



State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Project Location <u>101 Ferry Road, Bristol, RI</u>		File No. (CRMC USE ONLY)
No.	Street	City/Town
		<u>2024-11-020</u>
Owner's Name <u>Blithewold, Inc.</u>		Plat: 165 <input type="checkbox"/>
		Lot(s): 7 & 8 <input type="checkbox"/>
Mailing Address <u>101 Ferry Road, Bristol, RI</u>		Owner's Contact:
Address		City/Town, State
Zip Code		Number: 401-253-2707 ext 12 <input type="checkbox"/>
		Email Address: <u>kbinder@blithewold.or</u> <input type="checkbox"/>
Contractor RI Reg. #	Address	
	Email address:	
	Tel. No.	
Designer <u>GZA GeoEnvironmental</u>	188 Valley St, Providence	
	Tel. No. 401-374-2310 <input type="checkbox"/>	
Name of Waterway <u>Bristol Harbor</u>		Estimated Project Cost (EPC): \$195,000 <input type="checkbox"/>
		Application Fee: \$1,250 <input type="checkbox"/>
Provide Below a Description of Work As Proposed (required).		
562 LF hybrid shoreline protection, flood control berm, along western property boundary with Bristol Harbor to protect property gardens. Flood control berm will have a 200 LF section equipped with a rock toe. Salt tolerant shrubs are to be planted of the seaward side of the berm, grass will be planted on the landward side and top of berm. See attached narrative for additional information.		

Have you or any previous owner filed an application for and/or received an assent for any activity on this property?

(If so please provide the file and/or assent numbers): 2022-05-093, 2017-04-092, 2016-04-030, 2013-09-104, 2008-08-064, ☐

Is this site within a designated historic district? ☐ YES

☐ NO Designated historic property located outside historic district

Is this application being submitted in response to a coastal violation? ☐ YES

☐ NO

If YES, you must indicate NOV or C&D Number: _____

Name/mailling addresses of adjacent property owners whose property adjoins the project site. Accurate mailing addresses will insure proper notification. _____ Applicant must initial to certify accuracy of adjacent property owners and accuracy of mailing addresses.

Marcia Blount & Raymond Payson/131 Ferry Rd, Joseph Perry/106 Ferry Rd, Charles Worcester 110 Ferry Rd, ☐

William & Donna Tente/114 Ferry Rd, Edward Cabral/104 Ferry Rd, Arthur & Sheila Schattle/100 Ferry Rd, Garrett ☐

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

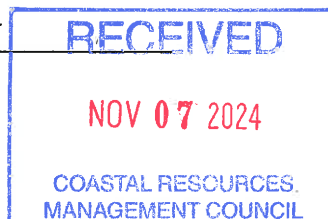
NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

08/04

Karen Binder
Owner Name (PRINT)

Karen Binder
Owner's Signature (SIGN)

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM



STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.

Karen Bal

Owner Signature

10/22/2024

Date

KAREN BINDER, Executive Director,

Print Name and Mailing Address

Blithewold,
101 Ferry Rd.
Bristol RI 02809





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MANAGEMENT

188 Valley Street
Suite 300
Providence, RI 02909
T: 401.421.4140
F: 401.751.8613
www.gza.com



October 25, 2024
File No. 03.0035335.01

Application Coordinator
RI Coastal Resources Management Council
4808 Tower Hill Road; Suite 3
Wakefield, Rhode Island 02879

Re: Application for CRMC Assent
Rock Garden Resiliency Improvement
101 Ferry Road, Bristol, RI
Assessor's Map 165 Lot 7 & 8

Dear Application Manager:

On behalf of our client, Blithewold Mansion, Gardens and Arboretum (Blithewold), this application is being submitted by GZA GeoEnvironmental Inc. (GZA) pursuant to the applicable requirements of the Coastal Resources Management Council (CRMC) Coastal Management Program 650-RICR-20-00-1 (Red Book).

The Blithewold property (Site) is located at 101 Ferry Road, along Bristol Harbor in Bristol, RI (Plat 165 / Lot 7&8). The Site has an approximately 1,105-foot-long property boundary with the Harbor. A portion of the Site is located within FEMA special flood hazard area (SFHA) (VE14) with a 100-year Base Flood Elevation (BFE) of 14-feet NAVD88. The coastal feature consists of a rocky beach and coastal wetlands. Upland, Blithewold is an American Garden Treasure, Rhode Island's oldest public garden, and New England's only accredited coastal arboretum. Founded as a family estate in 1894, Blithewold has served as a public garden since 1976 and is on the National Register of Historic Places (Reference No. 80000074). The 33-acre property is an intact example of a late 19th to early 20th century "country manor" estate with a collection of 3,000 woody plants and trees, the largest Giant Sequoia east of the Mississippi, and seven historic gardens including Rock and Water Gardens with coastal views. Ownership of the property has been transferred from the Heritage Foundation of RI to Blithewold, Inc.

Under existing conditions, Blithewold's coastal Rock and Water Gardens are becoming increasingly inundated with saltwater during storm surge and king high tide events, damaging the horticultural and historical exhibits. The increased erosion and saltwater exposure are causing stress to the trees and other vegetation in the coastal gardens. In addition, the Water Garden's freshwater lily-pod pond and Asian-inspired plantings are being exposed to saltwater more frequently. The proposed work intends to protect the gardens from sea level rise and associated coastal flooding while also managing stormwater runoff and expanding critical habitat area. Proposed activities include the removal of sediment from the bottom of the man-made pond in the Water Garden with a liner installed post-removal, the construction of a flood control berm, and ancillary drainage improvements.

This application package is accompanied by a Drawing Sheet Set illustrating the Site's existing conditions, proposed conditions and grading, sediment and erosion control, and applicable sections and details.





CRMC Assent

Description of Project Area

The project area is located in the northwest corner of the Site, and is bordered by Bristol Harbor to the west, residential properties to the north, and other portions of Blithewold to the east and south. The project area consists of coastal wetlands, a rocky beach, recreation areas, lawn, gardens, and several other ancillary structures. There is a gravel access road along the northern and western boundaries of the project area. A sewer line owned by the Town of Bristol runs under the gravel access road.

The waterbody adjacent to the property is Bristol Harbor, characterized as Type 2 waters which are associated with low intensity use. These are waters with high scenic value that support low-intensity recreation and residential use. The existing rocky beach coastal feature is approximately 1,105-feet in length. The rocky beach and coastal wetlands are within the greater Area of Historic Significance.

The following assents have previously been received for this property:

- 2022-05-093
- 2017-04-092
- 2016-04-030
- 2013-09-104
- 2008-08-064
- 2008-03-129
- 1996-09-082



Description of Work

Proposed activities include the construction of a protective berm using sediment removed from the bottom of the man-made pond in the Water Garden, a pond liner installed post-sediment-removal, and ancillary drainage improvements.

The proposed protective berm will be approximately 562-feet in length along the western edge of the Site. In accordance with the Red Book definitions and Section 1.3.1.G, the berm will combine vegetative and biodegradable materials with minimal stone, for the purpose of reducing erosion and damage to the coastal features. Consistent with Red Book hybrid practices, stone will only be used for toe-of-slope protection in a 200-foot section at the northern end. The toe protection will be approximately 1-foot tall and constructed from existing boulders currently located along the shoreline, above the mean high tide line. No boulders from seaward of the high tide line will be relocated for toe-of-slope protection. The berm will consist of a low permeability core of silt or clay and 12-inches of topsoil up to the proposed grade. Sediment removed from the Water Garden will be used to construct the berm as applicable. Salt tolerant shrubs will be planted on the waterward side of the berm and grass will be planted on the top and landward sides. The top of the berm will be approximately 4-feet wide and side slopes will be 3:1 or less. The berm has been designed as predominately non-structural shoreline protection, drawing on hybrid principles in accordance with "Red Book" Section 1.3.1.G. The total fill volume is less than 10,000 cubic yards.

The flood control berm has been strategically designed to protect and limit disturbance to crucial Site features including trees, gardens, and wetlands. There are three existing coastal wetlands on the Site: Wetland A is estuarine and subject to flooding, Wetland B is an isolated manmade freshwater pond, and Wetland C is a forested/emergent freshwater wetland. Construction of the berm will impact Wetlands A and C, with approximately 2,418-square feet of infill in Wetlands A and C proposed. To mitigate necessary wetland fill, approximately 8,890-square feet of wetlands will be created, resulting in approximately 3.7:1 compensation. Bristol Harbor and the existing rocky beach coastal feature will be minimally affected by the construction of the proposed berm. The location of the berm as waterward of the coastal wetlands is required for the purpose of protection from wave action and surge waters. Given the flood control berm's setback from the existing mean high-water mark, it is not anticipated that the alteration will result in significant impacts



to public access to, or use of, the water and shoreline – the intention of the work is to increase the longevity of access. The setback of the berm will also relieve any potential for erosion or disruption of shoreline sediment dynamics. Additionally, the alteration will have no significant impact on animal life. Proposed restoration of wetlands will ensure that the diversity of plant life is preserved. It is not anticipated that the proposed work will have any significant impact on the quality of water in the immediate vicinity.

Bristol town ordinances permit the placement of fill in FEMA Special Hazard Zones if the following conditions are met:

1. Said action will not encroach upon a watercourse.
2. Said action will not result in an increase in the potential flood level (Tidal Flood Zone). Where it is determined that said action may result in an increase in the potential flood level, the building official shall require appropriate measures to offset the potential increase. Adequate drainage shall be provided so as to reduce the exposure of the site or any other land to flood hazard¹.

The proposed project will meet both conditions.

Justification of Work

The Rock Garden is located entirely within FEMA Zone VE14. Coastal high hazard areas (VE Zones) are characterized by high energy wave effects (including wave overtopping, run-up and splash zones). The berm has been designed with a top elevation of 8.-feet, which provides protection against the 10% annual Stillwater flood event with allowance for 1.8-feet of sea level rise, not accounting for wave effects. The expected Stillwater elevations (no wave height effect) for coastal flood events based on transect 17 of the July 7, 2014, Flood Insurance Study for Bristol County, published by FEMA are shown in the table below.

Probability of Annual Recurrence Event	FEMA Stillwater Elevations
10 % (10 Year) Storm	6.2 ft
2 % (50 Year) Storm	9.0 ft
1 % (100 Year) Storm	10.9 ft
0.2 % (500 Year) Storm	17.1 ft

The top of berm elevation of 8-feet allows the property to maintain the scenic value associated with its Registered Historic Status. Landward of the proposed berm, the property slopes up to allow for water views. The vegetation planted along and on the seaward face of the berm will preserve scenic value and berm height will still allow for view of the diverse vegetation that Blithewold offers.

The Rhode Island Sea Level Affecting Marshes Model (SLAMM)² Project analyzed the potential impacts to coastal wetland ecosystems from sea level rise and the landward migration protection of coastal wetlands located within 21 Rhode Island coastal municipalities, including Bristol. The SLAMM project predicted that with 1-foot of sea level rise, the Rock and Water Garden areas will be potentially fully inundated if the current Site elevations are not altered. Relocation of the established gardens and trees at risk would greatly impact historical significance and is not feasible.

The existing shoreline and the proposed berm setback is expected to be exposed to wave action during storm events. Wave depth, breaking wave heights, and corresponding top of breaking wave were estimated at the proposed toe-of-berm based on existing grades and FEMA Stillwater Elevations listed above. In addition to the anticipated top of wave elevation, the proposed berm may experience waves run-up the slope with the potential to overtop the berm.

¹ Article IX, Division 2, Section 28-307(3)





Probability of Recurrence Event (Sea-Level-Rise not considered)	FEMA Breaking Wave Height (ft)	FEMA Top of Wave Elevation (ft, NAVD88)	Wave Runup Elevation (ft, NAVD88)
10 % (10 Year) Storm	3.4	8.6	10.3
2 % (50 Year) Storm	4.4	12.1	13.6
1 % (100 Year) Storm	4.8	14.2	15.7
0.2 % (500 Year) Storm	5.8	21.1	22.4

Based on the information presented above, the seaward face of the proposed berm will be subjected to wave action and wave runup during certain storm events. Furthermore, the top of berm (elevation 8-ft) is anticipated to be overtopped by waves during storm events with a greater than 10% annual probability of recurrence, creating the potential for frequent scouring, overtopping and erosion of the berm. The proposed salt tolerant shrubs and rock toe-protection will reduce erosion and scour of the toe of the berm. Constructing a fully nonstructural shoreline protection would have an increased risk of erosion and scour. In the event of a large storm that impacts the berm significantly, action will be taken promptly and with the proper permits in place to repair and restore the proposed berm.

Proposed ancillary drainage improvement activities include the extension of existing stormwater drainage lines from Blithewold Mansion to prevent flooding and backing up of drainage lines in the event that the manual gate valve into the Water Garden is closed.

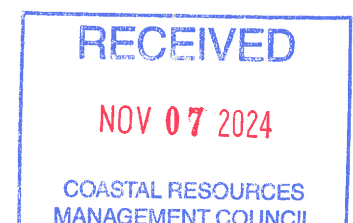
Description of Construction Methods

Prior to construction activities, the contractor will install sediment and erosion controls (straw wattles or equivalent) along the in the locations shown on Drawing 4. Additional erosion and sediment controls such as straw bales and a silt fence will be deployed as needed.

Access to the Site will be via the access road located along the northern property line. All proposed work will occur landward of the mean high-water line. No materials or equipment will be stored west of the existing gravel road that runs along the western edge of the property line, parallel to the shoreline. The project will not significantly alter the existing coastal feature.

Based on the project scope and the nature of the proposed work, we believe that the proposed work is consistent with the activities described in the CRMC's Red Book, Section 1.3.1.G (Shoreline Protection) and Table 1 of Section 1.1.5, and as such, the applicant is seeking a Category A Assent.

A completed application form is included with this application package. It is our understanding that a letter from the Local Building Official is not required for this project as no activities requiring a building permit will be conducted. In accordance with CRMC's Management Procedures, a fee of \$1,250 has been included with this application as the Estimated Project Cost is \$195,000






We are hopeful that this permit application package provides the necessary information. If you have any questions or need additional information, please contact Ryan DaPonte at (401) 427-2715.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.


Ryan DaPonte, P.E.
Senior Project Manager


Matthew Page, P.E.
Consultant/Reviewer


Todd Greene, P.E.
Principal-in-Charge

Attachments: 6 Sheet Plan Set
Application Form with Associated Fee
Site Photographs
Proof of Ownership

\\GZAPROVIDENCE\JOBS\ENV\35335.01.RAD\WORK\CRMC NEW ASSENT\OCT 2024\35335.01 CRMC CATEGORY A ASSENT APP FINAL - FINAL.DOCX





SET PLAN

RECEIVED

NOV 07 2024

COASTAL RESOURCES
MANAGEMENT COUNCIL

ROCK GARDEN RESILIENCY
IMPROVEMENTS

BLITHEWOLD MANSION, GARDENS, AND ARBORETUM

BRISTOL, RHODE ISLAND

OCTOBER 24, 2024

CRMC PERMITTING SET

PREPARED FOR:



BLITHEWOLD MANSION, GARDENS,
AND ARBORETUM
101 FERRY ROAD
BRISTOL, RI 02809

DESIGNED BY:



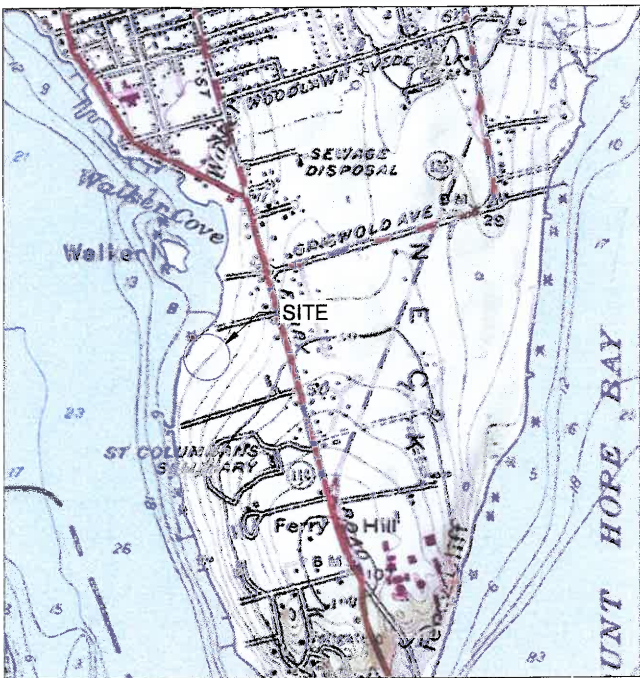
GZA GEOENVIRONMENTAL, INC.
188 VALLEY STREET, SUITE 300
PROVIDENCE, RI 02909



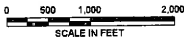
PROJECT VICINITY MAP



SOURCE: BASE MAP FROM BRISTOL RHODE ISLAND AXIS GIS.



PROJECT LOCUS MAP



SOURCE: BASE MAP FROM BRISTOL RHODE ISLAND AXIS GIS.
CONTOUR ELEVATIONS REFERENCE NAVD88 SHOWN IN 10
FOOT INTERVALS



PERMITTING ONLY
NOT FOR CONSTRUCTION

SHEET LIST TABLE

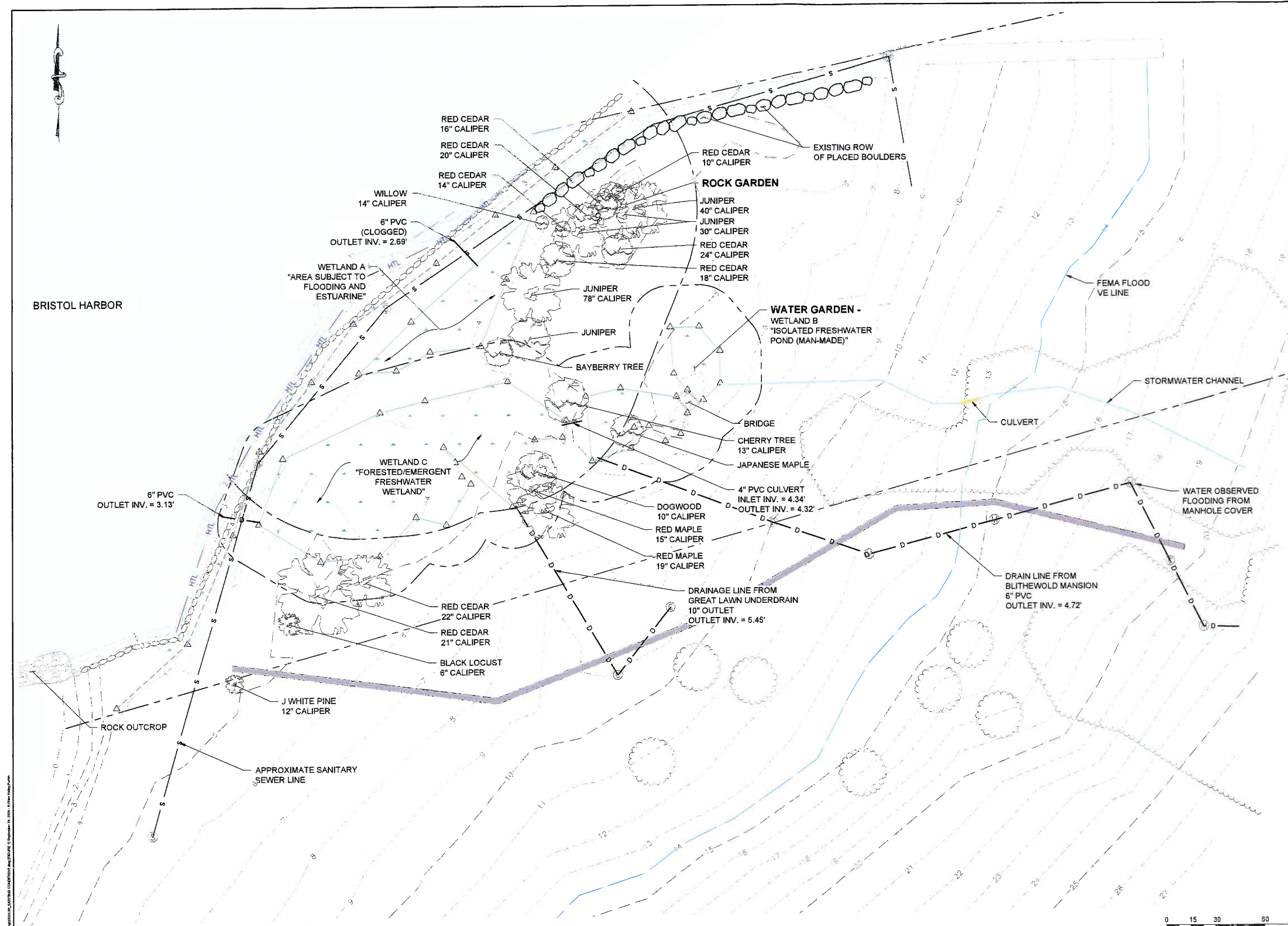
SHEET #	SHEET TITLE
1	COVER AND INDEX OF DRAWINGS
2	EXISTING CONDITIONS
3	PROPOSED CONDITIONS PLAN
4	SEDIMENT AND EROSION CONTROL PLAN
5	PROPOSED GRADING PLAN
6	SECTIONS AND DETAILS

RECEIVED

NOV 07 2024

COASTAL RESOURCES
MANAGEMENT COUNCIL

NO.		ISSUE/DESCRIPTION		BY	DATE
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ROCK GARDEN RESILIENCY IMPROVEMENTS BLITHEWOLD MANSION, GARDENS, AND ARBORETUM BRISTOL, RHODE ISLAND					
COVER					
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			PREPARED FOR: BLITHEWOLD MANSION, GARDENS & ARBORETUM		
PROJ. MGR: DESIGNED BY: DATE:	RAD HLP 10/24/2024	REVIEWED BY: DRAWN BY: PROJECT NO.:	RAD HLP 35335.01	CHECKED BY: SCALE: REVISION NO.:	RAD 1 SHEET NO.



- LEGEND:**
- APPROXIMATE PROPERTY LINE
 - - - 5' - - - EXISTING CONTOUR (5 FOOT INTERVAL)
 - - - 1' - - - EXISTING CONTOUR (1 FOOT INTERVAL)
 - EXISTING WETLAND BOUNDARY
 - △ WETLAND FLAG LOCATION
 - - - D - - - EXISTING DRAINAGE
 - HTL HIGH TIDE LINE
 - - - TOP OF COASTAL FEATURE
 - - - 100' WETLAND BUFFER
 - - - 25' WETLAND BUFFER
 - FEMA FLOOD VE LINE
 - GRAVEL ROAD
 - GRAVEL PATH
 - APPROXIMATE TREES/ TREELINE
 - SEWER MANHOLE COVER
 - STORMWATER OUTLET
 - UNMARKED UTILITY MANHOLE COVER
 - CATCH BASINS

VERTICAL DATUM CONVERSION
SOURCE: NOAA NATIONAL TIDAL DATUM EPOCH

NAVD88 DATUM		MLW DATUM	
MHHW +2.45'		MHHW +4.32'	
MHW +2.21'		MHW +4.07'	

NAD83 EL. 0.00'		NAD83 EL. 1.86'	
MSL -0.3'		MSL 2.16'	

MLW -1.86'		MLW 0.00'	
MLW -2.02'		MLW -0.16'	

FEMA STILL WATER ELEVATIONS

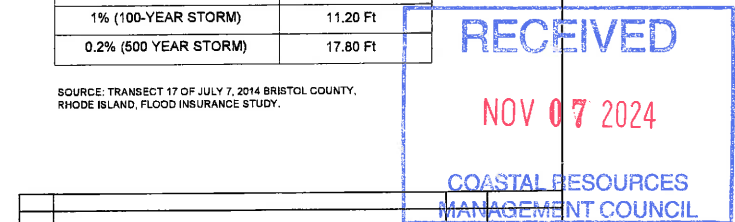
10% (10-YEAR STORM)	6.20 Ft
2% (50-YEAR STORM)	9.00 Ft
1% (100-YEAR STORM)	11.20 Ft
0.2% (500 YEAR STORM)	17.80 Ft

SOURCE: TRANSECT 17 OF JULY 7, 2014 BRISTOL COUNTY, RHODE ISLAND, FLOOD INSURANCE STUDY.

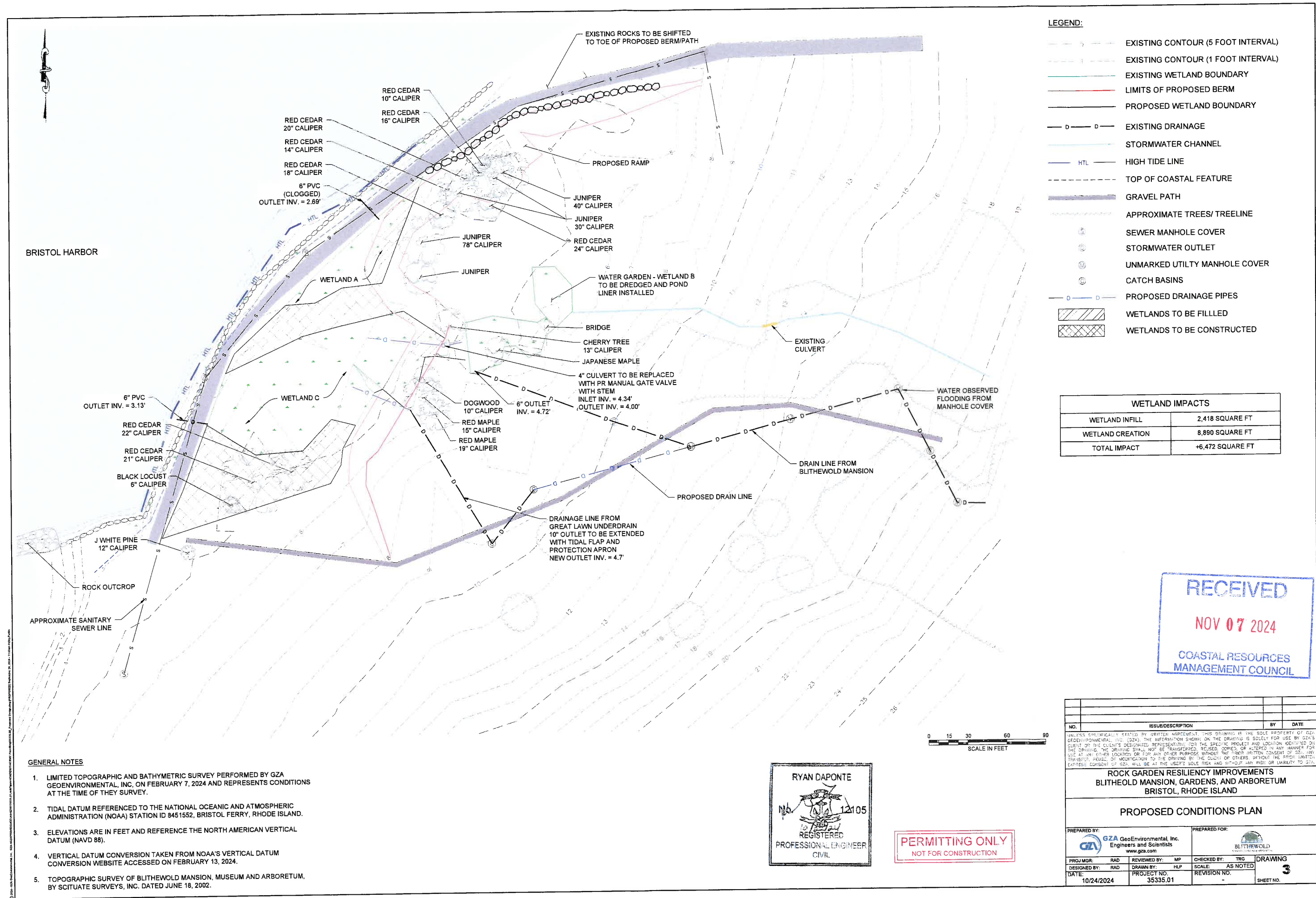
- GENERAL NOTES**
- LIMITED TOPOGRAPHIC AND BATHYMETRIC SURVEY PERFORMED BY GZA GEOENVIRONMENTAL, INC. ON FEBRUARY 7, 2024 AND MARCH 20, 2024 AND REPRESENTS CONDITIONS AT THE TIME OF THEY SURVEY.
 - TIDAL DATUM REFERENCED TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) STATION ID 8451552, BRISTOL FERRY, RHODE ISLAND.
 - ELEVATIONS ARE IN FEET AND REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD88)
 - VERTICAL DATUM CONVERSION TAKEN FROM NOAA'S VERTICAL DATUM CONVERSION WEBSITE ACCESSED ON FEBRUARY 13, 2024.
 - BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY OF BLITHEWOLD MANSION, MUSEUM AND ARBORETUM, BY SCITUATE SURVEYS, INC. DATED JUNE 18, 2002.
 - WETLAND LOCATIONS FLAGGED BY GZA ON JANUARY 15, 2024.
 - FEMA FLOOD (VE) BOUNDARY WAS OBTAINED FROM FEMA FLOOD MAP ID 44001C0018H, EFFECTIVE 7/7/2014

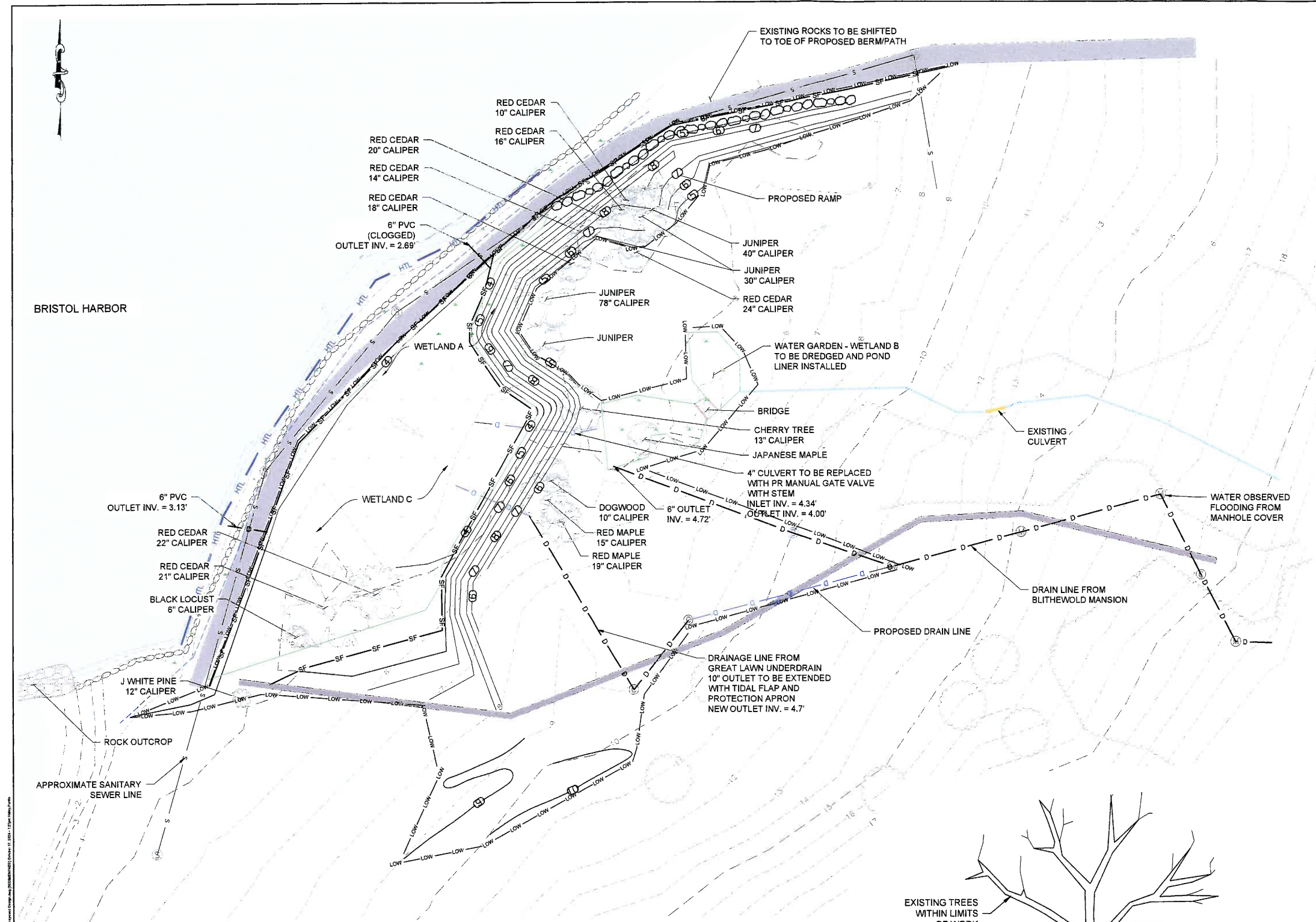


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NO.	ISSUE/DESCRIPTION	BY	DATE
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ROCK GARDEN RESILIENCY IMPROVEMENTS BLITHEWOLD MANSION, GARDENS, AND ARBORETUM BRISTOL, RHODE ISLAND			
EXISTING CONDITIONS			
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: BLITHEWOLD MUSEUM AND ARBORETUM	
PROJ MGR: RAD	DESIGNED BY: RAD	REVIEWED BY: MP	CHECKED BY: TRG
DATE: 10/24/2024	DRAWN BY: HLP	PROJECT NO. 35335.01	SCALE: AS NOTED
REVISION NO.			2
SHEET NO.			



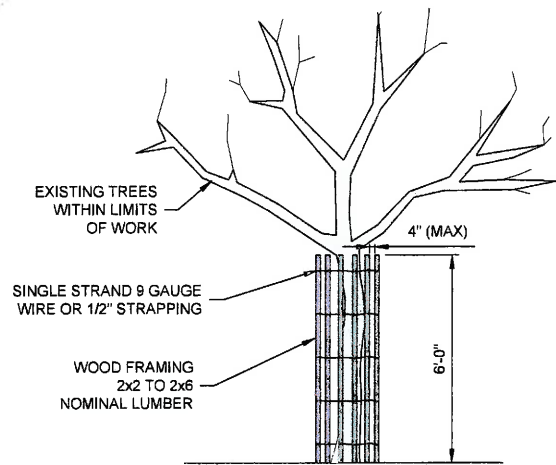
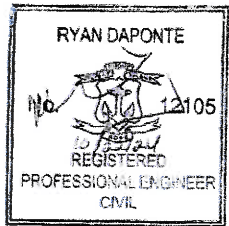


© 2024 GZA GeoEnvironmental, Inc. GZA GeoEnvironmental, Inc. 625 Main Street, Suite 200, Bristol, RI 02809. Project: Rock Garden Resiliency Improvements. Drawing: 35335.01. Date: 10/24/2024.



GENERAL NOTES

- LIMITED TOPOGRAPHIC AND BATHYMETRIC SURVEY PERFORMED BY GZA GEOENVIRONMENTAL, INC. ON FEBRUARY 7, 2024 AND REPRESENTS CONDITIONS AT THE TIME OF THEY SURVEY.
- TIDAL DATUM REFERENCED TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) STATION ID 8451552, BRISTOL FERRY, RHODE ISLAND.
- ELEVATIONS ARE IN FEET AND REFERENCE MEAN SEA LEVEL (MSL) DATUM.
- VERTICAL DATUM CONVERSION TAKEN FROM NOAA'S VERTICAL DATUM CONVERSION WEBSITE ACCESSED ON FEBRUARY 13, 2024.
- TOPOGRAPHIC SURVEY OF BLITHEWOLD MANSION, MUSEUM AND ARBORETUM, BY SCITUATE SURVEYS, INC. DATED JUNE 18, 2002.



TREE PROTECTION DEVICE
NOT TO SCALE

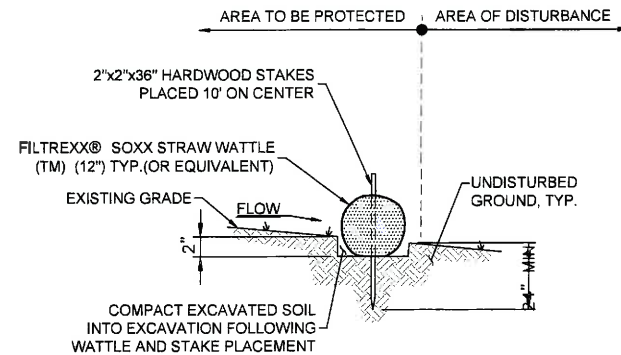
LEGEND:

- EXISTING CONTOUR (5 FOOT INTERVAL)
- EXISTING CONTOUR (1 FOOT INTERVAL)
- EXISTING WETLAND BOUNDARY
- PROPOSED CONTOURS
- STORMWATER CHANNEL
- EXISTING DRAINAGE
- H.T.L. HIGH TIDE LINE
- TOP OF COASTAL FEATURE
- GRAVEL ROAD
- GRAVEL PATH
- APPROXIMATE TREES/ TREELINE
- SEWER MANHOLE COVER
- STORMWATER OUTLET
- UNMARKED UTILITY MANHOLE COVER
- CATCH BASINS
- PROPOSED DRAINAGE PIPES
- PROPOSED STRAW WATTLE
- LIMIT OF WORK

NOTES

- TREES WITHIN THE LIMIT OF WORK MUST HAVE TREE DEVICE INSTALLED. SEE TREE PROTECTION DEVICE DETAIL.

PROJECT AREA OF DISTURBANCE	
TEMPORARY IMPACT	9,726 SQUARE FT
PERMANENT IMPACT	15,248 SQUARE FT
TOTAL IMPACT	24,974 SQUARE FT

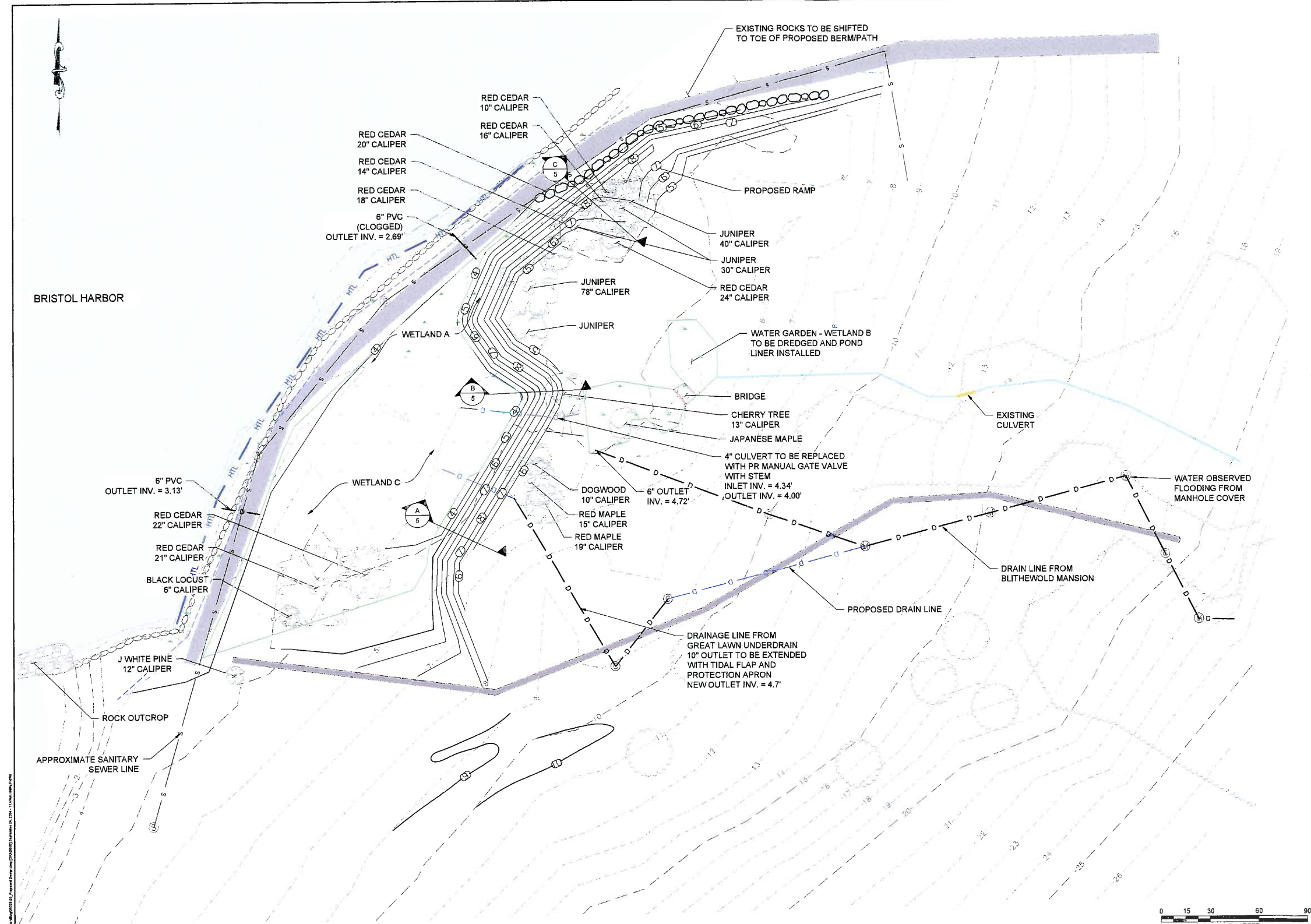


STRAW WATTLE DETAIL
NOT TO SCALE

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ROCK GARDEN RESILIENCY IMPROVEMENTS BLITHEWOLD MANSION, GARDENS, AND ARBORETUM BRISTOL, RHODE ISLAND				
SEDIMENT AND EROSION CONTROL PLAN				
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: BLITHEWOLD GARDENS AND ARBORETUM		
PROJ. MGR.: RAD	DESIGNED BY: RAD	REVIEWED BY: MP	CHECKED BY: TRG	DRAWING
DATE: 10/24/2024	PROJECT NO.: 35335.01	SCALE: AS NOTED	REVISION NO.: -	4
SHEET NO.				

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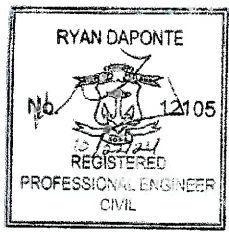
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COASTAL RESOURCES
MANAGEMENT COUNCIL





- LEGEND:**
- 5 --- EXISTING CONTOUR (5 FOOT INTERVAL)
 - 1 --- EXISTING CONTOUR (1 FOOT INTERVAL)
 - WETLAND BOUNDARY
 - 5 --- PROPOSED CONTOURS
 - STORMWATER CHANNEL
 - D --- D --- EXISTING DRAINAGE
 - HTL --- HIGH TIDE LINE
 - TOP OF COASTAL FEATURE
 - GRAVEL RAOD
 - GRAVEL PATH
 - APPROXIMATE TREES/ TREELINE
 - SEWER MANHOLE COVER
 - STORMWATER OUTLET
 - UNMARKED UTILITY MANHOLE COVER
 - CATCH BASINS
 - D --- D --- PROPOSED DRAINAGE PIPES

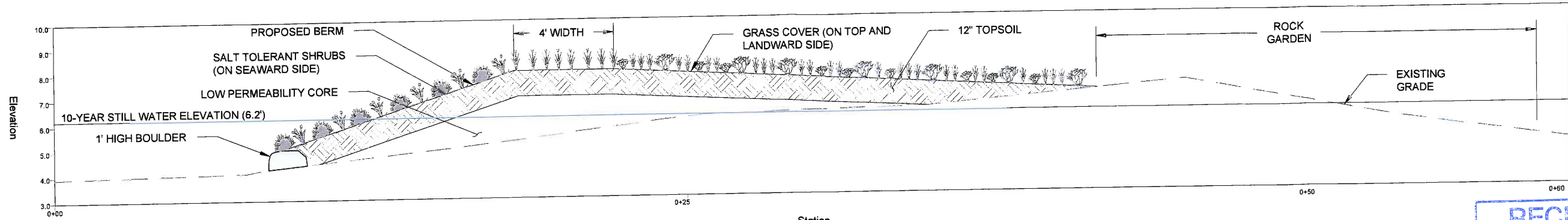
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MANAGEMENT COUNCIL

- GENERAL NOTES**
- LIMITED TOPOGRAPHIC AND BATHYMETRIC SURVEY PERFORMED BY GZA GEOENVIRONMENTAL, INC. ON FEBRUARY 7, 2024 AND REPRESENTS CONDITIONS AT THE TIME OF THEY SURVEY.
 - TIDAL DATUM REFERENCED TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) STATION ID 8451552, BRISTOL FERRY, RHODE ISLAND.
 - ELEVATIONS ARE IN FEET AND REFERENCE MEAN SEA LEVEL (MSL) DATUM.
 - VERTICAL DATUM CONVERSION TAKEN FROM NOAA'S VERTICAL DATUM CONVERSION WEBSITE ACCESSED ON FEBRUARY 13, 2024.
 - TOPOGRAPHIC SURVEY OF BLITHEWOLD MANSION, MUSEUM AND ARBORETUM, BY SCITUATE SURVEYS, INC. DATED JUNE 18, 2002.

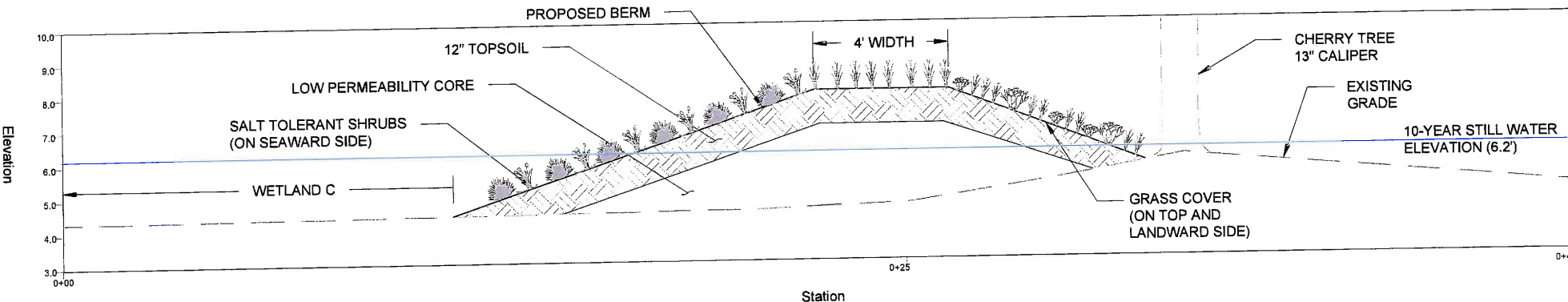


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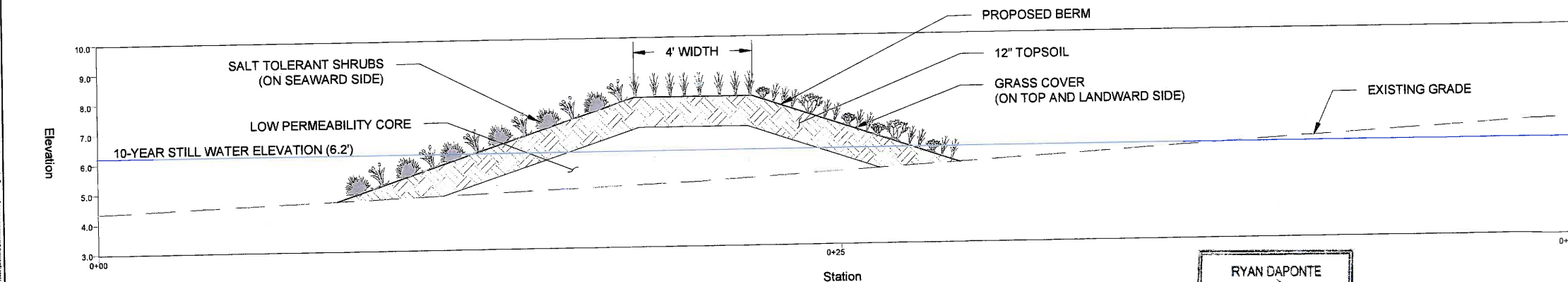
NO.		ISSUE/DESCRIPTION		BY DATE	
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ROCK GARDEN RESILIENCY IMPROVEMENTS BLITHEWOLD MANSION, GARDENS, AND ARBORETUM BRISTOL, RHODE ISLAND					
PROPOSED GRADING PLAN					
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			PREPARED FOR:  BLITHEWOLD MANSION, BRISTOL, RHODE ISLAND		
PROJ MGR: RAD	REVIEWED BY: MP	CHECKED BY: TRG	DRAWING		
DESIGNED BY: RAD	DRAWN BY: HLP	SCALE: AS NOTED	5		
DATE: 10/24/2024	PROJECT NO: 35335.01	REVISION NO: -	SHEET NO.		



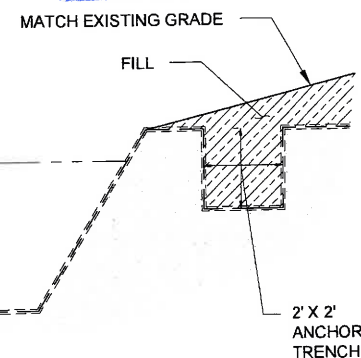
PROFILE - C
SCALE: 1" = 2'



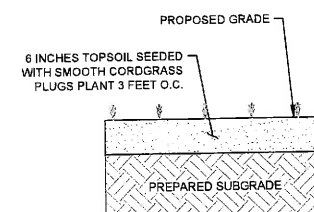
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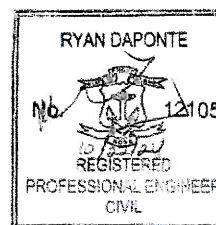
PROFILE - A
SCALE: 1" = 2'



POND LINER DETAIL
NOT TO SCALE



SALT MARSH RESTORATION DETAIL
NOT TO SCALE



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NO.		ISSUE/DESCRIPTION	BY	DATE
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<p>ROCK GARDEN RESILIENCY IMPROVEMENTS BLITHEOLD MANSION, GARDENS, AND ARBORETUM BRISTOL, RHODE ISLAND</p>				
<p>SECTIONS AND DETAILS</p>				
<p>PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com</p>		<p>PREPARED FOR: BLITHEOLD BLITHEOLD MANSION, GARDENS, AND ARBORETUM</p>		
<p>PROJ MGR: RAD DESIGNED BY: RAD DATE: 10/24/2024</p>	<p>REVIEWED BY: MP DRAWN BY: HLP PROJECT NO. 35335.01</p>	<p>CHECKED BY: TRG SCALE: AS NOTED REVISION NO. -</p>	<p>DRAWING 6 SHEET NO.</p>	



SITE PHOTOGRAPHS





Photographic Log

Applicant: Blithewold		Site Location: 101 Ferry Rd, Bristol, RI		Project No. 35335.01	
Photo 1			Photo 2		
					
Description: Rock Garden east of gravel road and shoreline & north of Wetland A, view looking northeast.			Description: Rock Garden southeast of access road, view looking southwest.		
Photo 3			Photo 4		
					
Description: Coastal feature and gravel access road, view looking northeast.			Description: Coastal feature and gravel access road during a high tide event, view looking northeast.		

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COASTAL RESOURCES
MANAGEMENT COUNCIL



Photographic Log

Applicant: Blithewold		Site Location: 101 Ferry Rd, Bristol, RI		Project No. 35335.01	
Photo 5			Photo 6		
					
Description: Overflow conditions from insufficient drainage systems on Site.			Description: Salt water inundation and spill over from Wetland A after a king tide event, view looking west.		
Photo 7			Photo 8		
					
Description: Southern end of the gravel road and gardens, view looking north.			Description: Coastal feature, gravel access road, and Wetland C, view looking north		

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COASTAL RESOURCES



PROOF OF OWNERSHIP



CAI Property Card

Town of Bristol, RI



GENERAL PROPERTY INFORMATION		BUILDING EXTERIOR	
LOCATION: FERRY RD ACRES: 17 PARCEL ID: 165-0008-000 LAND USE CODE: 73 CONDO COMPLEX: OWNER: HERITAGE FOUNDATION OF RI CO - OWNER: MAILING ADDRESS: 101 FERRY ROAD		BUILDING STYLE: UNITS: 0 YEAR BUILT: 0 FRAME: EXTERIOR WALL COVER: ROOF STYLE: ROOF COVER:	
		BUILDING INTERIOR	
ZONING: R-40 PATRIOT ACCOUNT #: 9234		INTERIOR WALL: FLOOR COVER: HEAT TYPE: FUEL TYPE: PERCENT A/C: False # OF ROOMS: 0 # OF BEDROOMS: 0 # OF FULL BATHS: 0 # OF HALF BATHS: 0 # OF ADDITIONAL FIXTURES: 0 # OF KITCHENS: 0 # OF FIREPLACES: 0 # OF METAL FIREPLACES: 0 # OF BASEMENT GARAGES: 0	
SALE INFORMATION			
SALE DATE: BOOK & PAGE: SALE PRICE: 0 SALE DESCRIPTION: SELLER:			
PRINCIPAL BUILDING AREAS			
GROSS BUILDING AREA: FINISHED BUILDING AREA: BASEMENT AREA: # OF PRINCIPAL BUILDINGS:			
ASSESSED VALUES			
LAND: \$4,311,200 YARD: \$0 BUILDING: \$0 TOTAL: \$4,311,200			
SKETCH		PHOTO	
<p>NO SKETCH AVAILABLE</p>		<p>NO PHOTO AVAILABLE</p>	

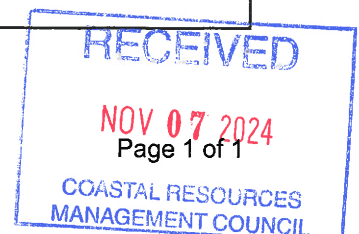
CAI Technologies

www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.

9/18/2024

Property Information - Bristol, RI



CAI Property Card

Town of Bristol, RI



GENERAL PROPERTY INFORMATION	BUILDING EXTERIOR
LOCATION: 101 FERRY RD ACRES: 5.31 PARCEL ID: 165-0007-000 LAND USE CODE: 73 CONDO COMPLEX: OWNER: HERITAGE FOUNDATION OF RI CO - OWNER: MAILING ADDRESS: 101 FERRY ROAD ZONING: R-40 PATRIOT ACCOUNT #: 9232	BUILDING STYLE: Museum UNITS: 9 YEAR BUILT: 1890 FRAME: Masonry EXTERIOR WALL COVER: Wood Shngle ROOF STYLE: Gable ROOF COVER: Asphalt Shin
	BUILDING INTERIOR
	INTERIOR WALL: Panel FLOOR COVER: HEAT TYPE: Pkg A/C FUEL TYPE: Oil PERCENT A/C: True # OF ROOMS: 0 # OF BEDROOMS: 0 # OF FULL BATHS: 0 # OF HALF BATHS: 0 # OF ADDITIONAL FIXTURES: 29 # OF KITCHENS: 0 # OF FIREPLACES: 0 # OF METAL FIREPLACES: 0 # OF BASEMENT GARAGES: 0
SALE INFORMATION	
SALE DATE: 6/9/2020 BOOK & PAGE: SALE PRICE: 0 SALE DESCRIPTION: Other SELLER: HERITAGE FOUNDATION OF RI	
PRINCIPAL BUILDING AREAS	
GROSS BUILDING AREA: 35697 FINISHED BUILDING AREA: 23572 BASEMENT AREA: # OF PRINCIPAL BUILDINGS: 3	
ASSESSED VALUES	
LAND: \$1,429,500 YARD: \$24,500 BUILDING: \$4,184,200 TOTAL: \$5,638,200	
SKETCH	PHOTO

CAI Technologies

www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.

9/18/2024

Property Information - Bristol, RI

