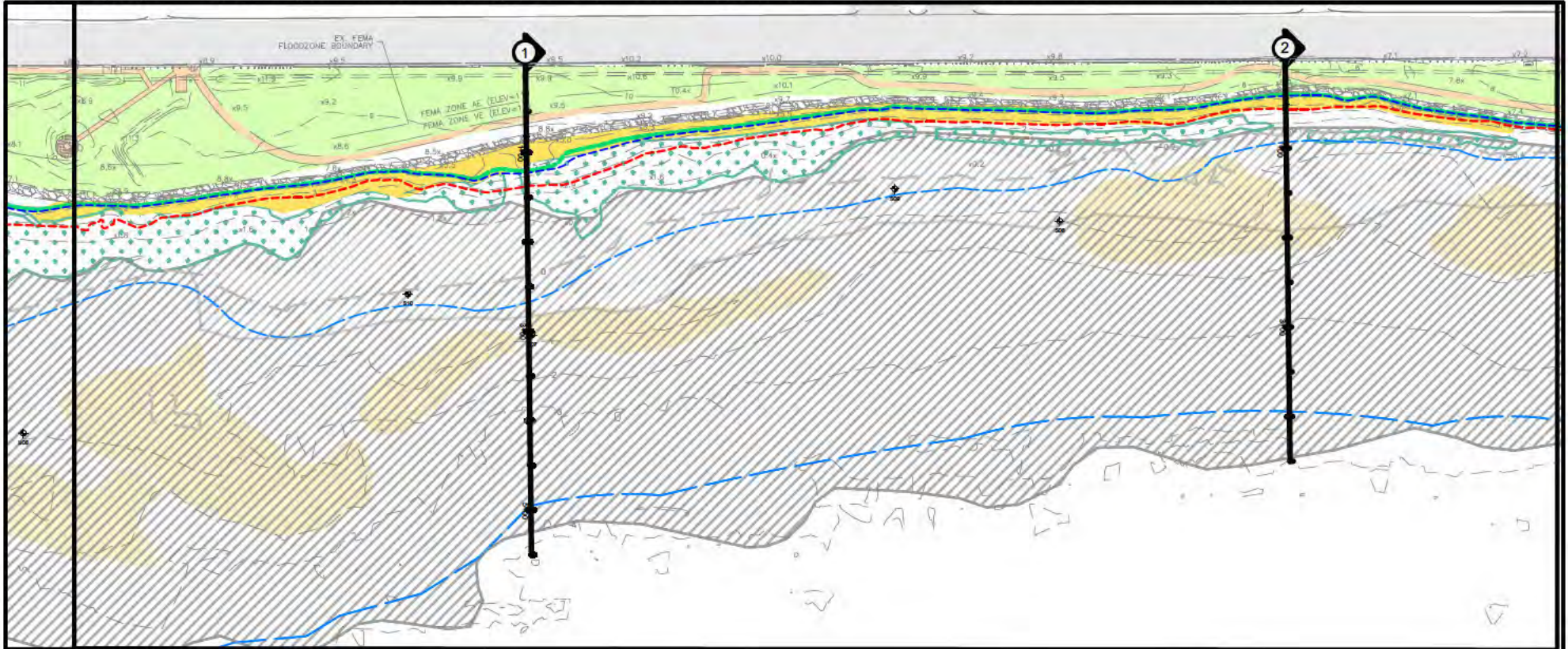
PLAN INDEX SHEET

PROJ MGR: BW
 DESIGNED BY: DCS
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REVIEWED BY: RM
 DRAWN BY: MEG
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DWG **V1.00**
 SHEET NO. 5 OF 19



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NOTES

- REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.

EXISTING AREA ALONG SITE	
AREA 1: LOW MARSH	
AREA 2: MARITIME SHRUB AND GRASS	
AREA 3: PHRAGMITES	
AREA 4: MARSH MIGRATION AREA	
TIDAL FLAT	



SCALE IN FEET 1" = 170

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PREPARED BY:



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APPLICANT:

CITY OF NEW HAVEN

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EXISTING CONDITIONS PLAN 1

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CHECKED BY:

DWG

DESIGNED BY: DCS

DRAWN BY: MEG

SCALE: SEE DWG

V1.01

DATE:

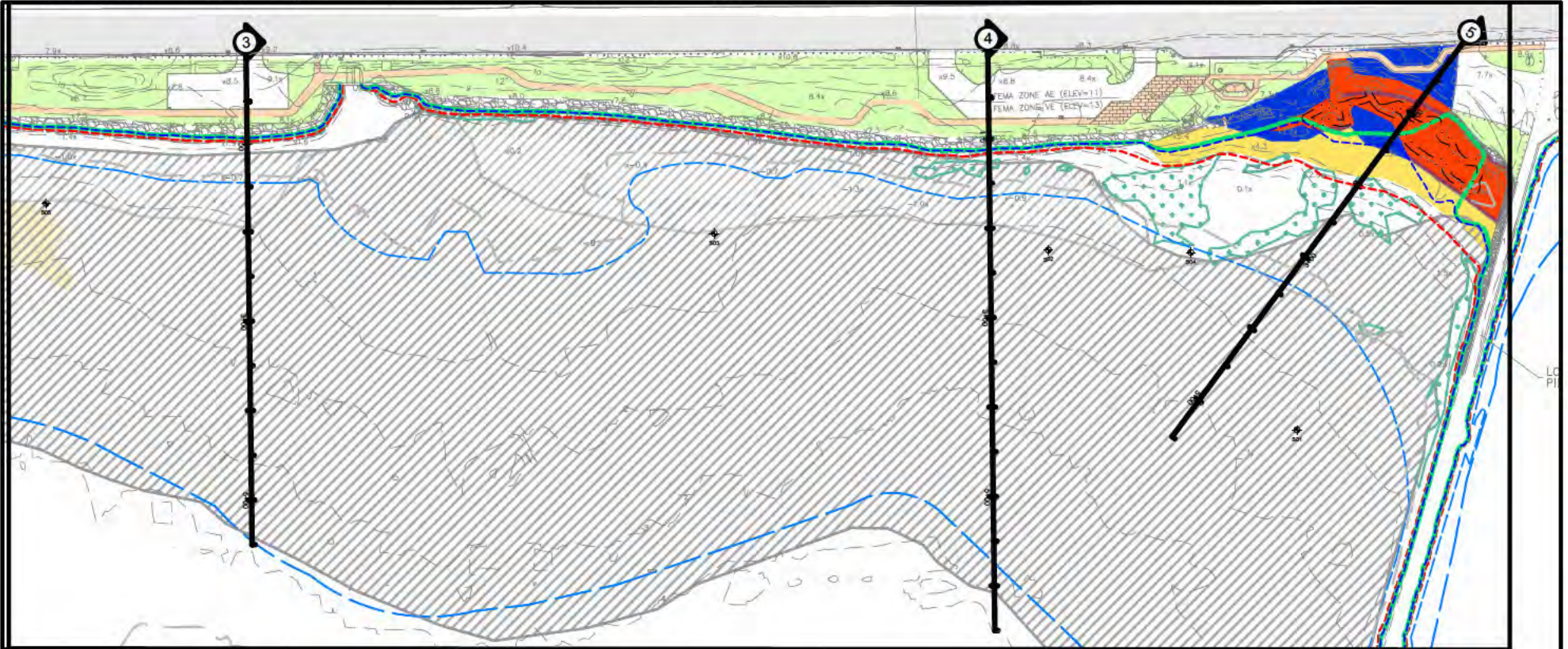
PROJECT NO.

REVISION NO.

FEB. 2023

01.0172596.10

SHEET NO. 8 OF 19

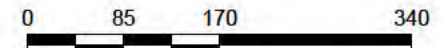


SEAL:

NOTES

1. REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.

EXISTING AREA ALONG SITE	
AREA 1: LOW MARSH	
AREA 2: MARITIME SHRUB AND GRASS	
AREA 3: PHRAGMITES	
AREA 4: MARSH MIGRATION AREA	
TIDAL FLAT	



SCALE IN FEET 1" = 170

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 REGULATORY REVIEW ONLY

PROJECT: **THE LONG WHARF MARSH
 NEW HAVEN, CONNECTICUT**

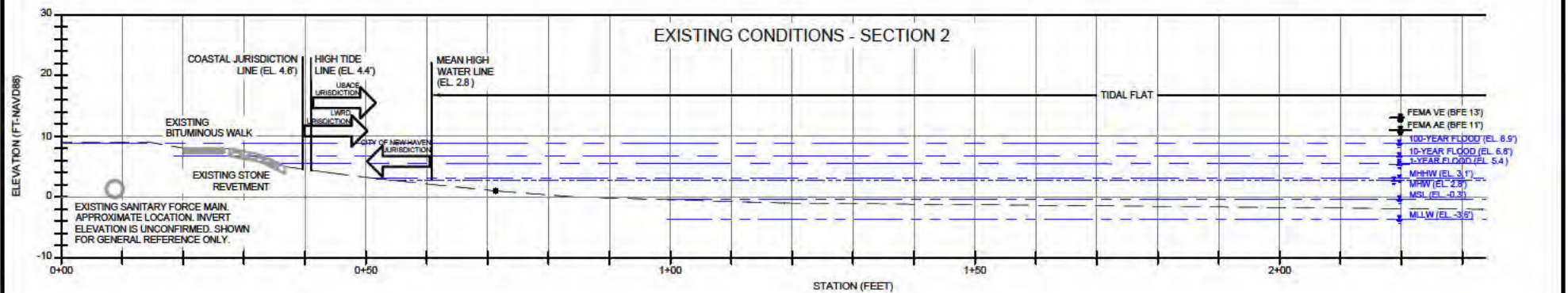
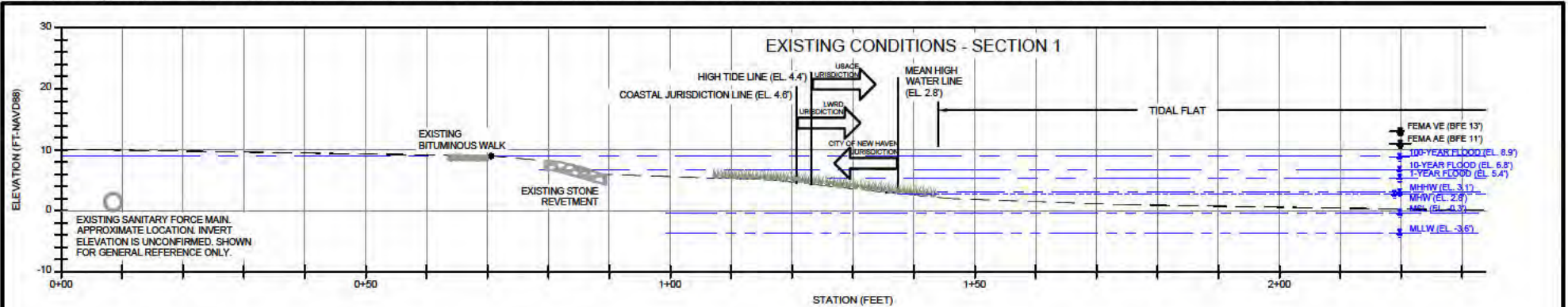
PREPARED BY:
GZA GeoEnvironmental, Inc.
 Engineers and Scientists
 www.gza.com

APPLICANT:
 CITY OF NEW HAVEN

EXISTING CONDITIONS PLAN 2

PROJ MGR: BW	REVIEWED BY: RM	CHECKED BY:	DWG V1.02
DESIGNED BY: DCS	DRAWN BY: MEG	SCALE: SEE DWG	
DATE: FEB. 2023	PROJECT NO. 01.0172596.10	REVISION NO. -	SHEET NO. 7 OF 19

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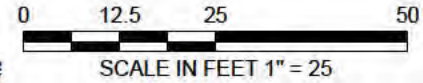
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NOTES:

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5. GROUND ELEVATION ABOVE MHW, BASED ON SURVEY COMPLETED BY DAVID A. HUGHES PROFESSIONAL ENGINEER & LAND SURVEYOR.
6. GROUND ELEVATION BELOW MHW BASED ON GZA BATHYMETRIC SURVEY, MARCH 2017.

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PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

**EXISTING CONDITIONS
SECTIONS 1 AND 2**

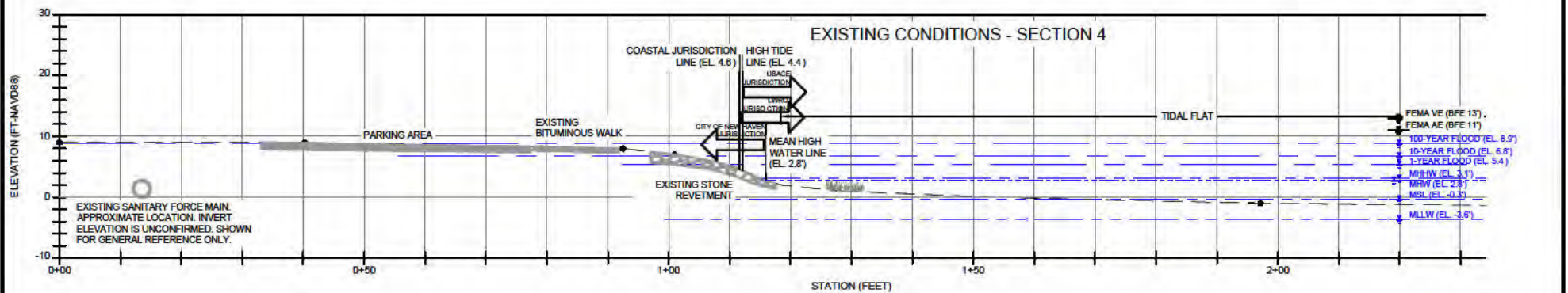
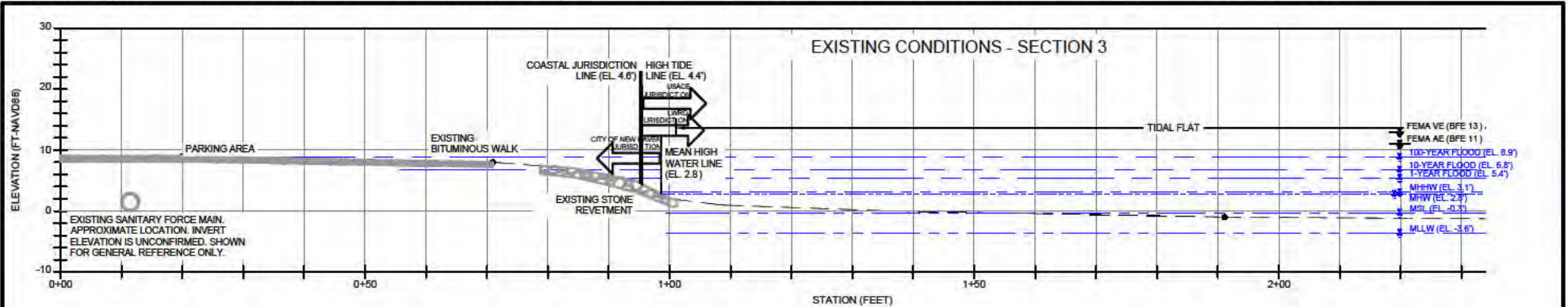
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

DESIGNED BY: DCS
DRAWN BY: MEG
DATE: FEB. 2023

APPLICANT:
CITY OF NEW HAVEN

CHECKED BY:
SCALE: SEE DWG

DWG
V2.01
SHEET NO. 8 OF 19



SEAL:

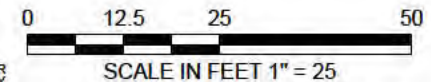
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NOTES:

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PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

**EXISTING CONDITIONS
SECTIONS 3 AND 4**

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

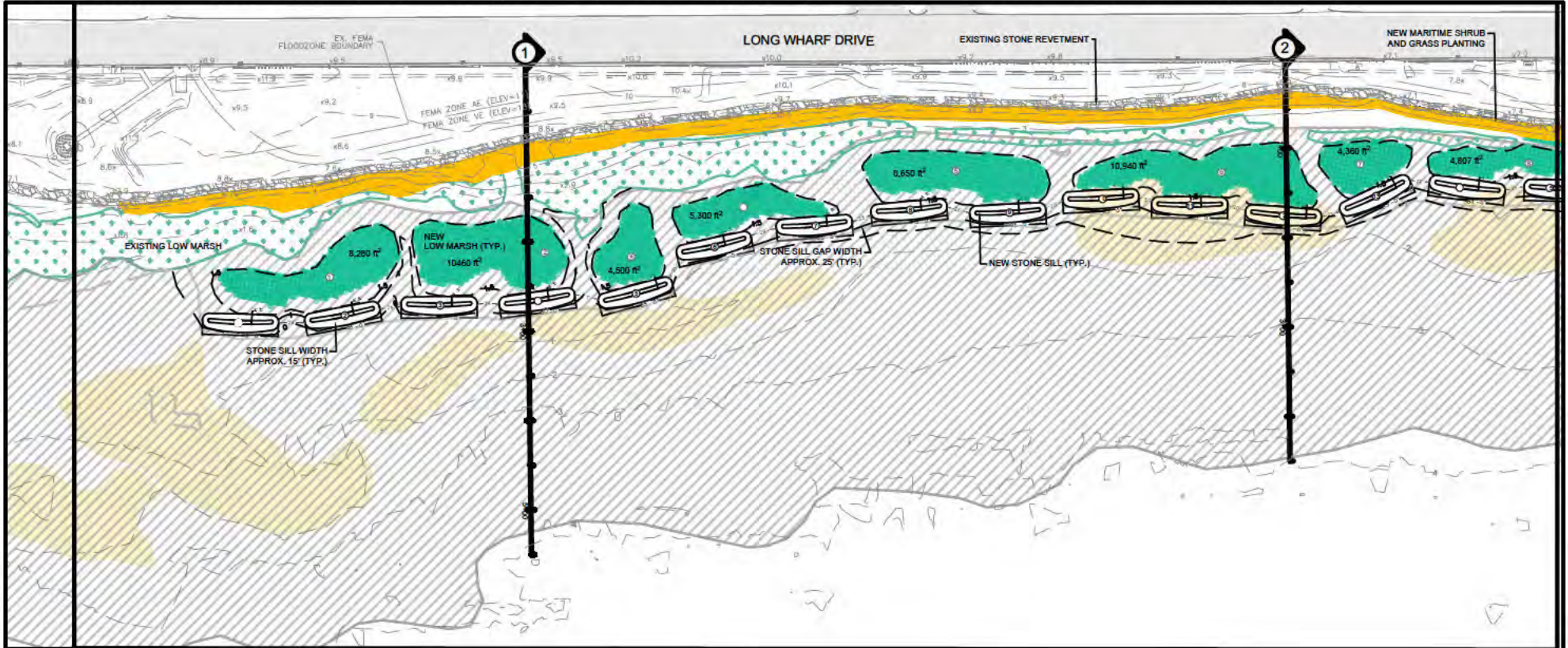
DESIGNED BY: DCS
DRAWN BY: MEG
DATE: FEB. 2023

APPLICANT:
CITY OF NEW HAVEN

CHECKED BY:
SCALE: SEE DWG

DWG
V2.02
SHEET NO. 9 OF 19

PROJECT NO. 01.0172596.10
REVISION NO. -



SEAL:

NOTES

- REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.
- GRADE DOWN FROM 1.8' TO EXISTING MARSH ELEVATION WHERE APPLICABLE.

SITE AREA	
AREA 1: LOW MARSH	
AREA 2: MARITIME SHRUB AND GRASS	
AREA 3: PHRAGMITES	
AREA 4: MARSH MIGRATION AREA	
TIDAL FLAT	



SCALE IN FEET 1" = 170

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PROJECT:

**THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

PREPARED BY:



GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

APPLICANT:

CITY OF NEW HAVEN

NO.	ISSUE/DESCRIPTION	BY	DATE

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PROPOSED CONDITIONS PLAN 1

PROJ MGR: BW

REVIEWED BY: RM

CHECKED BY:

DWG

DESIGNED BY: DCS

DRAWN BY: MEG

SCALE: SEE DWG

C1.01

DATE:

FEB. 2023

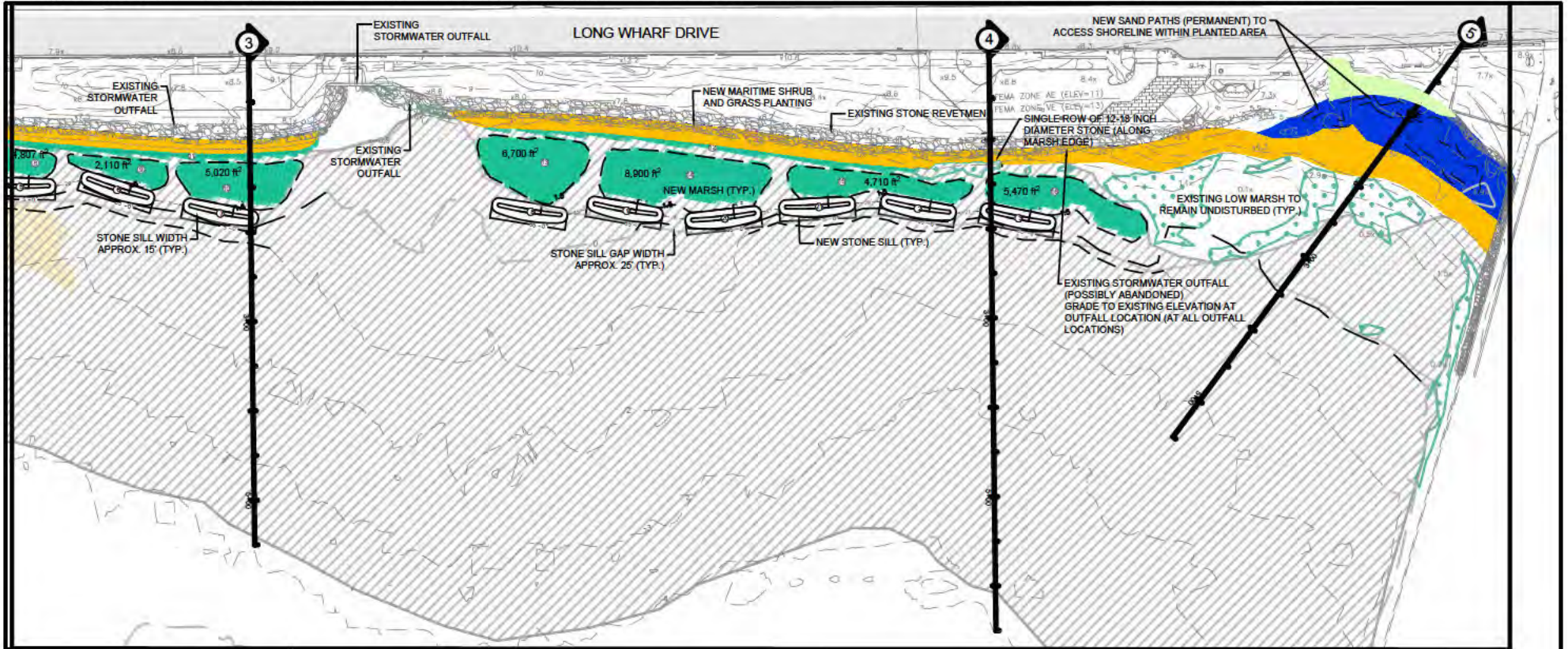
PROJECT NO.

01.0172596.10

REVISION NO.

-

SHEET NO. 10 OF 19



SEAL:

NOTES

1. REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.
2. GRADE DOWN FROM 1.8' TO EXISTING MARSH ELEVATION WHERE APPLICABLE.

EXISTING AREA ALONG SITE	
AREA 1: LOW MARSH	
AREA 2: MARITIME SHRUB AND GRASS	
AREA 3: PHRAGMITES	
AREA 4: MARSH MIGRATION AREA	
TIDAL FLAT	



SCALE IN FEET 1" = 170

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PROJECT:

**THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

PREPARED BY:



GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

APPLICANT:

CITY OF NEW HAVEN

NO.	ISSUE/DESCRIPTION	BY	DATE

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PROPOSED CONDITIONS PLAN 2

PROJ MGR: BW

REVIEWED BY: RM

CHECKED BY:

DWG

DESIGNED BY: DCS

DRAWN BY: MEG

SCALE: SEE DWG

C1.02

DATE:

PROJECT NO.

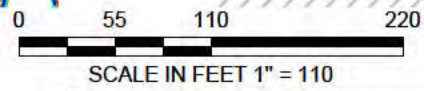
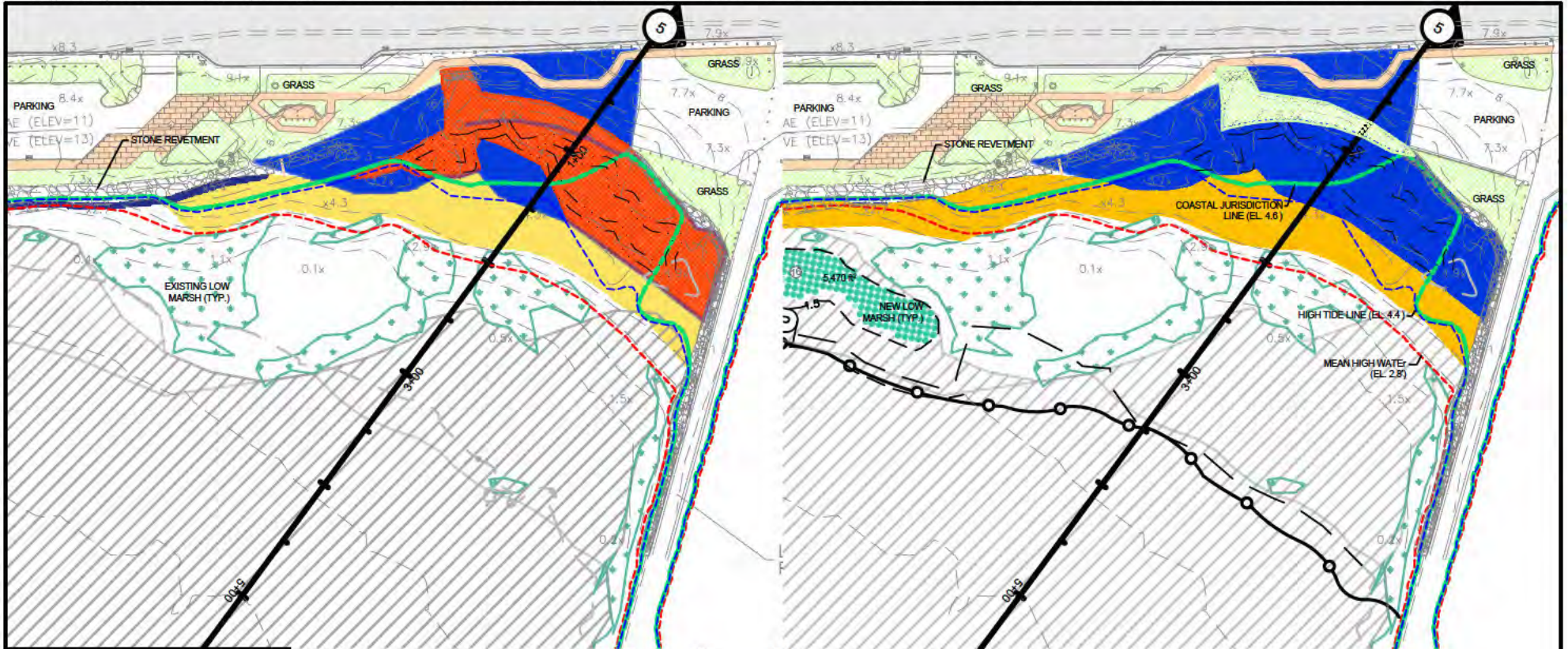
REVISION NO.

SHEET NO. 11 OF 19

FEB. 2023

01.0172596.10

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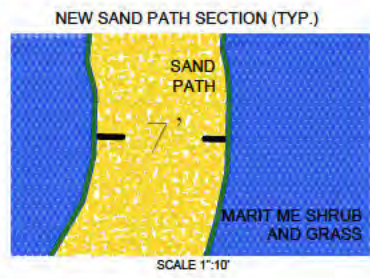
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NOTES

1. REFER TO DRAWINGS G0.02 FOR LEGEND AND GENERAL NOTES.
2. GRADE DOWN FROM 1.8' TO EXISTING MARSH ELEVATION WHERE APPLICABLE.

EXISTING AREA ALONG SITE	
AREA 1: LOW MARSH	
AREA 2: MARITIME SHRUB AND GRASS	
AREA 3: PHRAGMITES	
AREA 4: MARSH MIGRATION AREA	
TIDAL FLAT	

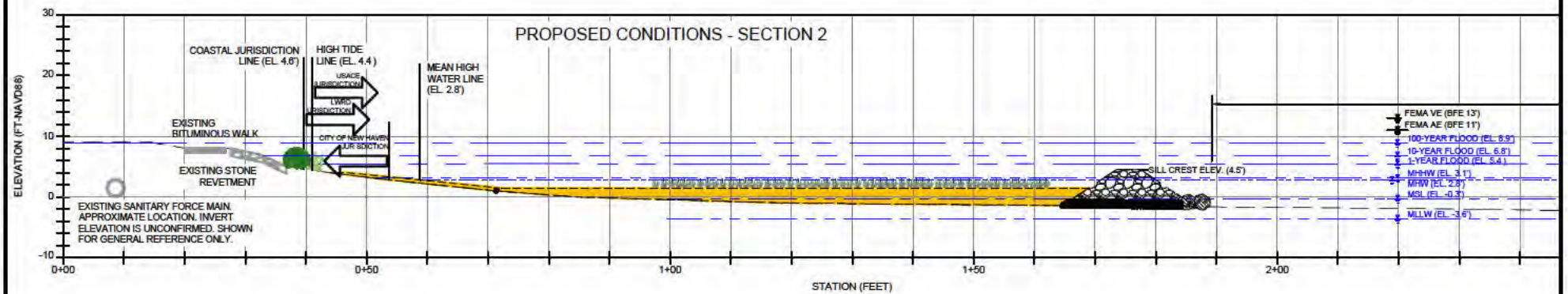
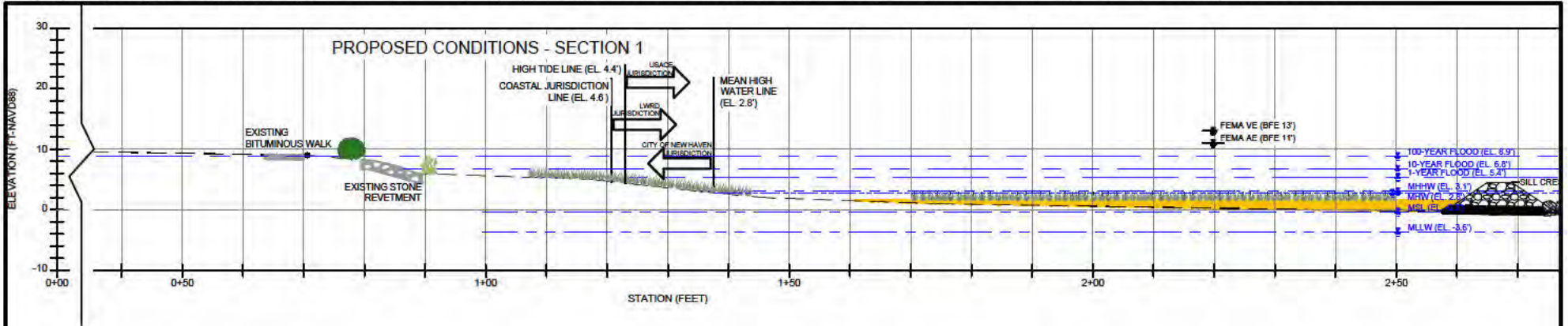


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NO.	ISSUE/DESCRIPTION	BY	DATE

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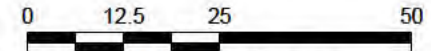
PROJECT: THE LONG WHARF MARSH NEW HAVEN, CONNECTICUT		PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	APPLICANT: CITY OF NEW HAVEN
PROPOSED CONDITIONS PLAN 3 PARTIAL PLAN 1 OF 2		PROJ MGR: BW	REVIEWED BY: RM
		DESIGNED BY: DCS	DRAWN BY: MEG
DATE: FEB. 2023		PROJECT NO. 01.0172596.10	CHECKED BY: SCALE: SEE DWG
		REVISION NO. -	DWG C1.03
			SHEET NO. 12 OF 19



SEAL:

NOTES:

1. THE TIDAL DATUMS SHOWN ARE BASED ON THE NOAA CO-OPS TIDE GAGE NEW HAVEN STATION 8465705.
2. THE SANITARY FORCE MAIN IS SHOWN FOR GENERAL REFERENCE ONLY. THE LOCATION AND ELEVATION SHOULD BE CONSIDERED HIGHLY APPROXIMATE. AS INDICATED IN GENERAL NOTES, THE PRECONSTRUCTION DETERMINATION OF EXISTING UTILITIES WITH THE PROJECT AREA IS THE RESPONSIBILITY OF THE CONTRACTOR.
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7. GROUND ELEVATION BELOW MHW BASED ON GZA BATHYMETRIC SURVEY, MARCH 2017.



SCALE IN FEET 1" = 25

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PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

**PROPOSED CONDITIONS
SECTIONS 1 AND 2**

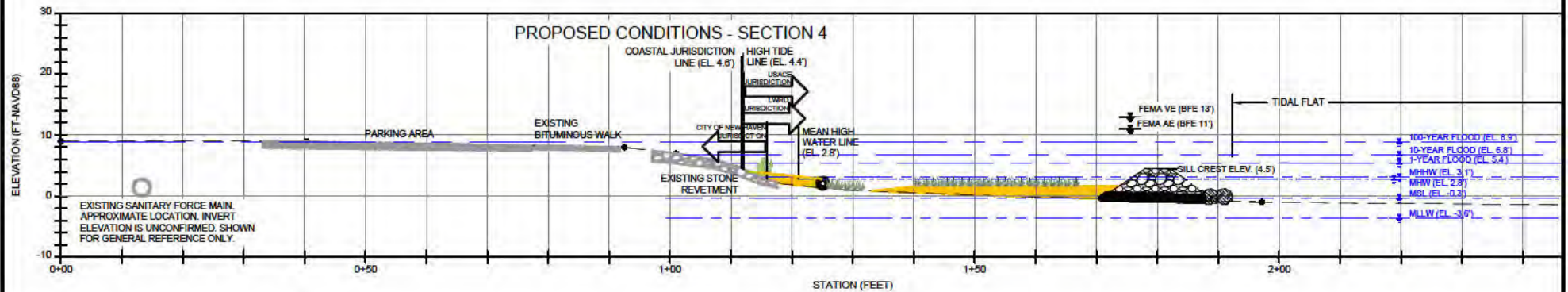
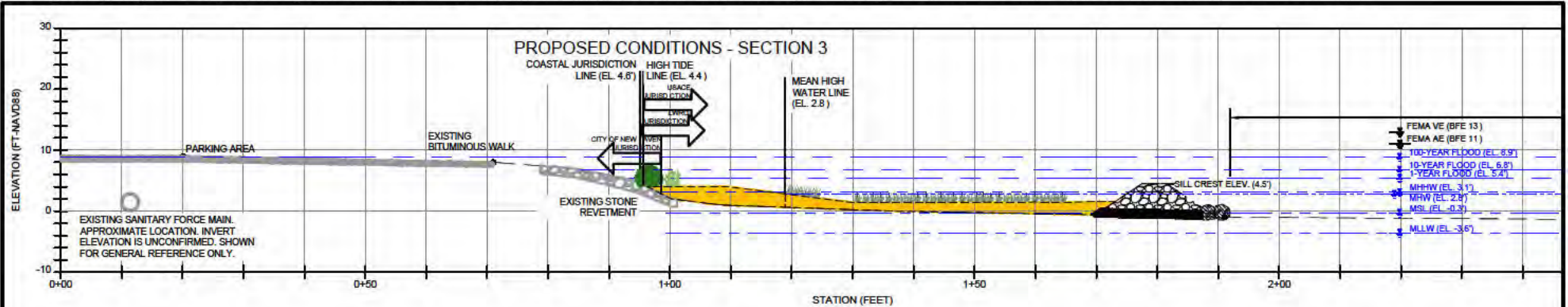
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PROJ MGR: BW REVIEWED BY: RM
DESIGNED BY: DCS DRAWN BY: MEG
DATE: FEB. 2023 PROJECT NO. 01.0172596.10

APPLICANT:
CITY OF NEW HAVEN

CHECKED BY:
SCALE: SEE DWG

DWG
C3.01
SHEET NO. 13 OF 19



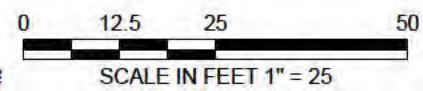
SEAL:

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NO.	ISSUE/DESCRIPTION	BY	DATE

PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

APPLICANT:
CITY OF NEW HAVEN

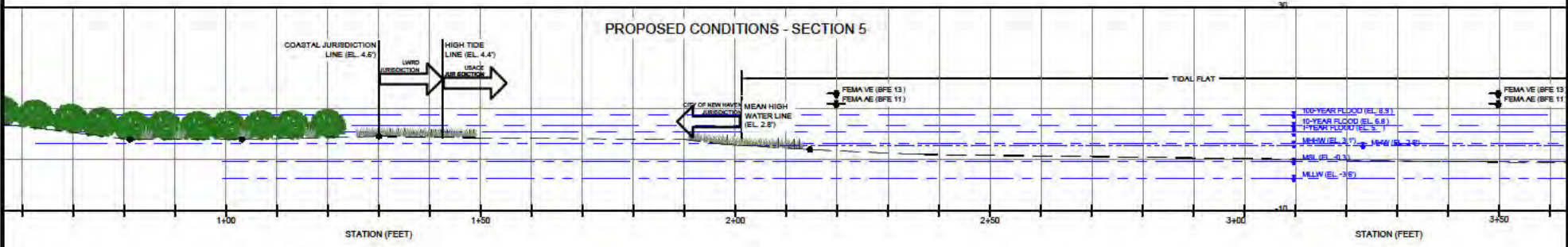
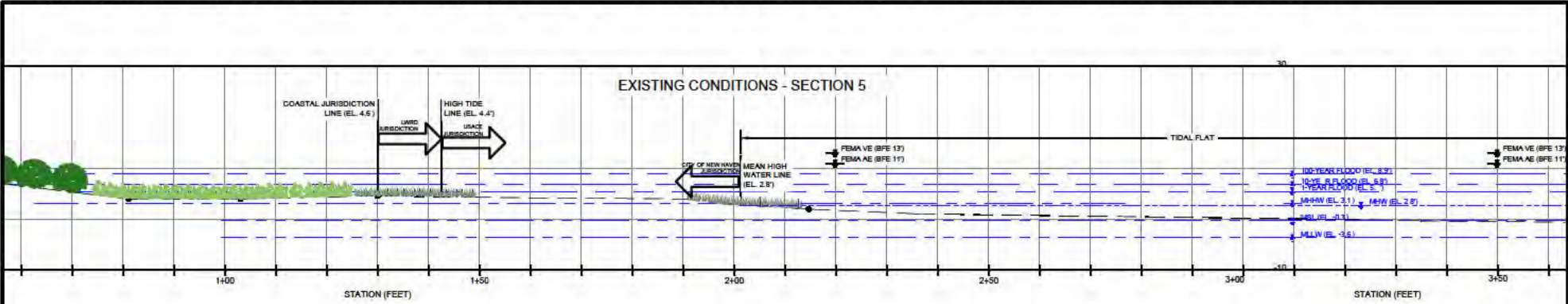
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**PROPOSED CONDITIONS
SECTIONS 3 AND 4**

PROJ MGR: BW
DESIGNED BY: DCS
DATE: FEB. 2023

REVIEWED BY: RM
DRAWN BY: MEG
PROJECT NO. 01.0172596.10

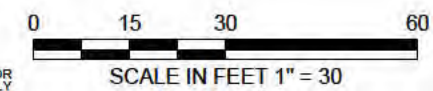
CHECKED BY:
SCALE: SEE DWG
REVISION NO. -
DWG C3.01
SHEET NO. 14 OF 19



SEAL:

NOT VALID WITHOUT ENGINEER'S SEAL

- NOTES:**
1. THE TIDAL DATUMS SHOWN ARE BASED ON THE NOAA CO-OPS TIDE GAGE NEW HAVEN STATION 8485705.
 2. THE SANITARY FORCE MAIN IS SHOWN FOR GENERAL REFERENCE ONLY. THE LOCATION AND ELEVATION SHOULD BE CONSIDERED HIGHLY APPROXIMATE. AS INDICATED IN GENERAL NOTES, THE PRECONSTRUCTION DETERMINATION OF EXISTING UTILITIES WITH THE PROJECT AREA IS THE RESPONSIBILITY OF THE CONTRACTOR.
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 5. THE TIDAL DATUMS SHOWN ARE BASED ON THE NOAA CO-OPS TIDE GAGE NEW HAVEN STATION 8485705.
 6. GROUND ELEVATION ABOVE MHW, BASED ON SURVEY COMPLETED BY DAVID A. HUGHES PROFESSIONAL ENGINEER & LAND SURVEYOR.
 7. GROUND ELEVATION BELOW MHW BASED ON GZA BATHYMETRIC SURVEY, MARCH 2017.
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PROJECT: **THE LONG WHARF MARSH
 NEW HAVEN, CONNECTICUT**

**PROPOSED CONDITIONS PLAN 3
 PARTIAL PLAN 2 OF 2**

PREPARED BY:
GZA GeoEnvironmental, Inc.
 Engineers and Scientists
 www.gza.com

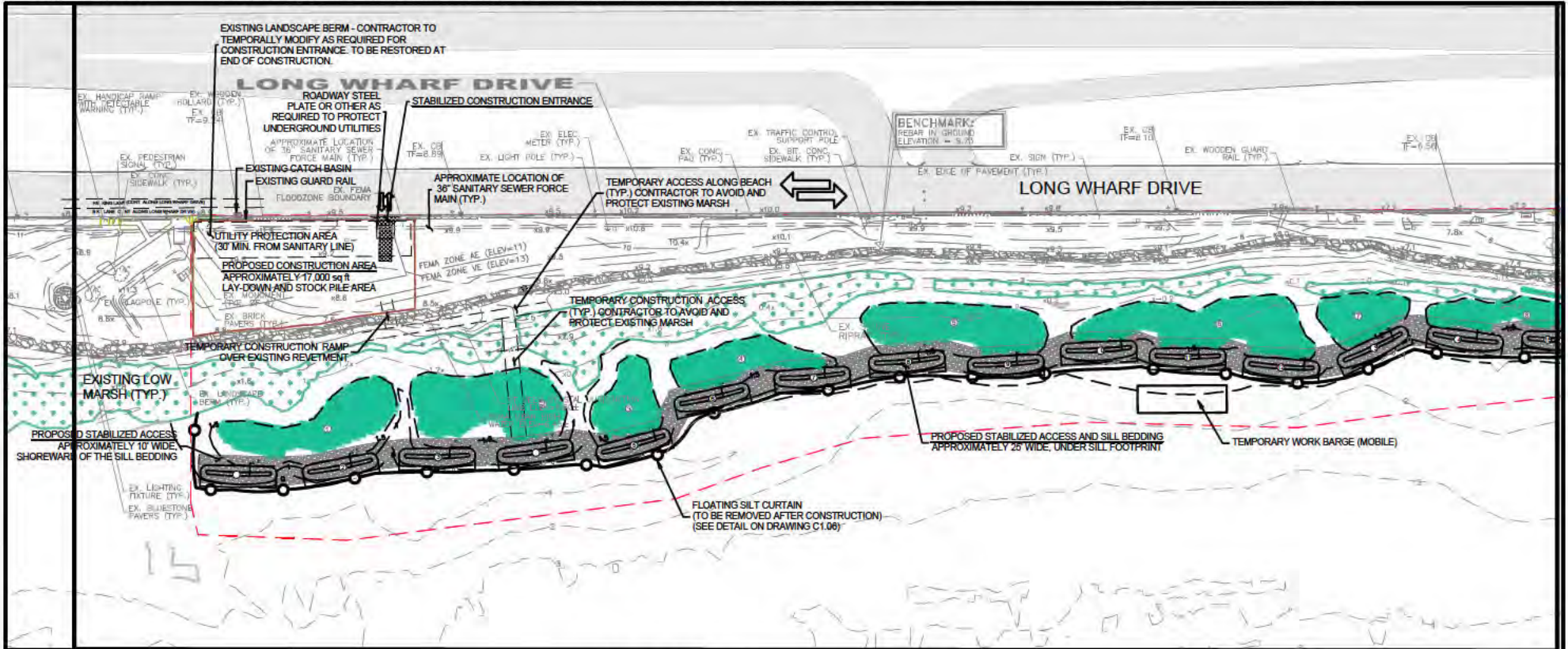
PROJ MGR: BW REVIEWED BY: RM
 DESIGNED BY: DCS DRAWN BY: MEG
 DATE: FEB. 2023 PROJECT NO. 01.0172596.10

APPLICANT:
 CITY OF NEW HAVEN

CHECKED BY:
 SCALE: SEE DWG

REVISION NO.
 -

DWG
C1.03
 SHEET NO. 15 OF 19



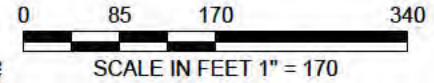
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LEGEND / NOTES

1. REFER TO DRAWINGS G0.02 FOR LEGEND AND NOTES.
 2. CONSTRUCTION ACCESS LOCATIONS ARE APPROXIMATE.
- APPROXIMATE LIMIT OF WORK
 - SILT FENCE / STRAW WATTLE EROSION CONTROL (SEE DETAIL ON DRAWING C1.06)
 - FLOATING SILT CURTAIN (TO BE REMOVED AFTER CONSTRUCTION) (SEE DETAIL ON DRAWING C1.06)
 - PROPOSED ROCK SILL (TYP.)
 - PROPOSED MARSH PLANTING AREA (TYP.)



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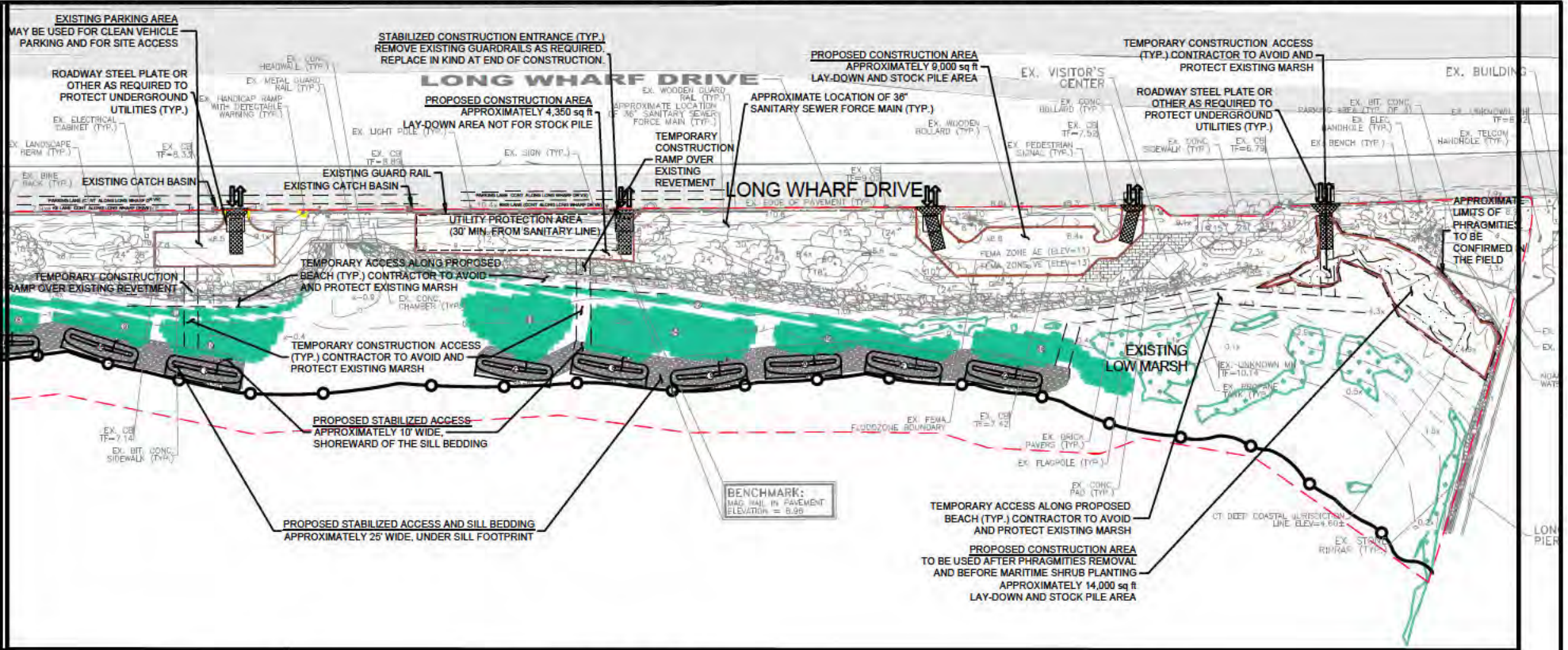
PROJECT: **THE LONG WHARF MARSH
 NEW HAVEN, CONNECTICUT**

**EROSION AND SEDIMENT CONTROL
 PLAN 1**

PREPARED BY: **GZA GeoEnvironmental, Inc.**
 Engineers and Scientists
 www.gza.com

APPLICANT: **CITY OF NEW HAVEN**

PROJ MGR: BW	REVIEWED BY: RM	CHECKED BY:	DWG C1.04 SHEET NO. 16 OF 19
DESIGNED BY: DCS	DRAWN BY: MEG	SCALE: SEE DWG	
DATE: FEB. 2023	PROJECT NO. 01.0172596.10	REVISION NO. -	



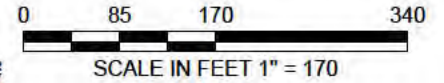
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LEGEND / NOTES

- REFER TO DRAWINGS G0.02 FOR LEGEND AND NOTES.
 - CONSTRUCTION ACCESS LOCATIONS ARE APPROXIMATE.
- APPROXIMATE LIMIT OF WORK
 - SILT FENCE / STRAW WATTLE EROSION CONTROL (SEE DETAIL ON DRAWING C1.06)
 - FLOATING SILT CURTAIN (TO BE REMOVED AFTER CONSTRUCTION) (SEE DETAIL ON DRAWING C1.06)
 - PROPOSED ROCK SILL (TYP.)
 - PROPOSED MARSH PLANTING AREA (TYP.)



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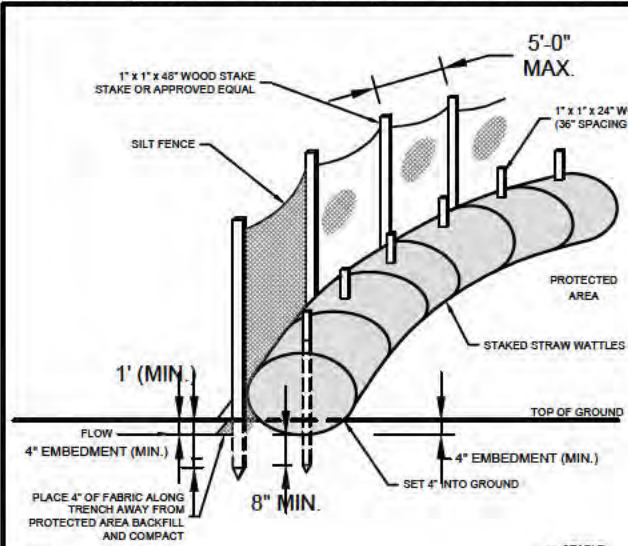
PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

**EROSION AND SEDIMENT CONTROL
PLAN 2**

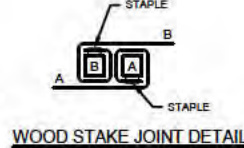
PREPARED BY: **GZA GeoEnvironmental, Inc.**
Engineers and Scientists
www.gza.com

APPLICANT: **CITY OF NEW HAVEN**

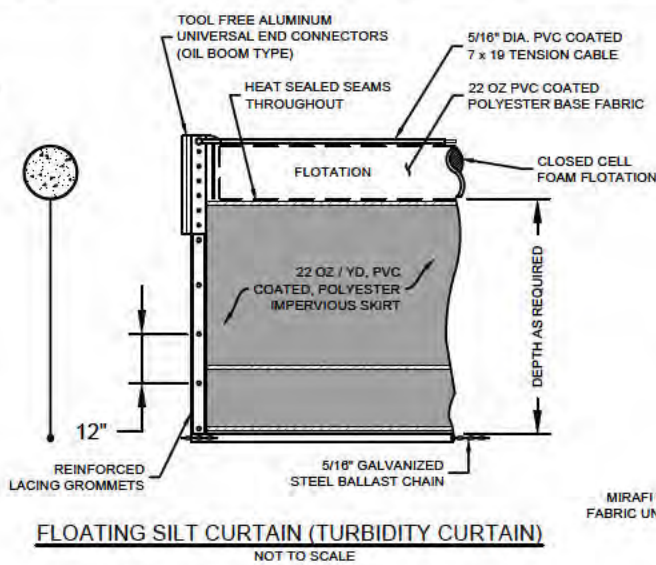
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DESIGNED BY: DCS DRAWN BY: MEG SCALE: SEE DWG
DATE: FEB. 2023 PROJECT NO. 01.0172596.10 REVISION NO. - **C1.05**
SHEET NO. 17 OF 19



- NOTES**
- WHERE SILT FENCES OVERLAP, OVERLAP DISTANCE SHALL BE 36-INCHES.
 - INSPECTION SHALL BE DAILY AND REPAIR/REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - STRAW WATTLES SHALL BE REMOVED ONLY AS DIRECTED BY ENGINEER.

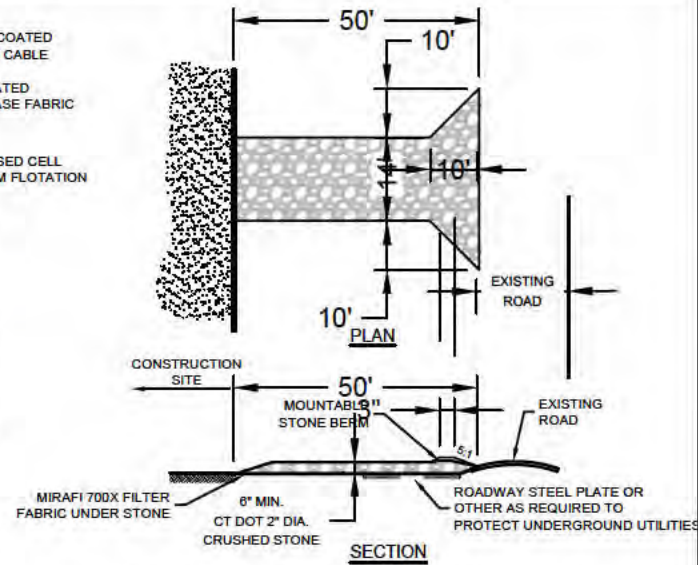


SILT FENCE EROSION CONTROL BARRIER
NOT TO SCALE



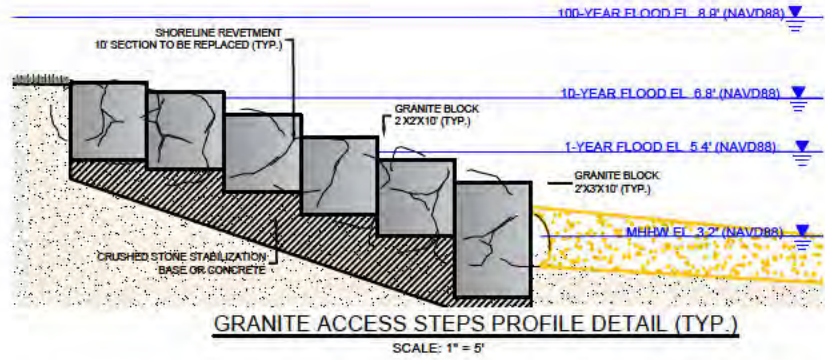
FLOATING SILT CURTAIN (TURBIDITY CURTAIN)
NOT TO SCALE

NOTE: DEBRIS BOOM SHALL BE PROVIDED ON THE SEAWARD SIDE OF CURTAIN FOR ALL LIVING SHORELINE WATER WORK.



STABILIZED CONSTRUCTION ENTRANCE DETAIL (IF NECESSARY)
NOT TO SCALE

- NOTE**
- CONCEPTUAL SCHEMATIC, NOT FOR CONSTRUCTION, SHOWN FOR PERMITTING PURPOSES ONLY.
 - FINAL DESIGN, PLANS, SPECIFICATIONS, AND PE CERTIFICATION WILL BE REQUIRED F INCLUDED N PROJECT CONSTRUCTION.
 - RAILING AND OTHER FEATURES NOT SHOWN.
 - ASSUME 3 LOCATIONS, AS DIRECTED BY THE CITY.



GRANITE ACCESS STEPS PROFILE DETAIL (TYP.)
SCALE: 1" = 5'

SEAL:

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PROJECT: **THE LONG WHARF MARSH
NEW HAVEN, CONNECTICUT**

**EROSION AND SEDIMENT CONTROL
DETAILS; GRANITE STEP DETAIL**

PREPARED BY: **GZA GeoEnvironmental, Inc.**
Engineers and Scientists
www.gza.com

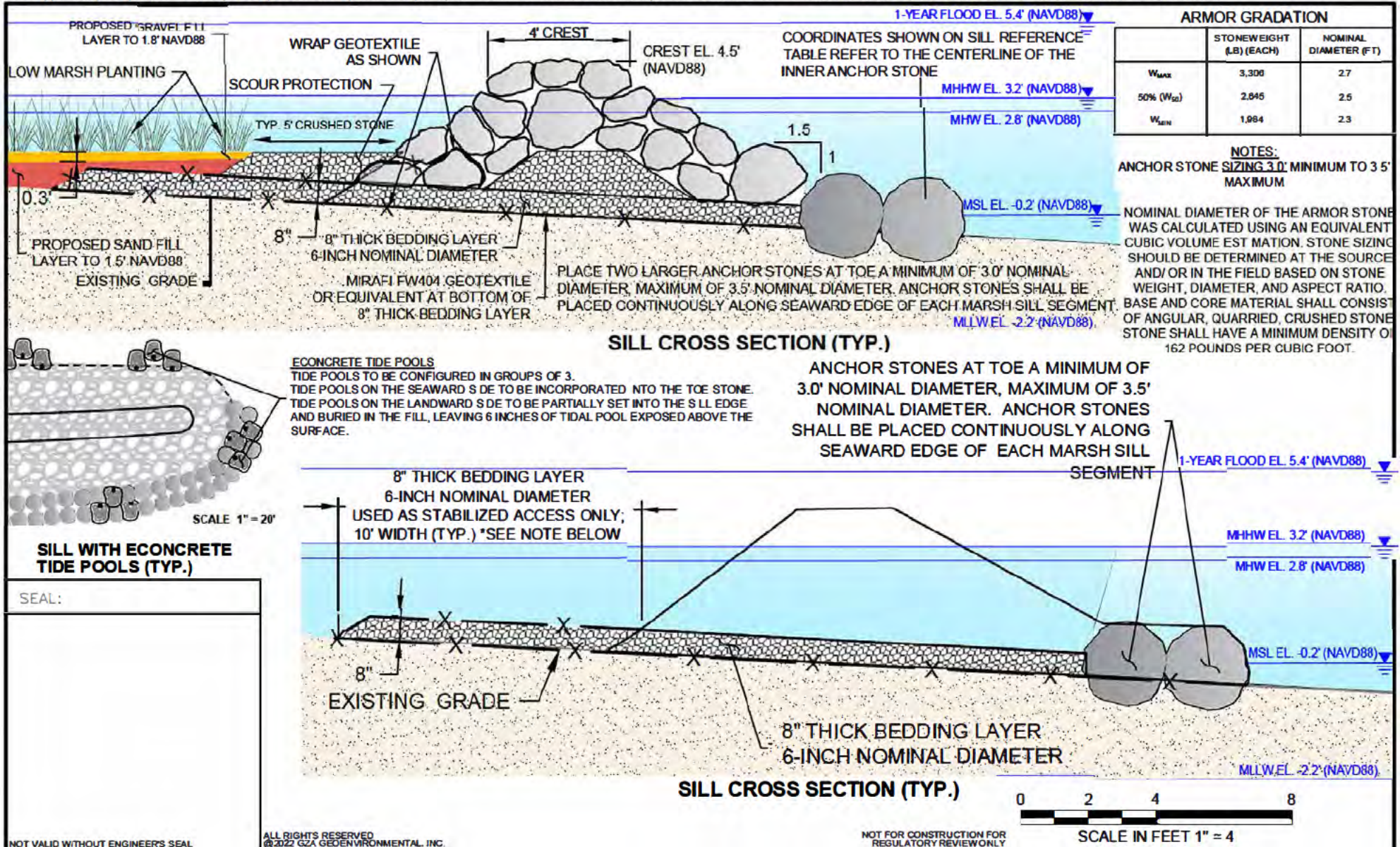
PROJ MGR: BW
DESIGNED BY: DCS
DATE: FEB. 2023

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DRAWN BY: MEG
PROJECT NO. 01.0172596.10

APPLICANT: **CITY OF NEW HAVEN**

CHECKED BY: **C1.06**
SCALE: SEE DWG
REVISION NO. -
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PROJECT: THE LONG WHARF MARSH NEW HAVEN, CONNECTICUT		PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	APPLICANT: CITY OF NEW HAVEN
PROPOSED SILL SECTION, DETAILS AND NOTES		PROJ MGR: BW DESIGNED BY: DCS DATE: FEB 2023	REVIEWED BY: RM DRAWN BY: MEG PROJECT NO. 01.0172506.10 CHECKED BY: SCALE: SEE DWG REVISION NO. FEB 2023
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